SOUTHERN PACIFIC TRANS. CO SONOMA CO.
3rd Street Property (NORTH)
Santa Rosa, CA

ITSR196

OFFICE NO: _____

INSPECTOR: _____

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

WDS NUMBER	UNION PACIFIC RAILROAD	SPRAINS COMPANY
	NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	NAME OF FACILITY
NPDES NUMBER	49 STEVENSON ST. 15TH FLOOR	THIRD STREET (NORTH)
	AGENCY STREET	FACILITY STREET
	SAN FRANCISCO, CA	SANTA ROSA
(YY) (MM) (TYPE)	AGENCY CITY AND STATE	FACILITY CITY AND STATE
SCHEDULED INSPECTION DATA	JOHN MOE	SUSAN GALLARDO
	AGENCY CONTACT PERSON	ONSITE FACILITY CONTACT PERSON
01 · 09 · 24 (YYMMDD)	415 | 541-7020	510 | 663-4137
ACTUAL INSPECTION DATE	AGENCY PHONE NO.	FACILITY PHONE NO.

____ Inspection agency (State = S, State / EPA Joint = J)

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance -- Comprehensive inspection in which samples are taken. (EPA Type S)

B1 ✓ "B" type compliance -- A routine nonsampling inspection. (EPA type C)

02 ____ Noncompliance follow-up -- Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up -- Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint -- Inspection made in response to a complaint.

05 ____ Pre-requirement -- Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ Miscellaneous -- Any inspection type not mentioned above.

_____ If this is an EPA inspection not mentioned above, please note type. (e.g.--biomonitoring, performance audit, diagnostic, etc.)

(Type)

N Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

INSPECTION CONDUCTED DURING DRILLING ACTIVITIES.

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE Jon E. Flack DATE 9/28/01

For Internal Use: Reviewed by: (1) [signature] 10/9/01 (2) _____ (3) _____

Reg. WDS Coordinator

WDS Data Entry Date: ____ · ____ · ____ Regional Board File Number: _____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____ - _____ - _____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____ - _____ - _____

DESCRIPTION (200 Character Limit): _____

EPA SUGGESTED INSPECTION CHECKLIST

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:

ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE

OFFICE NO: _____

INSPECTOR: _____

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

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	NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	NAME OF FACILITY
NPDES NUMBER	49 STEVENSON ST. 15TH FLOOR	THIRD STREET (NORTH)
	AGENCY STREET	FACILITY STREET
(YY) (MM) (TYPE)	SAN FRANCISCO, CA	SANTA ROSA
	AGENCY CITY AND STATE	FACILITY CITY AND STATE
SCHEDULED INSPECTION DATA	JOHN MOE	SUSAN GALLARDO
	AGENCY CONTACT PERSON	ONSITE FACILITY CONTACT PERSON
01 · 09 · 25 (YYMMDD)	415 , 541-7020	510 , 663-4137
ACTUAL INSPECTION DATE	AGENCY PHONE NO.	FACILITY PHONE NO.

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06 ____ Miscellaneous -- Any inspection type not mentioned above.

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N Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

INSPECTED DRILLING ACTIVITIES INSIDE FENCED AREA AT DISCHARGE LOCATIONS

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE Jim E. Falk DATE 9/28/01

For Internal Use: Reviewed by: (1) 10/9/01 (2) _____ (3) _____

Reg. WDS Coordinator

WDS Data Entry Date: ____ · ____ · ____ Regional Board File Number: _____

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)
(Page 2)

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____ - _____ - _____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____ - _____ - _____

DESCRIPTION (200 Character Limit): _____

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(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:			MOST RECENT INSPECTIONS:			MOST RECENT VIOLATIONS:	
ORDER NO.	DATE ADOPTED	TYPE	DATE	INSP. TYPE	VIOLATIONS?	VIOL. TYPE	DATE

OFFICE NO: _____

INSPECTOR: JEF

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

1B1SR196NCU WDS NUMBER	UNION PACIFIC RAILROAD NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	SPTRAWS COMPANY NAME OF FACILITY
_____ NPDES NUMBER	49 STEVENSON ST. 15TH FLOOR AGENCY STREET	THIRD STREET (NORTH) FACILITY STREET
_____ _____ _____ (YY) (MM) (TYPE) SCHEDULED INSPECTION DATA	SAN FRANCISCO CA 94105 AGENCY CITY AND STATE	SANTA ROSA, CA FACILITY CITY AND STATE
	JOHN MOE AGENCY CONTACT PERSON	SUSAN GALLARDO ONSITE FACILITY CONTACT PERSON
01 . 09 . 18 (YYMMDD) ACTUAL INSPECTION DATE	415 , 541-7020 AGENCY PHONE NO.	510 , 663-4137 FACILITY PHONE NO.

____ Inspection agency (State = S, State / EPA Joint = J)

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(Type)

____ Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

I OBSERVED THE MARKING OF DRILLING LOCATIONS. I ALSO SAW EVIDENCE OF A DISCHARGE FROM A TIE SHREDDER.

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE Jon Fluke DATE 9/18/01

For Internal Use: Reviewed by: (1) M Burton 10/9/01 (2) _____ (3) _____
Reg. WDS Coordinator

WDS Data Entry Date: ____ - ____ - ____ Regional Board File Number: _____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____ - _____ - _____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____ - _____ - _____

DESCRIPTION (200 Character Limit): _____

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_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
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ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

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(Name of Representative of Copy Service)

ADS
2681 Cleveland Ave
Santa Rosa Ca
95403

Name of Person or Organization Requesting Service

City/Vision/F&W
537 Fourth St. Ste B
Santa Rosa Ca 95401

Date of Service

4-25-01

Name of File Copied

Southern Pacific Transportation

A copy of this form will be placed in each file copied

Susan –
This is the Railroad Square site Jeff K was referring to.
Lee 3/30

I'm assuming we'll all talk w/ this one, Mark. S 4/30

FA

COVER

SANTA ROSA

Date:

TO: Lee Michelin, Executive Officer

FIRM: Water Quality Control Board

FAX #: (707) 523-0135 PHONE #: (707) 576-2225

FROM: Jan Harrison for Jeff Kolin/Steve Burke

DEPT: HOUSING AND REDEVELOPMENT

FAX #: (707) 543-3317 PHONE #: (707) 543-3300

COMMENTS: The material you requested from City Manager Jeff Kolin on March 29, 2001 regarding the Food and Wine marketplace water contamination and cleanup map is faxed herewith. Due to possible difficulty reading via the fax, a hard copy is also being sent you in the mail today.

FAX

COVER SHEET

CITY OF SANTA ROSA

Date: March 30, 2001

Number of Pages: Three
(Including this page)

TO: Lee Michelin, Executive Officer

FIRM: Water Quality Control Board

FAX #: (707) 523-0135

PHONE #: (707) 576-2225

FROM: Jan Harrison for Jeff Kolin/Steve Burke

DEPT: HOUSING AND REDEVELOPMENT

FAX #: (707) 543-3317

PHONE #: (707) 543-3300

COMMENTS: The material you requested from City Manager Jeff Kolin on March 29, 2001 regarding the Food and Wine marketplace water contamination and cleanup map is faxed herewith. Due to possible difficulty reading via the fax, a hard copy is also being sent you in the mail today.

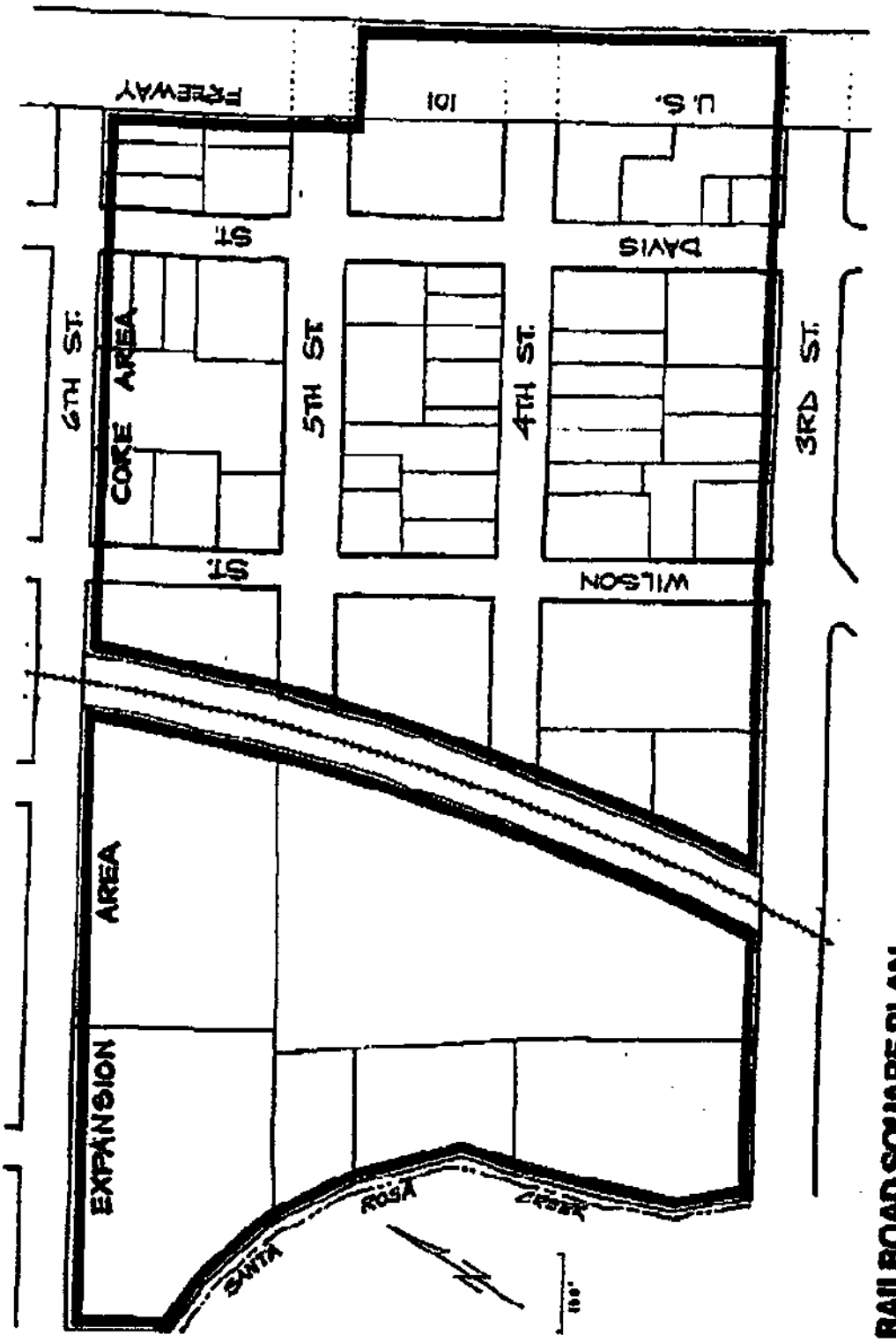
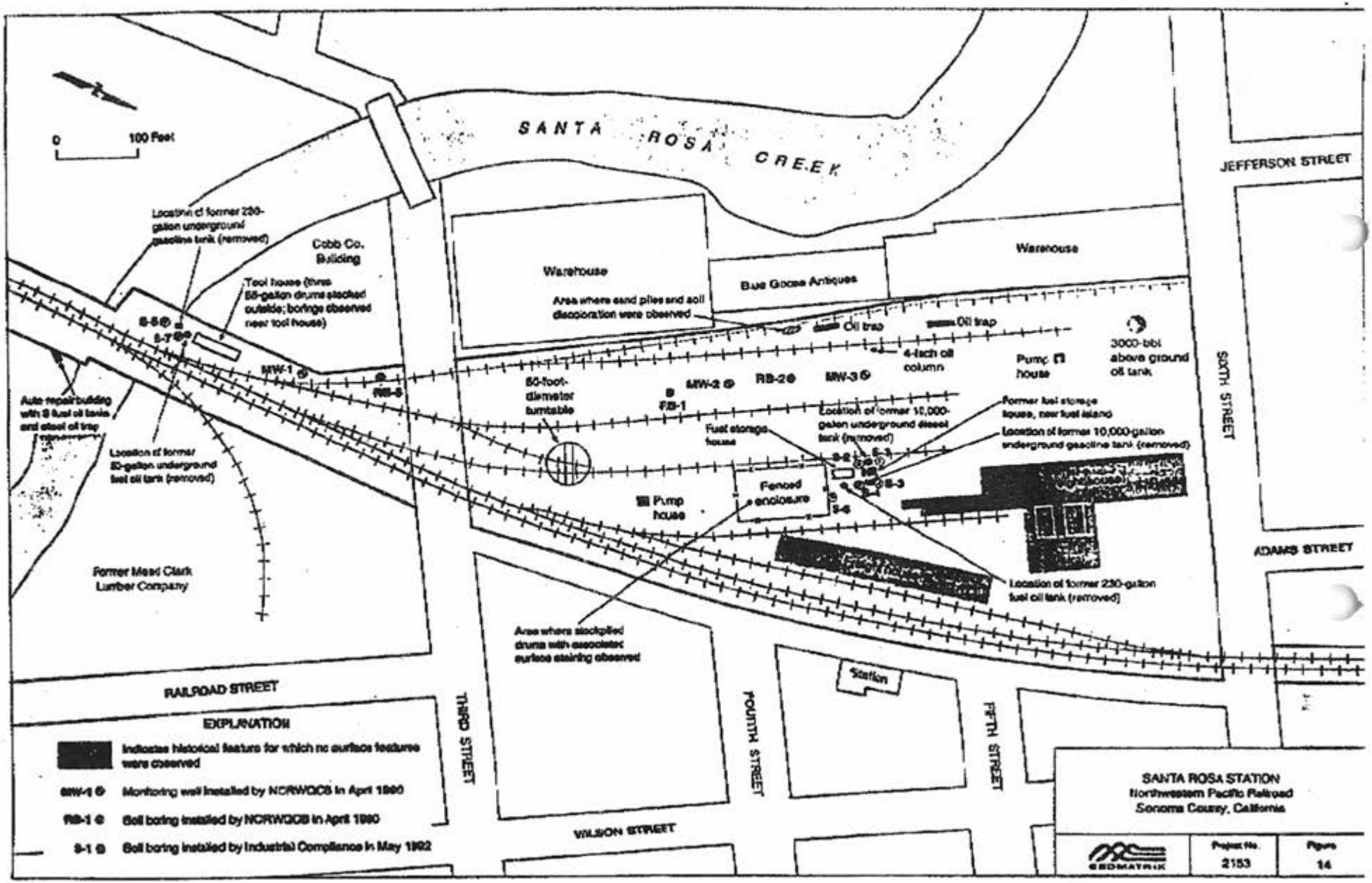


FIGURE 1 **BOUNDARIES, CORE AREA AND EXPANSION AREA**

RAILROAD SQUARE PLAN

CITY OF SANTA ROSA JANUARY 1978


0 100 Feet
SANTA ROSA CREEK
JEFFERSON STREET
SOUTH STREET
ADAMS STREET
Location of former 280-gallon underground gasoline tank (removed)
Cobb Co. Building
Tool house (three 55-gallon drums stacked outside; borings observed near tool house)
Warehouse
Blue Goose Antiques
Warehouse
Area where sand piles and soil discoloration were observed
Oil trap
Oil trap
4-inch oil column
Pump house
3000-bbl above ground oil tank
S-5
S-7
MW-1
RB-3
MW-2
RB-2
MW-3
RB-1
55-foot-diameter turntable
Auto repair building with 3 fuel oil tanks and diesel oil trap
Location of former 80-gallon underground fuel oil tank (removed)
Former Mead Clark Lumber Company
Fuel storage house
Location of former 10,000-gallon underground diesel tank (removed)
Former fuel storage house, new fuel island
Location of former 10,000-gallon underground gasoline tank (removed)
S-2
S-1
S-3
S-4
Fenced enclosure
Pump house
Location of former 280-gallon fuel oil tank (removed)
Area where stockpiled drums with associated surface staining observed
RAILROAD STREET
THIRD STREET
FOURTH STREET
FIFTH STREET
WILSON STREET
Station
EXPLANATION
Indicates historical feature for which no surface features were observed
MW-1 ⊕ Monitoring well installed by NORWOOD in April 1990
RB-1 ⊕ Soil boring installed by NORWOOD in April 1990
S-1 ⊕ Soil boring installed by Industrial Compliance in May 1992
SANTA ROSA STATION
Northwestern Pacific Railroad
Sonoma County, California
GEOMATRIX
Project No. 2153
Figure 14

FAX

COVER SHEET

CITY OF SANTA ROSA

HOUSING AND REDEVELOPMENT
90 Santa Rosa Avenue
Post Office Box 1806
Santa Rosa, CA 95402-1806

DATE: 3/30/01 # of Pages (including this page): 2

TO: Lee Michelin, Executive Director

FIRM: Water Quality Control Board

FAX #: 523-0135 PHONE #:

FROM: Jan Herman

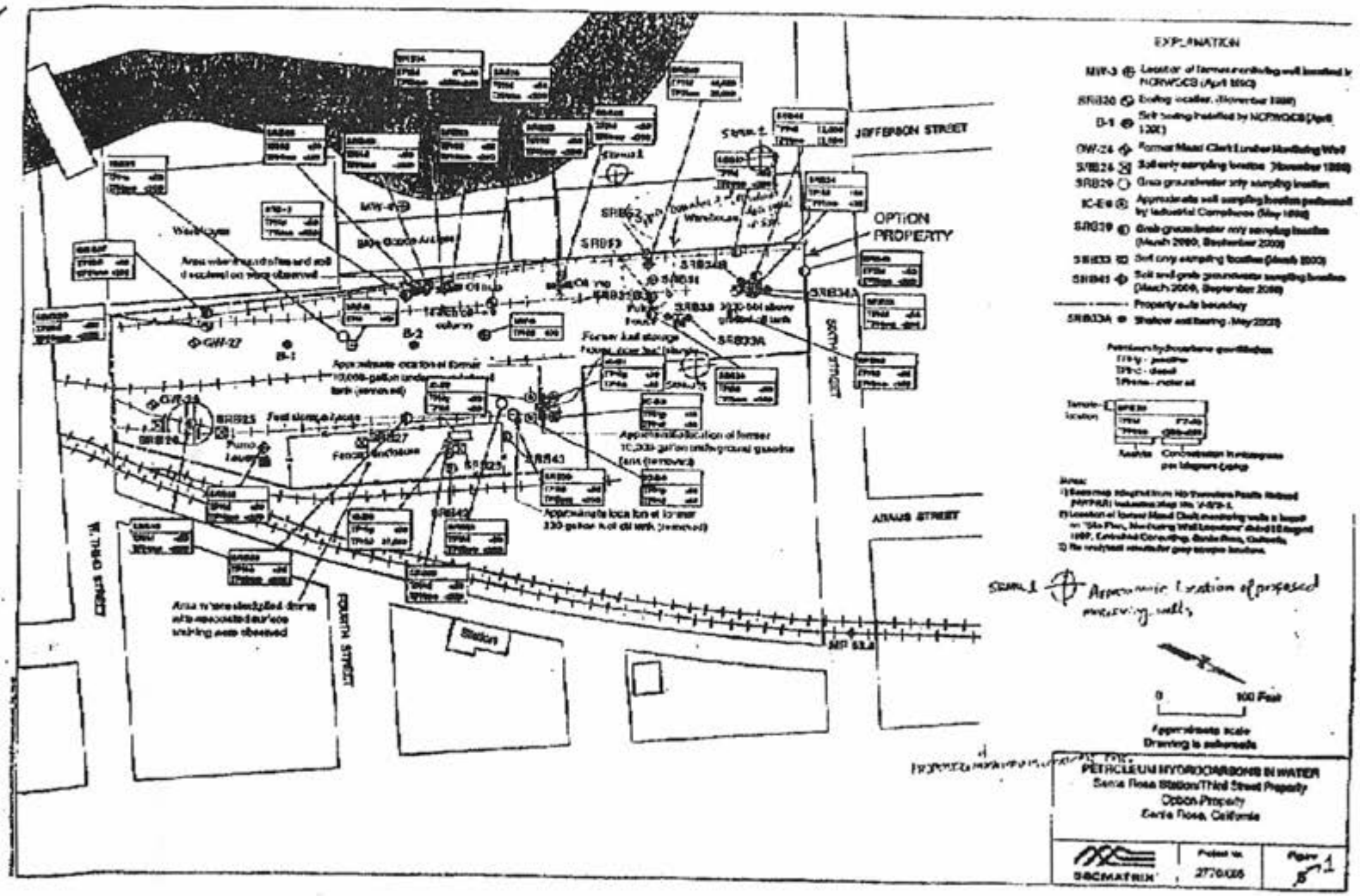
DEPT: HOUSING AND REDEVELOPMENT

FAX #: (707) 543-3317 PHONE #: (707) 543-3300

COMMENTS: I faxed 2 maps to you earlier concerning the Food/Wine Marketplace contamination/clean up. Attached is a third map of the area. A hard copy will be mailed but arrive separately from the other hard copies

H:\Clerical\mj\Forms\FaxHandWrite.wpd

Sent by: City of Santa Rosa 707 543 3317; 03/30/01 3:35PM;#304; Page 2/2



From: Tony Choi <TChoi@geomatrix.com>
To: '"FlecJ@rb1.swrcb.ca.gov" <FlecJ@rb1.swrcb.ca.gov>
Date: 2/13/01 5:22PM
Subject: Mead Clark Lumber soil boring logs

Hi Joan-

I was hoping you might be able to help me out by sending me a few boring logs from Mead Clark's HLA reports. We are interested in obtaining boring and any well construction logs for GW-1 through GW-18. I believe these logs are in a HLA report titled:

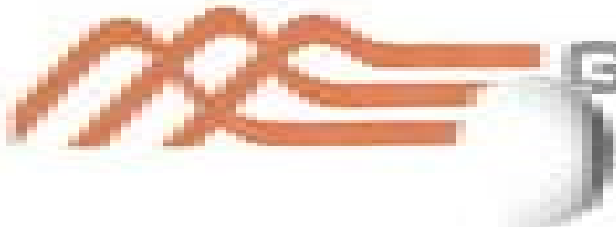
"On-Site Delineation of Groundwater Contamination and Off-Site Characterization, Mead Clark Lumber Company, Third and Wilson Streets, Santa Rosa, California," February 24, 1998.

As I mentioned to you on the phone, I had requested that these logs be photocopied when I came up to review the files but, apparently, the photocopy service missed these documents. Please let me know if you won't be able to help me out. If you can, of course, it would be greatly appreciated.

P.S. - have you had an opportunity to review the lead report for the Southern Property or the Work Plan for the Option Property?

Thank you,

Tony Choi
Geomatrix Consultants
2101 Webster Street, 12th floor
Oakland, California 94612
(510) 663-4207 fax (510) 663-4141



Geomatrix Consultants

Engineers, Geologists, and Environmental Scientists

Anthony Choi

Project II Engineer

2101 Webster Street, 12th Floor
Oakland, CA 94612

E-mail: achoi@geomatrix.com
www.geomatrix.com

(510) 663-4100
Direct (510) 663-4207
Fax (510) 663-4141

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMU NICATION

To: File Date: November 30, 2000

From: JEF

Subject: Southern Pacific Transportation Company

On November 13, 2000 I met with the Susan Gallardo and Tony Choi with Geomatrix, John Moe with Union Pacific and David Solomon with Northwestern Pacific Railroad Authority. The meeting was requested by Susan Gallardo on behalf of her clients.

The agenda is attached. Briefly, we discussed the results of the most recent drilling work. Geomatrix proposes to install three groundwater monitoring wells around the area where floating product was found. I asked if they plan to excavate the area and they said they did not. I said they will need to remove the source to the extent practicable and they chose not to do that now, they will need to install a well in the area of impact.

Susan indicated that they would submit a workplan with the report. They were interested in knowing the history of the property to the west since they would need to drill offsite. I told them I would send them copies of the Sanborn maps that I have to save them some work. And, I would send them the results of some drilling work conducted by the City in the area of fourth and fifth streets due to the potential for MtBE onsite migration. I explained that they have MtBE on the property that they must also address unless they show that it is migrating from an upgradient site. I showed them where the Occhipinti's service station is located and the analytical results of a grab groundwater sample. I also showed them the Kurlander former well locations and analytical results. The source may be the Occhipinti station or an onsite source since gasoline is stored at the railroad yard where the MtBE was found.

We discussed the property development schedule. David indicated that the City is pressuring them to develop the property as soon as possible. I explained that they have some soil work to do. And, their development plans/permitting process will go faster and smoother if their soil issues have been addressed.

I was not prepared to discuss the lead issue on the southern property. I told him that I would review the report and talk to Jim Frank with Santa Rosa Fire Department and get back to them.

On November 30, 2000, I mailed the Sanborns and City drilling results to Tony Choi. I called him to let him know that the information is on its way and to take a look at the former Woolen Mills underground oil tank. It looks like that might be the area where Geomatrix found the oil/diesel in soil and groundwater.

Meeting Agenda

Meeting 1:30 p.m. November 13, 2000

Participants:

California State Water Quality Control Board, North Coast Region (RWQCB)
Northwestern Pacific Railroad Authority (NWPRA)
Union Pacific Railroad (UPRR)
Geomatrix Consultants, Inc. (Geomatrix), representing NWPRA and UPRR

Purpose

- To discuss recent investigation findings and proposed actions at the Santa Rosa Station Option and Southern Properties

Santa Rosa Station, Option Property

- **Recent Investigation Findings**
- **Proposed Action**
- **Site Development Schedule**

Santa Rosa Station, Southern Property

- **Soil**
  - Resolution of lead issue
- **Groundwater**
  -Status of joint sampling

F

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-887-721-9203 Office (707) 576-2220 Fax (707) 523-0135

July 31, 2000

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property (north), Santa Rosa, Case No. 1TSR196

The North Coast Regional Water Quality Control Board (Regional Water Board) staff reviewed the June 2000 "Soil and Groundwater Investigation and Recommendation for Closure" report prepared by Geomatrix for the subject site. Regional Water Board staff comments are:

- Additional site characterization is needed in the vicinity of SRB39 where 9.8 ug/l of Methyl tert-Butyl Ether (MtBE) was detected in groundwater.

  Geomatrix staff report that SRB39 is located down gradient of a former gasoline station located at 101 Fifth Street and that it is likely that the detection of MtBE in groundwater beneath the site can be attributed to this former service station. In considering this potential, I reviewed the case file for the 101 Fifth Street site and found that MtBE has not been detected in any wells located at that site.

  The MtBE detection at the subject site may the result of an onsite source within the maintenance yard area. During a site inspection in March 2000, I observed a large metal storage container labeled "Gasoline," an above ground tank that was not labeled and petroleum hydrocarbons stains on the gravel in the vicinity of the unlabeled tank.

- Additional site characterization is also needed in the vicinity of SRB34 where Total Petroleum Hydrocarbons as diesel (TPHd) and motor oil were detected in groundwater at concentrations of 160 and 420 ug/l, respectively. The extent of contamination in this area must be defined.

- Additional site characterization is needed in the vicinity of SRB36 and SRB40.

  The depth to groundwater was reported to be 20 feet at SRB40. However, the depth to groundwater was not recorded on the boring logs for SRB36 and SRB40. The depth to

groundwater at SRB41, located in close proximity to the UST, was 11.5 feet and the depth to groundwater during the November 1996 investigation was approximately 10 to 12 feet below ground surface (bgs).

Since this area contains the highest concentration of heavy hydrocarbons in soil and TPHd was reported in groundwater in SRB36 at a concentration of 67 ug/l, an additional investigation in this area with regards to the presence, or absence, of groundwater impact and depth to groundwater is requested.

- Regional Water Board staff also found that:

1. The depth where grab groundwater samples were collected was not identified for SRB33, SRB34 and SRB39.

2. The depth to groundwater was identified in SRB35 at 7 feet yet the sample was collected from 9 to 13 feet. The depth to water was identified in SRB37 at 18 feet yet the sample was collected from 20 to 25 feet. Clarification must be provided.

3. It is reported that the petroleum odors were noted in SRB40 from 4 to 13 feet. However, the presence of odors was not included on the boring log. Please provide copies of the Geomatrix staff field notes for the recent work.

4. The Figures should be revised to show the location of the former 230-gallon fuel oil tank within the fenced enclosure in the vicinity of IC-B6 and SRB39.

We look forward to a receipt of a work plan in the near future. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JF:clh/railroad2

cc: Mr. Jim Frank, Santa Rosa Fire Department
Ms. Susan Gallardo, Geomatrix, 2101 Webster Street, 12th Floor, San Francisco, CA 94111
Ms. Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Mr. David Solomon, Golden Gate Bridge District, P.O. Box 9000, Presidio Station, San Francisco, CA 94129

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: SEPTEMBER 27, 2000

From: JEF

Subject: SOUTHERN PACIFIC TRANSPORTATION COMPANY THIRD ST.

ON THIS DAY CHARLIE TEAME CALLED TO REPORT THAT THEY FOUND PRODUCT IN SOIL BORING SRB48. THEY HAVE ADDED ADDITIONAL BORINGS TO DEFINE THE EXTENT HAVE ENCOUNTERED MORE TO THE EAST. HE SAID IT IS THICK AND OILY (STICKY) AND THEY COULD SEE IT ON THE BAILER AND CASING. IN ONE AREA THEY COULD SEE THE STAINED (GREY) SOIL AT ABOUT TWO FEET BELOW GROUND SURFACE.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: 9/26/00

From: JOAN

Subject: SPTRANSCO

ON SEPTEMBER 25, 2000 I VISITED THE SUBJECT SITE DURING DRILLING ACTIVITIES. CHARLIE AND BRIAN (GEOMATRIX) WERE ONSITE. THEY HAD COMPLETED TWO BORINGS IN THE ABOVE GROUND OIL TANK AREA.

CHARLIE SHOWED ME WHERE THE BORING LOCATIONS WERE MARKED FOR THE MTBE AREA. HE HAD TWO POTENTIAL LOCATIONS; ONE TO THE SOUTH OF THE GAS STORAGE AREA AND ONE TO THE WEST. WE AGREED ON THE WESTERN LOCATION.

HE SAID THERE WAS A WET ZONE AROUND 12 FEET BUT NOT ENOUGH WATER TO COLLECT SAMPLES. HE SAID SUFFICIENT WATER IS FOUND AROUND 20 FEET.

WE AGREED THEY WOULD COLLECT SAMPLES USING A BAILER RATHER THAN A PUMP.

WE AGREED SOIL SAMPLES WOULD BE COLLECTED FROM ANY AREAS OF OBVIOUS CONTAMINATION. ALSO, GROUNDWATER SAMPLES FROM THE MTBE AREA WITH PETROLEUM HYDROCARBON ODORS WOULD BE ANALYZED FOR TPHG/TPHD.

SOUTHERN PACIFIC TRANS COMPANY BP
ITSR196

RWQCB
REGION 1
AUG 18 2000

LAM ___ CRJ ___ FCR ___
RLT ___ X SAW ___ KAD ___
LMF ___ ___ ___

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☒ Facsimile ☒ U.S. Mail ☐ Overnight Mail

Date: 8-15-00

To: Joan Fleck – RWQCB, North Coast Region

From: Susan Gallardo
Tony Choi

cc: John Moe - UPRR
David Solomon - GGBHTD
Leah Goldberg - HBMVR

Project Number: 2770.005

Project Name: Santa Rosa Station, Option Property – Supplemental Groundwater Investigation

Item	Description
1	Figure 1: Site Plan and Proposed Supplemental Grab Groundwater Sampling Locations, Santa Rosa Station/Third Street Property, Option Property, Santa Rosa, California

Remarks

Dear Ms. Joan Fleck:

Please find Figure 1 attached, showing proposed grab groundwater sampling locations for supplemental investigations at the Santa Rosa Station Option Property. Additional borings have been proposed in response to the California Regional Water Quality Control Board's (Water Board) comments to the report titled, "Soil and Groundwater Investigation and Recommendation for Closure," dated June 2000.

In response to the Water Board's concerns regarding methyl tertbutyl ether (MTBE), we propose collecting additional grab groundwater samples at locations SRB42 and SRB43. Samples from these locations will be analyzed for MTBE by Environmental Protection Agency (EPA) Method 8260. The extent of potential MTBE impacts is defined by previous borings to the west (e.g. SRB35, SRB36, SRB40, and SRB41) and by SRB32 to the south.

In response to the Water Board's concerns regarding the former 3,000-barrel aboveground storage tank (AST), groundwater sampling locations SRB44 through SRB47 have been selected to supplement previous sampling locations SRB23 and SRB34. These additional sampling locations to the east, north, and west (presumably down-gradient) are intended to further define potential groundwater impacts from the former AST. Grab groundwater samples from these locations will be analyzed for total petroleum hydrocarbons as diesel and motor oil (TPHd and TPHmo respectively) by EPA Method 8015M.

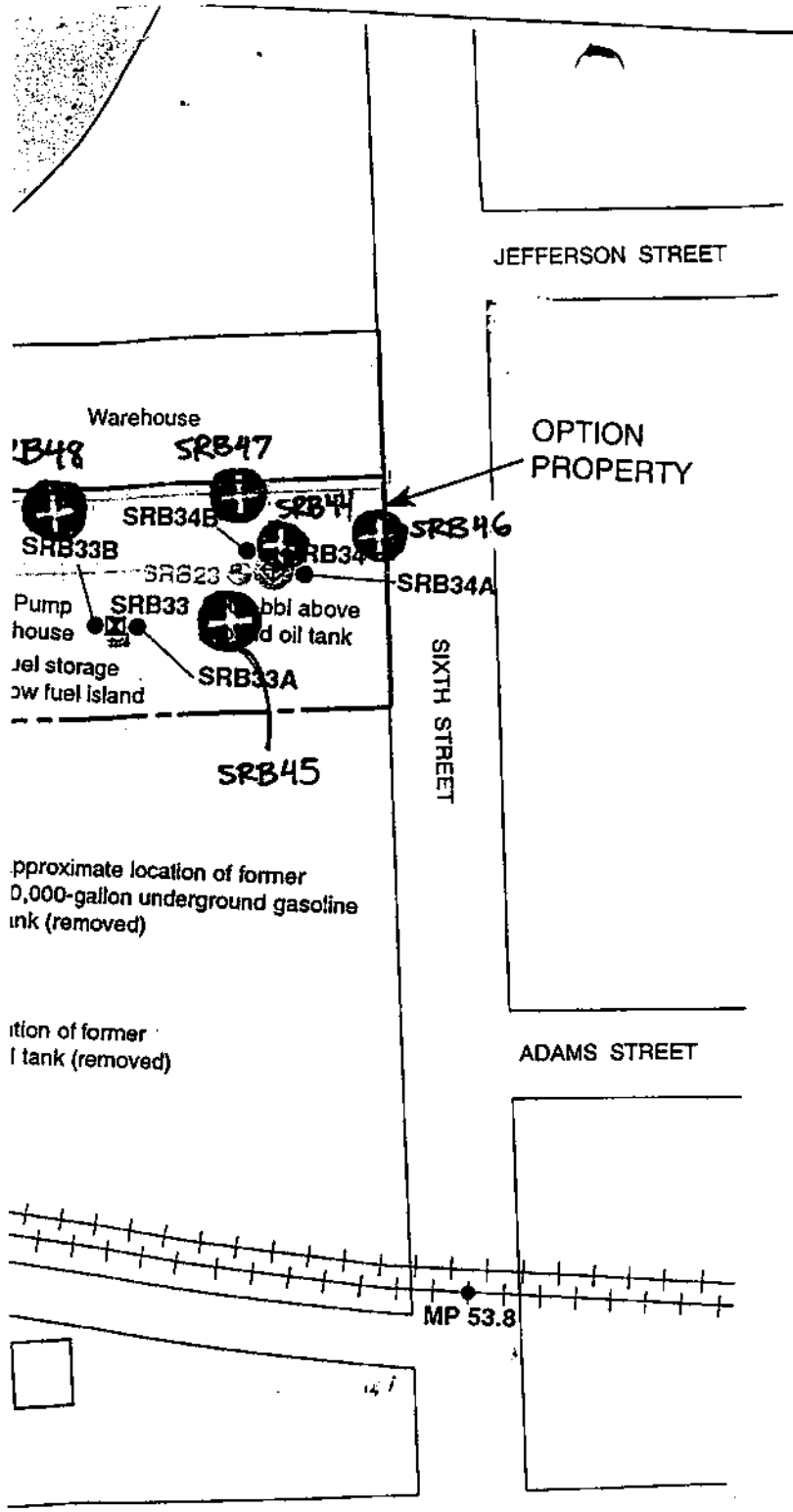
Proposed grab groundwater sampling location SRB48 has been selected to provide further groundwater

GEOMATRIX

characterization along the western boundary of the site. This sample will be analyzed for TPHd and TPHmo by EPA Method 8015M; polynuclear aromatics (PNAs) by EPA Method 8270; and volatile organic compounds (VOCs) by EPA Method ~~8010~~ 8020.

Proposed grab groundwater sampling location, SRB49, has been selected near previous borings SRB40 and SRB36 to provide additional characterization in this area. This sample will be analyzed for TPHd, TPHmo, PNAs, and VOCs by EPA methods noted above.

We appreciate your review of these proposed sampling locations and understand that this transmittal is adequate in lieu of a formal work plan. Please contact Tony Choi at (510) 663-4207 or Susan Gallardo at (510) 663-4137 if you have comments or questions.



PROPOSED GW SAMPLING LOCATION
SRB43 8-14-00

EXPLANATION

- MW-3 ⊕ Location of former monitoring well installed by NCRWQCB (April 1990)
- SRB20 Phase III boring location
- B-1 ⊙ Soil boring installed by NCRWQCB (April 1990)
- GW-24 Former Mead Clark Lumber Monitoring Well
- SRB24 ⊠ Soil only sampling location
- SRB23 ○ Grab groundwater only sampling location
- IC-B6 Approximate soil sampling location performed by Industrial Compliance (May 1992)
- **SRB38** ◐ Grab groundwater only sampling location (March 2000)
- **SRB33** ⊠ Soil only sampling location (March 2000)
- **SRB41** ⊕ Soil and grab groundwater sampling location (March 2000)
- Property sale boundary
- **SRB33A** ● Shallow soil boring (May 2000)

Notes:
1) Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-1.
2) Location of former Mead Clark monitoring wells is based on "Site Plan, Monitoring Well Locations" dated 15 August 1997, EnviroNet Consulting, Santa Rosa, California.

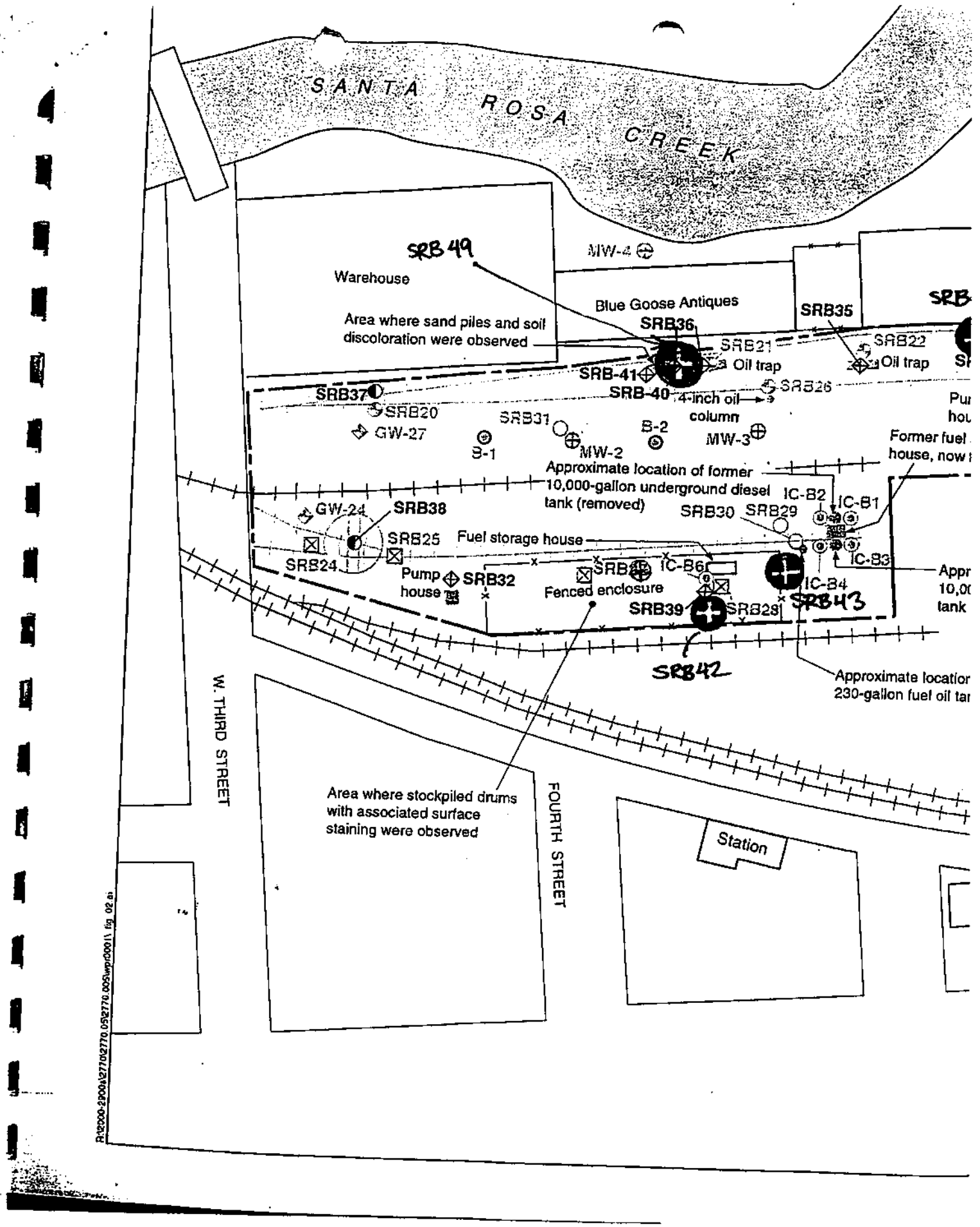
0 100 Feet

Approximate scale
Drawing is schematic

PROPOSED SUPPLEMENTAL GRAB GROUNDWATER

SITE PLAN AND SAMPLING LOCATIONS
Santa Rosa Station/Third Street Property
Option Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 1 2


SANTA ROSA CREEK
SRB49
MW-4
Warehouse
Blue Goose Antiques
SRB35
SRB36
Area where sand piles and soil discoloration were observed
SRB21
SRB22
Oil trap
Oil trap
SRB-41
SRB-40
SRB26
4-inch oil column
SRB37
SRB20
SRB31
B-2
GW-27
B-1
MW-2
MW-3
Former fuel house, now
Approximate location of former 10,000-gallon underground diesel tank (removed)
IC-B2
IC-B1
GW-24
SRB38
SRB30
SRB29
SRB25
Fuel storage house
IC-B3
SRB24
Pump house
SRB32
SRB
IC-B6
Fenced enclosure
IC-B4
SRB43
SRB39
SRB28
SRB42
Approximate location 230-gallon fuel oil tar
W. THIRD STREET
Area where stockpiled drums with associated surface staining were observed
FOURTH STREET
Station

FAX

from **Geomatrix Consultants, Inc.**
2101 Webster Street, 12th Floor, Oakland, CA 94612
www.geomatrix.com

GEOMATRIX

The information in this telecopy is intended for the named recipient(s) only. It may contain privileged and confidential matter. If you have received this telecopy in error, please notify the sender immediately. Thank you.

Date: 8-15-00

Number of pages including cover sheet: 5

To: Joan Fleck - RWQCB

Fax Phone: 707-523-0135
Phone: 707-576-2220
cc:

From: Tony Choi

Fax Phone: 510-663-4141
Phone: 510-663-4100
Direct dial:
Email:
Project No.:
Project Name:

REMARKS:

☐ Hard copy to follow ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Dear Ms. Joan Fleck:

Please find the attached 4-page transmittal. Please contact me if I can be of any assistance.

Thank you,
Tony Choi

8/31/00
I SPOKE TO SUSAN. I NEED MORE DETAIL ON MTBE SAMPLING LOCATIONS. WE AGREED I WILL ATTEND THE SAMPLING LOCATION FIELD WORK AND WILL WORK OUT EXACT LOCATIONS WITH GEOMATRIX STAFF.
JEP

\\sf3\tchoi$\Project\2770Up\2770.008-Option\2770.005XmtlFax.doc

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☒ Facsimile ☒ U.S. Mail ☐ Overnight Mail

Date: 8-15-00

To: Joan Fleck – RWQCB, North Coast Region

From: Susan Gallardo
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cc: John Moe - UPRR
David Solomon - GGBHTD
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GEOMATRIX

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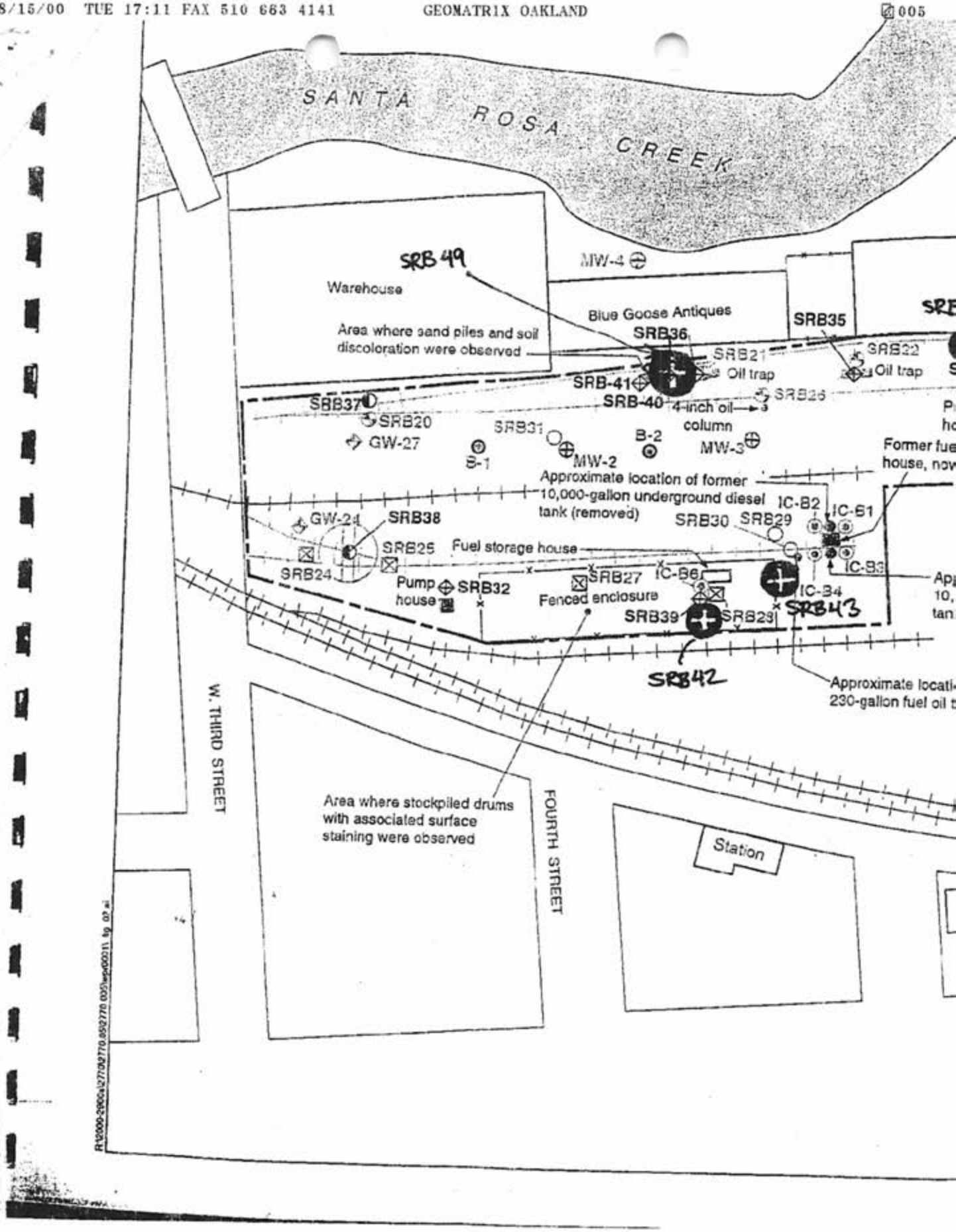
We appreciate your review of these proposed sampling locations and understand that this transmittal is adequate in lieu of a formal work plan. Please contact Tony Choi at (510) 663-4207 or Susan Gallardo at (510) 663-4137 if you have comments or questions.

REGISTERED PROFESSIONAL ENGINEER
SUSAN MARIE GALLARDO
No. C038154
CIVIL
STATE OF CALIFORNIA

Susan Gallardo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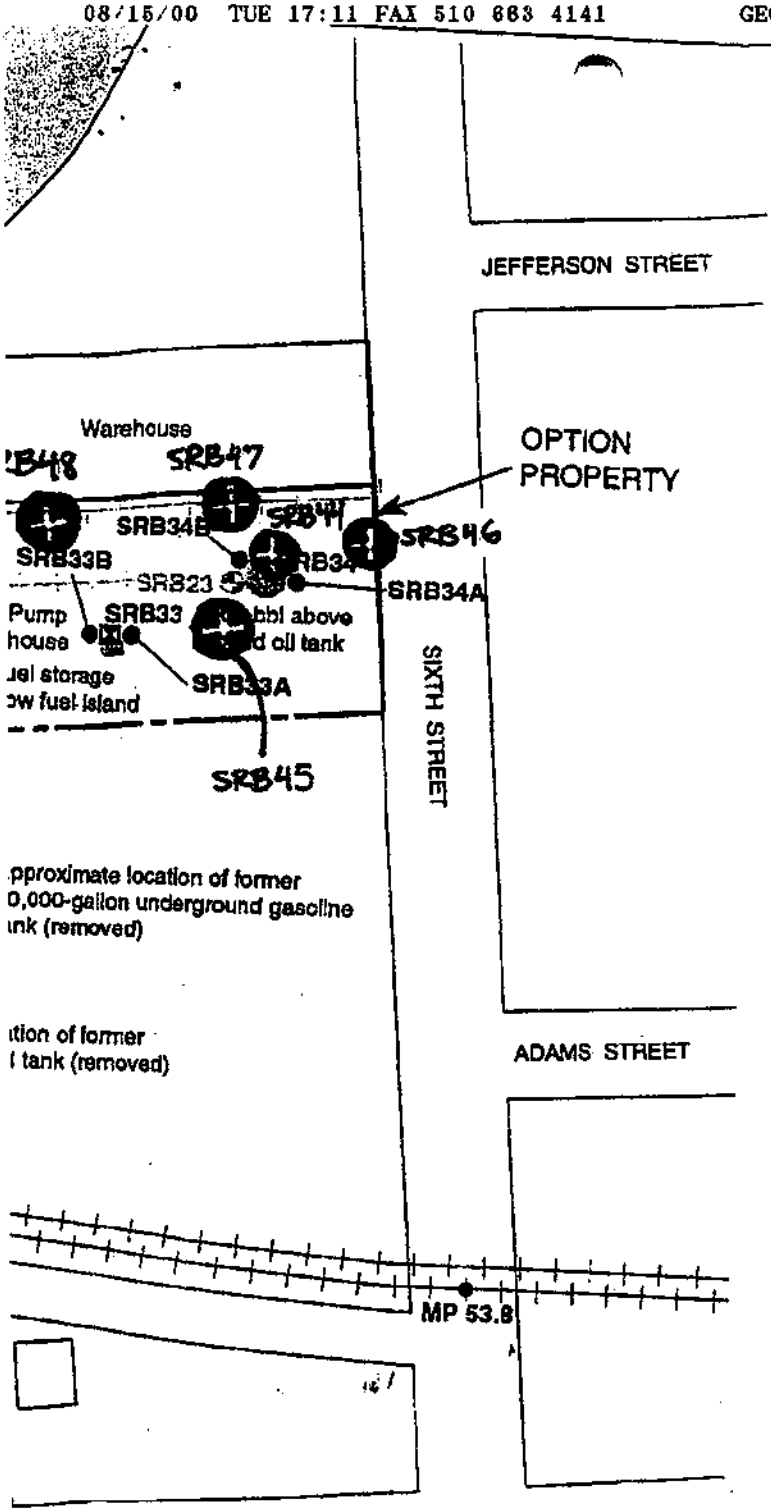

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SRB43

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PROPOSED SUPPLEMENTAL GRAB GROUNDWATER

SITE PLAN AND SAMPLING LOCATIONS
Santa Rosa Station/Third Street Property
Option Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 1 2

F

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

June 29, 2000

John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: ANNUAL ESTIMATION LETTER
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, CA, Case No. 1TSR196; (201-62)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Board staff estimate that the following work will be performed during fiscal year 2000/2001 on the Southern Pacific site:

- Review workplan and reports for determining the extent of contamination;
- Review quarterly monitoring reports;
- Meet with, provide written correspondence to, and conduct telephone communications with representatives of responsible parties and interested third parties;
- Conduct internal communication (i.e., meetings, memos, etc.) regarding the project;
- Review site for compliance with California Water Code and Health and Safety Code; and
- Conduct site inspection and sampling.

STATEMENT OF EXPECTED OUTCOME

- Definition of the extent of petroleum hydrocarbons and other contaminants at this site in groundwater and soil;
- Preparation of meeting summaries, telephone conversation summaries, etc., to document the file record and site progress;
- Evaluation of the adequacy of reports and workplans to support remediation decisions;
- Address final corrective action plan;
- Ensure compliance with California Environmental Quality Act; and
- Ensure consistency with California Water Code, regulations, and policies.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $70 per hour.

ESTIMATION OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 50 hours of work related to this site during fiscal year 2000/2001 (July 1, 2000 through June 30, 2001). Based on the average billing rate of $70 per hour, the estimated billing charge for this site during fiscal year 2000/2001 is about $3,500.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

Enclosure: Billing Rates Description

NKN:clh/00-20162.doc

cc: Mr. Mike Harper, SWRCB, Division of Clean Water Programs 201-62

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

May 18, 2000

Mr. John Moe
Union Pacific Railroad
49 Stevenson St., Ste. 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property (north), Santa Rosa, Case No. 1TSR196

The purpose of this letter is to summarize recent site activities and document the status of the site.

I reviewed the November 18, 1999 "Work Plan for Additional Sampling Activities" prepared by Geomatrix for the subject site. I discussed the plan with Geomatrix staff on January 12, 2000 and requested clarifications and modifications.

On February 7, 2000 the "Revisions to Work Plan for Additional Sampling Activities" was received. In general, the modifications addressed our concerns. The proposed work is acceptable; however, if groundwater impact is shown to exist, groundwater monitoring wells may need to be installed to evaluate the need for additional work.

On February 29, 2000 I met with Geomatrix staff at the site. I requested that selected soil samples be analyzed for metals because previous investigative work consisted of composite samples rather than discrete. It was also agreed that additional soil borings may be included since it was unknown whether the selected soil boring locations were placed at the boring locations for previous work.

Fieldwork was conducted the week of March 6, 2000. We look forward to receipt of a report of completed work in the near future. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JF:clh/railroad.doc

cc: Ms. Penny Tse, Geomatrix , 2101 Webster Street, 12th Floor, Oakland, CA 94612
Mr. Jim Frank, Santa Rosa Fire Department
Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Mr. Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Mr. Dave Montague, City of Santa Rosa, Department of Public Works, 69 Stony Circle, Santa Rosa, CA 95401
Mr. Anthony Cohen, Clement, Fitzpatrick & Kenworthy, P.O. Box 1494, Santa Rosa, CA 95402

California Regional Water Quality Control Board
North Coast Region
William A. Hoy, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

March 21, 2000

Mr. John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, 3rd Street (south), Santa Rosa, Case No. 1TSR196

The purpose of this letter is to bring us up to date regarding the status of the subject site. Our records show that we currently are working with you regarding petroleum hydrocarbons in soil and groundwater and lead in soil.

Petroleum Hydrocarbons

Our records show that total petroleum hydrocarbons as diesel (TPHd) were detected in groundwater at up to 14,500 parts per billion (ppb) during the Industrial Compliance phase of work in 1992. Total Petroleum Hydrocarbons as gasoline (TPHg) were not detected. At a later time, TPHg was detected during the Geomatrix phase of work. TPHd was not detected.

We discussed this discrepancy and on March 13, 1998, we concurred with your proposal to conduct a coordinated sampling event with Mr. Destruel's consultant (for the Mead Clark Lumber Company site) for the purposes of collecting duplicate samples. Since that time, some work has been conducted regarding access agreements and locating some of the wells proposed for sampling. However, a sampling event has not been conducted. Therefore, the issue of site characterization (gasoline, diesel or both) has not been completed.

Lead

During the course of site characterization work, lead was reported above background levels in soil in the vicinity of the former tool sheds. In September 1997, we requested that the lead-impacted soil issue be addressed. Geomatrix submitted a work plan and proposed to remove the lead-impacted soil to 400 mg/kg, which is the Environmental Protection Agency, Region 9, Preliminary Remediation Goal (PRG). We did not concur with the proposal because PRGs may not be protective of water quality. Regional Water Board and Geomatrix staff agreed that soil removal would be conducted to background levels (65 mg/kg).

Two phases of shallow excavation have been completed. Lead concentrations for the SRB14 area (that initially contained 170 ppm) were detected at up to 74 ppm. Lead concentrations for the SRB13 area (that initially contained 590 ppm) were detected at up to 130 ppm. Therefore, soil containing lead concentrations above background levels remain in place.

Rather than conduct additional excavation at this time, it appears more appropriate to provide additional information because:

- During the excavation work, it was discovered that the former tool shed area contained chunks of concrete, wood, metal and what appeared to be utility pole debris. We do not know if the higher-than-background lead concentrations are related to the debris (waste) disposal area. The extent of the debris disposal area is unknown.

- The City of Santa Rosa has provided us with analytical results for soil and groundwater samples collected at the base of the north creek bank. The work was conducted in preparation of planning and construction of a bicycle/pedestrian path that will connect with the Prince Memorial Greenway, Creek Restoration Project (PMGP). Lead was detected at 389 mg/kg in soil at the base of the creek bank below the subject site. Lead was not detected above "background" levels in soil at other sampling locations along the creek.

We request that the site be adequately characterized to determine the extent of lead concentrations in soil above background. Therefore, a work plan must be submitted to investigate the extent of lead-impacted soil and the relationship between the subject site and elevated levels found at the base of Santa Rosa Creek.

For your information, investigative and remedial work conducted along Santa Rosa Creek, in preparation of the PMGP, has shown that waste (ranging from inert to hazardous levels) disposal along the creek bank was common. The concrete lining, which generally has held waste in place, is proposed for removal.

We look forward to receipt of a work plan by April 24, 2000. If you have any questions please call Joan Fleck of my staff at (707) 576-2675.

Sincerely,

Thomas B Dunbar

Thomas B. Dunbar
Senior Water Resource Control Engineer

TBD:clh/rrlead

cc: Santa Rosa Fire Department
Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, California 94612

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: MARCH 8, 2000

From: JOAN

Subject: SPTRANS COMPANY

ON MARCH 7, 2000, PENNY TSE LEFT ME A MESSAGE UPDATING ME ON THE DRILLING ACTIVITIES. SHE SAID THEY DID NOT ENCOUNTER IMPACTED SOIL IN THE VICINITY OF SRB36 SO THEY MOVED ABOUT 25 FEET TO THE SOUTH. THEY DID FIND IMPACTED SOIL AT THAT LOCATION (THAT THEY CALL SRB40). THEY ALSO MOVED ANOTHER 25 FEET SOUTH OF SRB40 AND COLLECTED ADDITIONAL SAMPLES.

WE WILL DISCUSS THE RESULTS WHEN THEY BECOME AVAILABLE NEXT WEEK.

FAX

from **Geomatrix Consultants, Inc.**
2101 Webster Street, 12th Floor, Oakland, CA 94612
www.geomatrix.com

The information in this telecopy is intended for the named recipient(s) only. It may contain privileged and confidential matter. If you have received this telecopy in error, please notify the sender immediately. Thank you.

Date: 3/16/00

Number of pages including cover sheet: 4

To:
Joan Fleck
North Coast RWQCB

Fax Phone: 707-523-0135
Phone: 707-576-2675
cc:

From:
Penny Tse

Fax Phone: 510-663-4141
Phone: 510-663-4100
Direct dial: 510-663-4164
Email:
Project No.: 2770.005
Project Name: Santa Rosa Option Property

REMARKS:

☐ Hard copy to follow ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Joan,

Attached are the DRAFT results for the sampling performed at the UPRR Santa Rosa Option Property. Please note that these results are preliminary and are subject to QA/QC check

The additional analysis we are requesting for deeper soil samples are shown with the dates the additional analysis was requested. Based on these results, we also are requesting leachability testing for three samples as noted.

Please call me with your comments. Thank you for your cooperation.

DRAFT

TABLE _

ANALYTICAL RESULTS FOR TPHd, TPHm, and PNAs IN SOIL[1]

Santa Rosa Option Property/Third Street
Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg)

Borehole	Depth	Sample Date	TPHd	TPHm	PNAs	
SRB32						
PUMP HOUSE	1	3/6/2000	160	<65	0.073 to 1.98 (WET)	
	4.5	3/7/2000	2.8	<13	<0.01	
	7.5	3/7/2000				
	10.5	3/7/2000				
SRB33						
PUMP HOUSE	1	3/7/2000	2.3	<13	0.01 to 0.028	
	4.5	3/7/2000	<1	<13	<0.01	
SRB34						
ABOVE GROUND OIL	1	3/7/2000	2.1	<13	<0.01	
	4.5	3/7/2000	2.2	<13	<0.01	
	7.5	3/7/2000				
	10.5	3/7/2000				
SRB35						MISSED ORIGINAL LOCATION
OIL TRAP	1	3/7/2000	<1	<13	<0.01	
	4.5	3/7/2000	<1	<13	<0.01	
	7	3/7/2000				
SRB36						
OIL TRAP	1	3/6/2000	430	780 (WET)	<2	
	4.5	3/6/2000	<1	<13	<0.02	
	7.5	3/6/2000				
	10.5	3/6/2000				
	13.5	3/6/2000				
	19.5	3/6/2000				
SRB39						
UST	1	3/6/2000	<20	720 (WET)	NO <2.5	
	4.5	3/6/2000	<1	51	<0.01	
	7.5	3/6/2000		3/14/00		
	10.5	3/6/2000				
	13.5	3/6/2000				
SRB40						
SOUTH OF OIL TRAP	1	3/7/2000	X 990	X 1200	< 3.0 X (wet)	
	4.5	3/7/2000	X 130	X 240	< 0.5 X	
	7.5	3/7/2000	3/13/00	3/13/00 ← PEO HIGHER	Will Analyze	
	10.5	3/7/2000				
	14	3/7/2000	3/13/00	3/13/00 ← PEO	Will Analyze	
	16.5	3/7/2000				
	19.5	3/7/2000				
SRB41						
	1	3/7/2000	X	X 40	X	
	4.5	3/7/2000	X ND	X ND	< .02 X	
	7.5	3/7/2000				
	10.5	3/7/2000				

X = Analysis part of initial sampling plan - pending results

TABLE __

DRAFT

ANALYTICAL RESULTS FOR METALS IN SOIL[1]

Santa Rosa Option Property/Third Street
Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg)

Borehole	Depth	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SRB32																			
	1		<25	<5	110	<5	<5	170	<5	21	57	0.59	<5	80	<25	<5	<25	47	83
	4.5		<25	<5	150	<5	<5	58	17	17	<5	<0.05	<5	96	<25	<5	<25	45	55
	7.5				?														
	10.5																		
SRB33																			
	1		<25	<5	160	<5	<5	470	29	20	13	0.083	<5	190	<25	<5	<25	56	54
	4.5		<25	<5	140	<5	<5	630	21	17	13	<0.05	<5	160	<25	<5	<25	62	55
					?			?						?					
SRB34																			
	1		<25	<5	150	<5	<5	320	16	18	23	<0.05	<5	92	<25	<5	<25	46	55
	4.5		<25	<5	160	<5	<5	410	20	19	10	<0.05	<5	140	<25	<5	<25	61	55
	7.5				?			3/16/00						3/16/00					
	13.5																		
SRB35																			
	1		<25	<5	190	<5	<5	61	21	22	15	<0.05	<5	97	<25	<5	<25	68	68
	4.5		<25	<5	170	<5	<5	93	21	20	8.7	0.056	<5	150	<25	<5	<25	68	71
	7				?									3/16/00					
SRB36																			
	1		<25	<5	95	<5	<5	43	15	20	48	0.065	<5	97	<25	<5	<25	57	61
	4.5		<25	<5	200	<5	<5	85	30	22	<5	<0.05	<5	160	<25	<5	<25	66	67
	7.5				?									3/16/00					
	10.5																		
	13.5																		
	19.5																		
SRB39																			
	1		<25	<5	57	<5	<5	31	<5	<5	77	0.17	<5	43	<25	<5	<25	33	55
	4.5		<25	<5	150	<5	<5	58	<5	<5	<5	0.1	<5	78	<25	<5	<25	39	48
	7.5				3/14/00			3/14/00						3/14/00					
	10.5																		
	13.5																		

ORDERED BY ACCIDENT

WET H_2O NO DEEPER SOIL SAMPLES = UNRESOLVED

ALSO FOR SRB33

TABLE __

DRAFT

ANALYTICAL RESULTS FOR METALS IN SOIL[1]

Santa Rosa Option Property/Third Street

Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg)

Borehole	Depth	Sample Date	Anti-mony	Arsenic	Barium	Beryl-lium	Cad-mium	Chro-mium	Cobalt	Copper	Lead	Mercury	Molyb-denum	Nickel	Sele-nium	Silver	Thallium	Vana-dium	Zinc
SB840																			
	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.5		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7.5													Analyze					
	10.5																		
	14			ADDONE															
	16.5																		
	18.5																		
SB841																			
	1		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	4.5		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	7.5			RECEIVE										Analyze					
	10.5																		
Industrial PRGs[2]			820	2.7	100,000	2200	810	450	100,000	76,000	1000	610	1000	41,000	1000	1000	--[4]	14,000	100,000
STLC (mg/l)[5]			15	5.0	100	0.75	1.0	10	560	25	5	0.2	350	20	1.0	5	7.0	24	250
TTLC (mg/kg)[6]			500	500	10,000	75	100	8000	2500	2500	1000	20	3500	2000	100	500	700	2400	5000

Notes:

1. Samples collected by Geomatrix Consultants, Inc. on March 6 and 7, 2000. Samples analyzed by Entech Analytical, Inc., of Sunnyvale, California
2. NA = Sample not analyzed for this metal.
3. Industrial Preliminary Remediation Goals (PRGs) from U.S. EPA Region 9 (U.S. EPA 1999).
4. PRGs were not available for these constituents. Surrogate PRGs for a constituent with similar physical and chemical properties were used for the PRG comparison.
5. STLC = Soluble Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66216.24
6. TTLC = Total Threshold Limit Concentration, California Code of Regulations, Title 22, Section 66216.24

X = Analysis part of initial sampling plan - pending results

Dates shown indicate date additional analysis requested

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

February 7, 2000
Project 2770.005

VIA FASCIMILE AND REGULAR MAIL

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Revisions to Work Plan for Additional Sampling Activities
Case No. 1TSR196
Santa Rosa Station/Third Street Property
Option Property
Santa Rosa, California

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company, [SPTCo]) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is submitting these clarifications and revisions to our November 18, 1999 work plan. The work plan was prepared to respond to the August 31, 1999 letter from the Regional Water Quality Control Board, North Coast Region (RWQCB) requesting additional characterization of potential environmental issues at the subject site in Santa Rosa, California (Figure 1). The following clarifications and revisions document our discussion during our January 10 and 12, 2000 telephone conversations.

Clarifications

- The local groundwater flow direction is assumed to be towards Santa Rosa Creek. For the purposes of the subject site, the assumed flow direction for the majority of the site is towards the west. However, for the south edge of the site, the flow direction could be towards the west-southwest.

- During previous sampling programs, the highest concentrations of total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PNAs) were detected on the western edge of the property.

- The work plan currently proposes that soil samples will be collected at 1, 4, 7 and 9 feet below ground surface (bgs). These sampling depths were selected to provide vertical coverage in the vadose zone, assuming that groundwater will be encountered at approximately 10 feet bgs. Should the depth to groundwater be deeper, we will collect additional soil samples at similar intervals. Again, soil samples only will be collected from the unsaturated zone.

GEOMATRIX

- Grab groundwater analysis for volatile organic compounds (VOCs) will include methyl tertiary butyl ether (MTBE) and other fuel oxygenates.

Revisions

- Relocation of Borings for Historical Features: To address the RWQCB's concern regarding historical features where primary environmental impacts would be expected to occur, boring locations SRB33 through SRB38 have been relocated. As possible, these borings will be positioned to coincide with or be immediately west (downgradient) of their associated historical features of concern (Figure 2). RWQCB staff will be notified of the date when these borings will be marked in the field to provide an opportunity to concur with the appropriate placement of these sampling locations.

- Additional Sampling at UST area: At your request, an additional boring (SRB39) has been added to evaluate the potential impact of the former fuel oil underground storage tank (UST) previously investigated by Industrial Compliance (IC) in 1992 and Geomatrix in 1996. The boring will be positioned to be adjacent to and immediately west of boring IC-B6 where the highest concentration of TPH quantified as diesel (TPHd) was detected in groundwater. As discussed, the IC sample results were not replicated in Geomatrix's grab groundwater samples from SRB 29 and 30, or in a groundwater sample from the RWQCB's former monitoring well (MW-3). Soil and grab groundwater samples will be collected and analyzed in the same manner as described in the November 18, 1999 work plan.

- Evaluation of Potential Sources to Groundwater: In the event that impacted soil is encountered during the field sampling program (based on visual observation or readings from an organic vapor monitor), samples of the affected soil will be collected and analyzed for TPHd, TPH as motor oil (TPHm) and PNAs as described in the November 18, 1999 work plan. Additionally, we will collect samples below the apparently-impacted soil to evaluate the vertical extent of TPHd, TPHm and PNAs.

- RWQCB Concurrence with Progressive Sampling Program: To address the RWQCB's concern regarding the evaluation of soil analytical results with respect to water quality objectives, we will call the RWQCB with preliminary results of the staged soil analysis and coordinate possible additional analysis of deeper soil samples with the RWQCB. For your information, this process must occur within 14 calendar days of sampling in order to perform the proposed analysis according to U.S. EPA guidelines; therefore, it is essential that the RWQCB be available to respond when the initial sampling results are available (expected to be within 7 to 10 calendar days of the sampling event).

GEOMATRIX

Thank you for your attention to this project. We look forward to working with you to achieve closure for this site. Please contact either of the undersigned, John Moe of UPRR at (415) 541-7020, or David Solomon of the NWPRA at (415) 257-4564 if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

Attachments: Figures 1 and 2

cc: John Moe, UPRR
Leah Goldberg, HMBVR
David Solomon, NWPRA

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0 2000 Feet

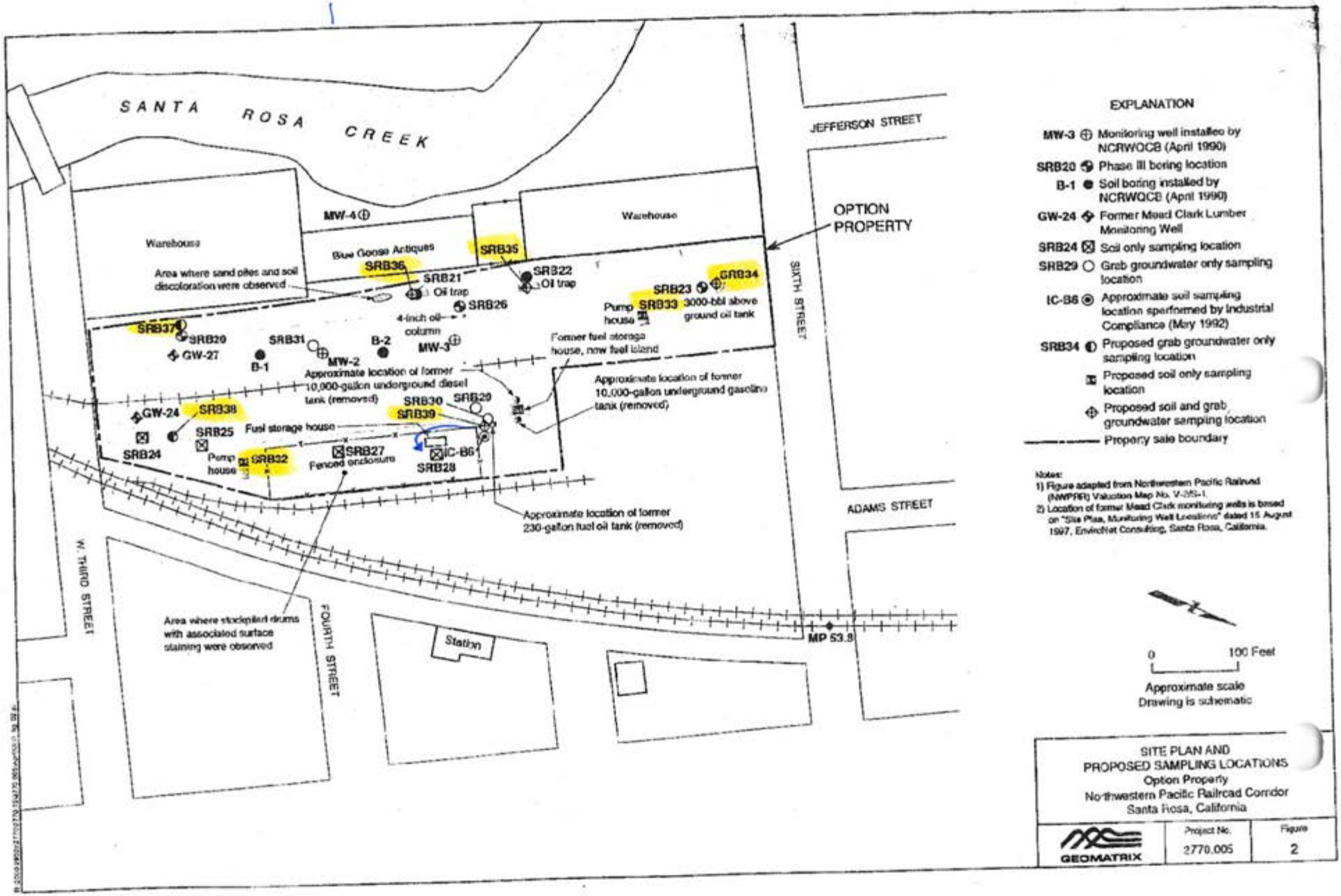
GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure 1

Project No. 2770.02

2770.02.019



EXPLANATION

- MW-3 ⊕ Monitoring well installed by NCRWQCB (April 1990)
- SRB20 ⊕ Phase III boring location
- B-1 ● Soil boring installed by NCRWQCB (April 1990)
- GW-24 ◈ Former Mead Clark Lumber Monitoring Well
- SRB24 ⊠ Soil only sampling location
- SRB29 ○ Grab groundwater only sampling location
- IC-B6 ◉ Approximate soil sampling location performed by Industrial Compliance (May 1992)
- SRB34 ◐ Proposed grab groundwater only sampling location
- ⊠ Proposed soil only sampling location
- ⊕ Proposed soil and grab groundwater sampling location
- Property sale boundary

Notes:
1) Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-265-1.
2) Location of former Mead Clark monitoring wells is based on "Site Plan, Monitoring Well Locations" dated 15 August 1997, EnviroNet Consulting, Santa Rosa, California.

0 100 Feet

Approximate scale
Drawing is schematic

SITE PLAN AND PROPOSED SAMPLING LOCATIONS
Option Property
Northwestern Pacific Railroad Corridor
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 2

TSE.DOC

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNCIATION

To: File Date: March 2, 2000

From: JEF

Subject: Southern Pacific Transportation Company, 3rd Street Property (North), Santa Rosa, Case No. 1TSR196

On February 29, 2000 I met Penny Tse with Geomatrix at the subject site. Penny and her co-worker, Charlie, were marking the sampling locations in preparation of next week's drilling. We walked the site and Penny explained how she selected the locations. Penny found that the building measurements were not accurate in relation to the scale on the map; therefore, she made the decision to make her measurements from features that have not changed over time such as roads and tracks.

Penny requested my buy off of the sampling locations as the best that they could do to locate the former site features. I agreed that she was doing her best; however, I informed her that if they do not find impacted soil at the SRB35 and SRB36 locations (where we know contamination exists), they are in the wrong area and should select a new location. She said they could not swiss cheese the property. I agreed and told her that we were not asking for swiss cheese, just an effort to investigate the potential sources of contamination. I suggested that some flexibility be used for this project to avoid the need to remobilize and do it again. She asked what would happen if they could not locate the impacted soil locations with the drill rig. I suggested a backhoe for exploratory trenching or additional water samples to thoroughly investigate the potential impact to groundwater in that area.

We walked to the area of proposed soil boring SRB39. I did not feel it was the former location of the 230-gallong UST. I told her I remembered it to be on the southeast corner of the building. She thought the building had been moved to the area inside the chain link fence. I told her that I thought they moved the fence. We walked around inside the fenced enclosure and easily located the Industrial Compliance boring No. B6.

Therefore, the Geomatrix borings SRB29 and SRB30 were drilled in the wrong place which explains the non-detect results for an area that formerly contained diesel in groundwater and the presence of product globules identified in the boring log.

I also requested that they include a few soil samples for metals analysis. The request was made because prior samples were all composite rather than discrete.

I also informed her that we would be asking for more information regarding the lead issue south of Third Street. I told her that we are interested in knowing the relation of the surface lead concentrations, the creek bank concentrations and the debris pit in the area. The extent of lead above background levels has not been defined.

Southern Pacific Trans Co.
BP

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

RWQCB
NORTH COAST
REGION
'00 FEB 8 PM 3 39

February 7, 2000
Project 2770.005

VIA FASCIMILE AND REGULAR MAIL

FAXED COPY RCD ON 2/9/00

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Revisions to Work Plan for Additional Sampling Activities
Case No. ITSR196
Santa Rosa Station/Third Street Property
Option Property
Santa Rosa, California

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company, [SPTCo]) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is submitting these clarifications and revisions to our November 18, 1999 work plan. The work plan was prepared to respond to the August 31, 1999 letter from the Regional Water Quality Control Board, North Coast Region (RWQCB) requesting additional characterization of potential environmental issues at the subject site in Santa Rosa, California (Figure 1). The following clarifications and revisions document our discussion during our January 10 and 12, 2000 telephone conversations.

Clarifications

- The local groundwater flow direction is assumed to be towards Santa Rosa Creek. For the purposes of the subject site, the assumed flow direction for the majority of the site is towards the west. However, for the south edge of the site, the flow direction could be towards the west-southwest.

- During previous sampling programs, the highest concentrations of total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PNAs) were detected on the western edge of the property.

- The work plan currently proposes that soil samples will be collected at 1, 4, 7 and 9 feet below ground surface (bgs). These sampling depths were selected to provide vertical coverage in the vadose zone, assuming that groundwater will be encountered at approximately 10 feet bgs. Should the depth to groundwater be deeper, we will collect additional soil samples at similar intervals. Again, soil samples only will be collected from the unsaturated zone.

- Grab groundwater analysis for volatile organic compounds (VOCs) will include methyl tertiary butyl ether (MTBE) and other fuel oxygenates.

Revisions

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Thank you for your attention to this project. We look forward to working with you to achieve closure for this site. Please contact either of the undersigned, John Moe of UPRR at (415) 541-7020, or David Solomon of the NWPRA at (415) 257-4564 if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

Attachments: Figures 1 and 2

cc: John Moe, UPRR
Leah Goldberg, HMBVR
David Solomon, NWPRA

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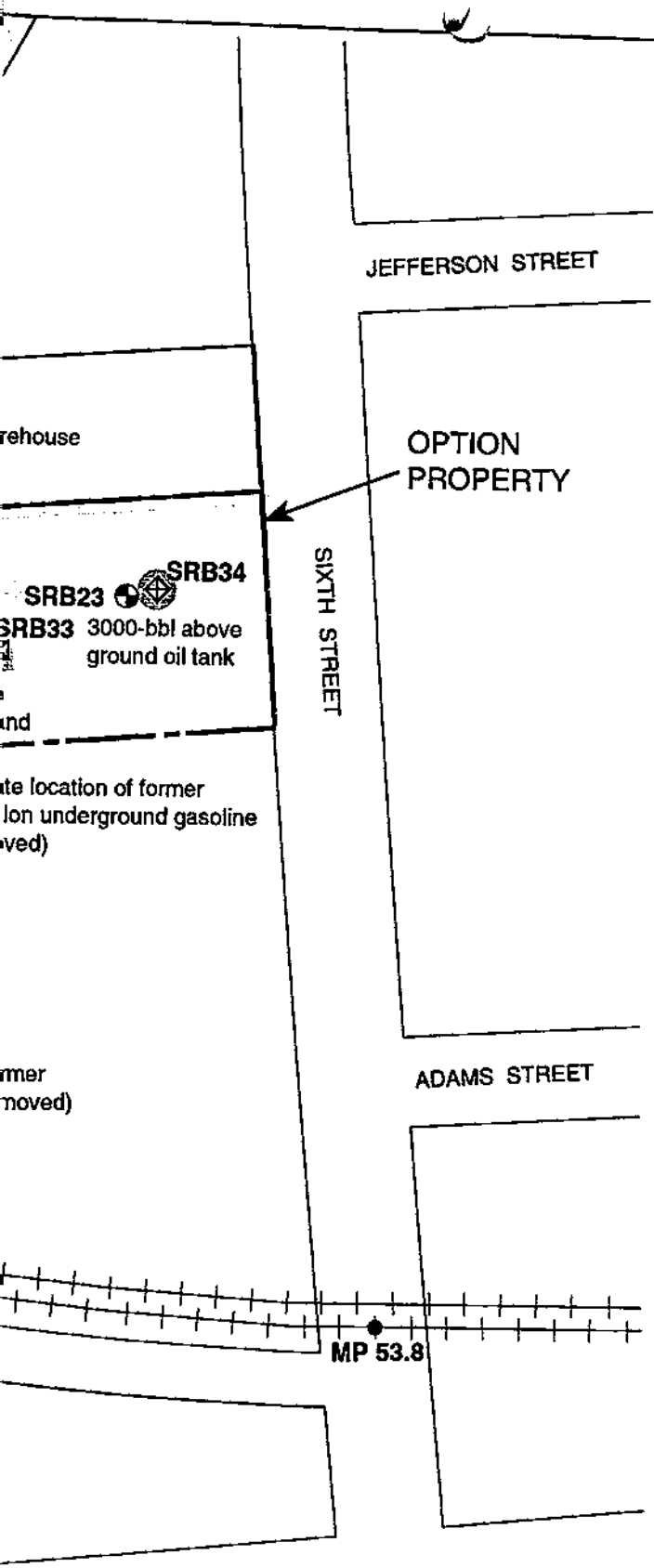
GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018



EXPLANATION

- **MW-3** ⊕ Monitoring well installed by NCRWQCB (April 1990)
- **SRB20** ◔ Phase III boring location
- **B-1** ● Soil boring installed by NCRWQCB (April 1990)
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- **IC-B6** ◉ Approximate soil sampling location sperformed by Industrial Compliance (May 1992)
- **SRB34** ◐ Proposed grab groundwater only sampling location
- ⊠ Proposed soil only sampling location
- ◈ Proposed soil and grab groundwater sampling location
- ——·—— Property sale boundary

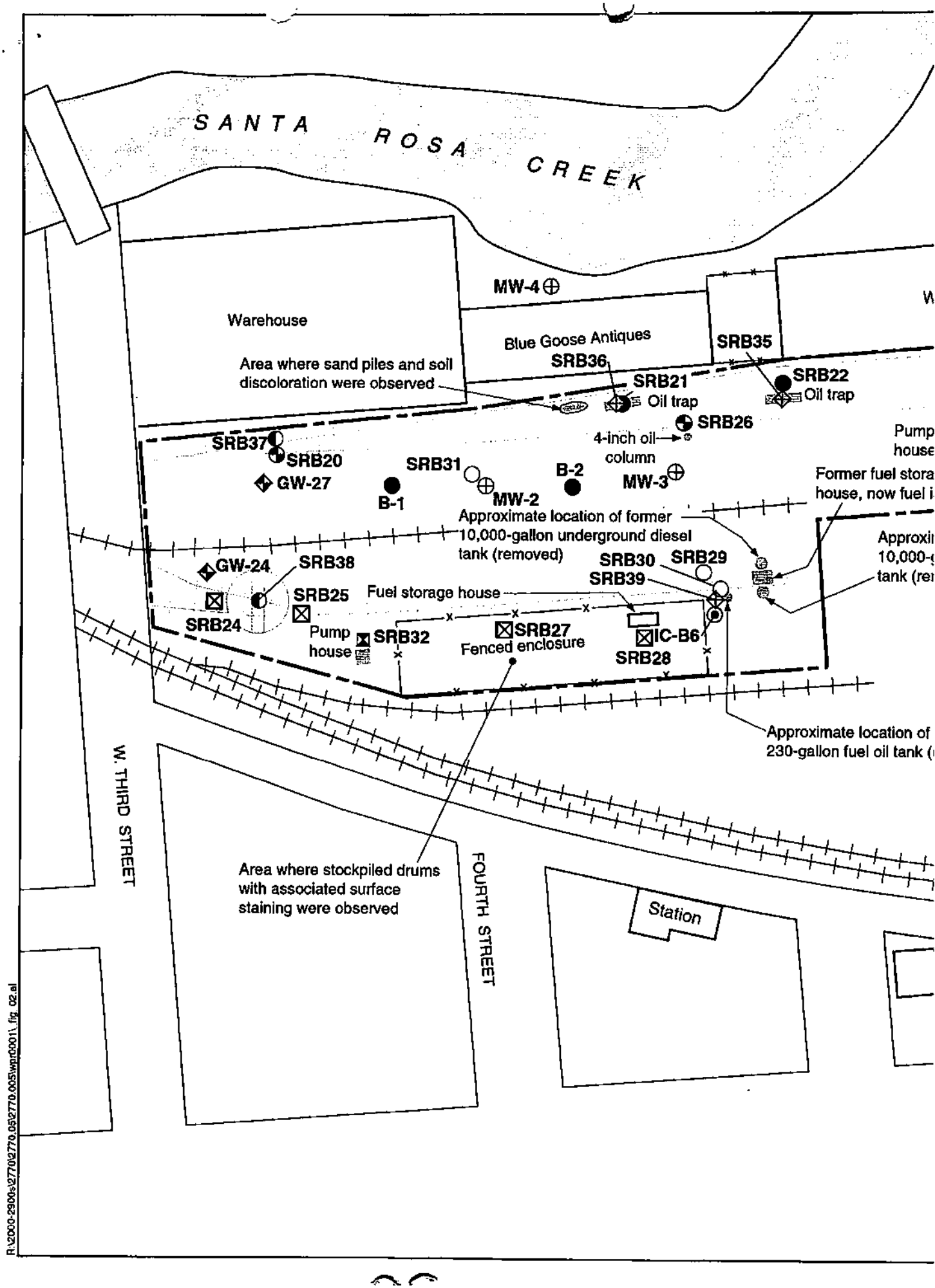
Notes:
1) Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-1.
2) Location of former Mead Clark monitoring wells is based on "Site Plan, Monitoring Well Locations" dated 15 August 1997, EnviroNet Consulting, Santa Rosa, California.

0 100 Feet

Approximate scale
Drawing is schematic

SITE PLAN AND
PROPOSED SAMPLING LOCATIONS
Option Property
Northwestern Pacific Railroad Corridor
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 2


SANTA ROSA CREEK
MW-4
Warehouse
Blue Goose Antiques
SRB35
SRB36
Area where sand piles and soil discoloration were observed
SRB21
Oil trap
SRB22
Oil trap
SRB26
4-inch oil column
SRB37
SRB20
GW-27
SRB31
B-1
MW-2
B-2
MW-3
Former fuel stora
house, now fuel i
Approximate location of former 10,000-gallon underground diesel tank (removed)
GW-24
SRB38
SRB30
SRB29
SRB39
SRB25
Fuel storage house
SRB24
Pump house
SRB32
SRB27
Fenced enclosure
IC-B6
SRB28
Approximate location of
230-gallon fuel oil tank
W. THIRD STREET
FOURTH STREET
Area where stockpiled drums with associated surface staining were observed
Station
R:\2000-2900s\2770\2770.05\2770.005\wan0001_fig_02.ai

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: [redacted] File Date: January 13, 2000

From: JEF

Subject: Southern Pacific Transportation Company, 3rd Street Property, (North)

On January 12, 2000 I spoke with Penny Tse with Geomatrix. We discussed the November 18, 1999 work plan to further investigate the "option property".

My comments and are agreements included:

- Page 2, 2nd bullet, last sentence – sounds like they believe that Santa Rosa Creek flows to the southwest. Penny said the creek is to the southwest but she could see how that could be confusing.

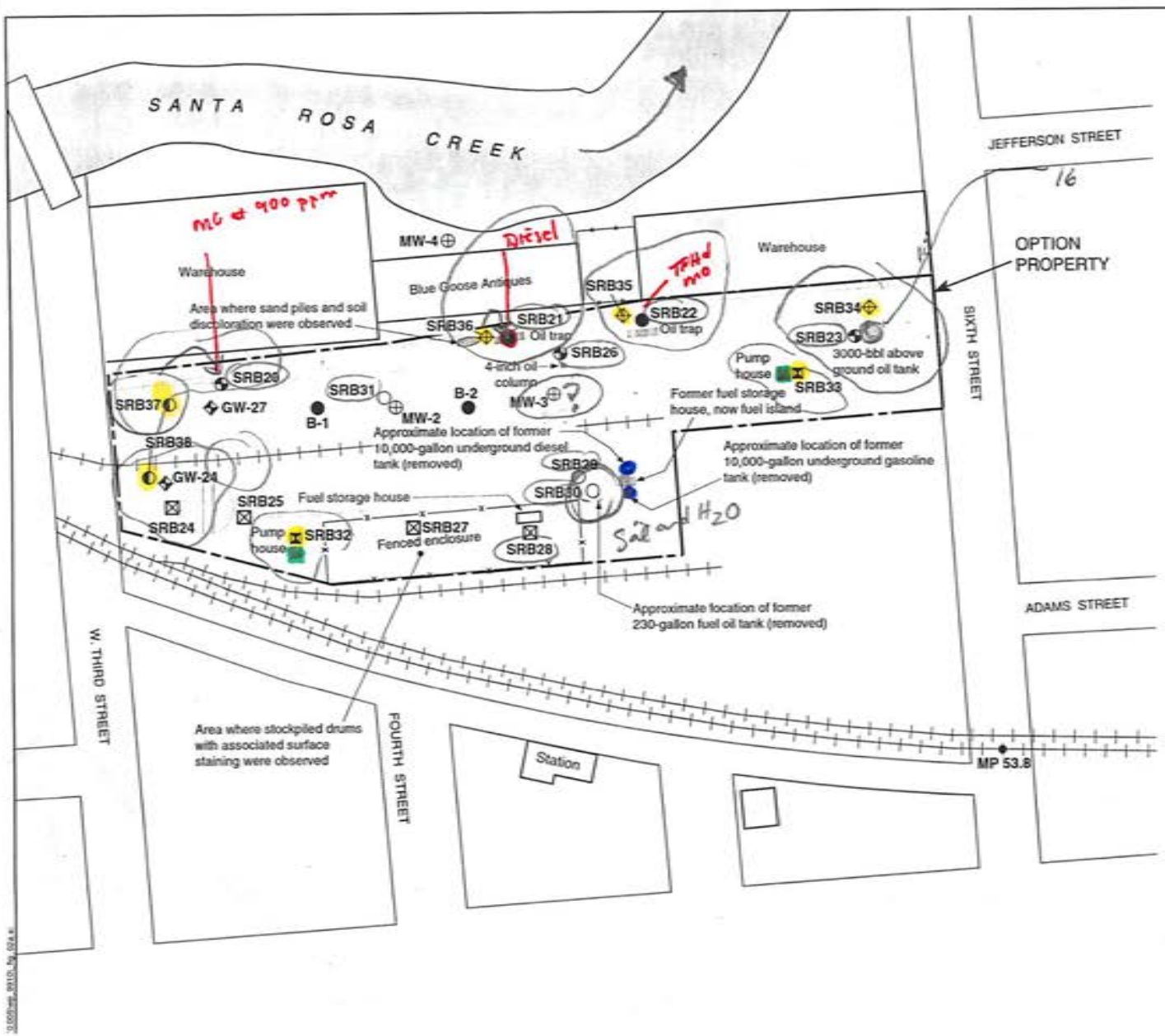
- Page 2, 2nd paragraph under Work Plan – Penny clarified that SPTCo workers were from the engineering department rather than yard workers. Therefore, their answers to historical questions were general in nature rather than site specific.

- Page 3, 1st paragraph, 1st sentence – it appears that "eastern" should be western.

- Page 4, last paragraph – we agreed that we would discuss the results of the shallow soil samples prior to them making a decision on chemically analyzing deeper soil samples. I told her that we would not concur with the proposal for a 100 ppm cut off. We need the site adequately characterized. In addition, shallow soil may not be impacted. However, deeper zones might contain evidence of contamination via groundwater migration. Therefore, we request that samples with evidence of contamination be analyzed whether shallow samples are ND or not. She agreed.

<u>Sampling</u>

SRB34 will be located at the former above ground barrel location.
SRB35 will be located at the oil trap location.
SRB36 will be located at the oil trap location.
SRB37 will be located at the former SRB20 location.
SRB38 will be located at the former turntable location.
SRB32 and SRB33 will be located at the former pump house locations.
An additional boring will be located at the former 230-gallon UST location where Industrial Compliance previously drilled.



EXPLANATION

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Notes:
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0 100 Feet

Approximate scale
Drawing is schematic

SITE PLAN AND
PROPOSED SAMPLING LOCATIONS
Option Property
Northwestern Pacific Railroad Corridor
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 2

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 ∃ FAX (707) 523-0135

Gray Davis
Governor

F

August 31, 1999

Mr. John Moe
Union Pacific Railroad
One Market Plaza, Room 1004
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, 3rd Street Property (North), Santa Rosa, California
Case No. 1TSR196

It was a pleasure meeting with Susan Gallardo and Penny Tse of Geomatrix Consultants, David Solomon of the Golden Gate Bridge District (GGBD), and Leah Goldberg of Hanson Bridgett on July 27, 1999. I understand that Geomatrix was representing the Southern Pacific Transportation Company (SP), since you could not attend the meeting.

The property is pending a transfer to GGBD. However, GGBD will not complete the property transfer until this agency issues a case closure letter for the investigation and remediation of the various releases, which occurred during SP occupancy. The case file for this property has been reviewed, and it appears that there are some remaining issues which need addressing prior to case closure consideration.

1. According to the February 1997 report, soil samples collected during the investigation indicated the presence of diesel up to 1,600 parts per million (ppm), and motor oil up to 900 ppm, along with various amounts of polynuclear aromatic hydrocarbons (PAHs).

   During the meeting, Regional Water Board staff recommended that a leachability analysis and study be conducted on the soil in order to determine if pollutants will be able to affect the future beneficial uses of surface water and groundwater. In addition, a leachability analysis and study would be a good indication on the future needs of the facility when GGBD proceeds with their renovation project.

2. According to Geomatrix, the investigation to date indicates that groundwater pollution of this property is not significant. However, Geomatrix also indicated that additional groundwater samples are needed since the groundwater was not analyzed for PAHs during the initial investigation.

Regional Water Board staff concurs with the proposal to collect additional groundwater samples. However, staff cannot concur with the assumption that the groundwater pollution is not significant since high detection limits were used on the groundwater samples collected during the 1996 investigation. The groundwater analysis will need to include not only PAHs, but also petroleum hydrocarbons and volatile organic chemicals (VOCs). Staff recommends the use of Method 8260 – low levels, report all peaks. Some laboratories include the analysis of TPH as gasoline in this analysis.

It appears that the proposed groundwater sample locations are based on the assumption that the direction of groundwater flow is towards Santa Rosa Creek. Since groundwater flow may be parallel to the creek, some additional groundwater samples should be included along the southerly property line, which may be potentially downgradient of the source areas.

A new workplan detailing the necessary work will need to be submitted to this agency. As indicated during the meeting, I am not certain that I will be the future caseworker for the investigation and remediation of this property. However, until this case file is reassigned, please feel free to contact me at (707) 576-2667, with any questions that you might have.

Sincerely,

Bonnie Rolandelli
Associate Engineering Geologist

BAR:ejl/sp1.doc

cc: Mr. David Solomon, Senior Planner, Golden Gate Bridge District, P.O. Box 9000, Presidio Station, San Francisco, CA 94129
Ms. Leah Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105
Ms. Susan Gallardo, Geomatrix Consultants, 2101 Webster Street, 12th Floor, Oakland, CA 94612
Santa Rosa Fire Department

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 • FAX (707) 523-0135

August 26, 1999

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Property at Southern Pacific Transportation Co., 3rd Street (South), Santa Rosa, Sonoma County, 1TSR196; New Law Requiring Notification of All Current Record Owners of Fee Title of Proposed Cleanup or Closure

Effective January 1, 1999, recently passed Assembly bill 681 (now section 25297.15 & 25299.37.2 of the Health and Safety Code and Section 13307.1 of the Water Code) requires that corrective action proposals, site closure proposals, closure letters, or no further corrective action determinations shall not be considered unless all current record owners of fee title to the site of the proposed action have been notified of the proposed action. AB 681 also requires the Regional Board to take all reasonable steps necessary to accommodate responsible landowner participation in the cleanup or site closure process and to consider all input and recommendations from any responsible landowner wishing to participate. Therefore, we request that you, as the identified primary or active responsible party, provide a complete mailing list and telephone numbers of all current record fee owners of the subject property. Also, please notify us of any changes in ownership during the remainder of cleanup activities at this site. If necessary, you should obtain this information through title search.

Should you have any questions pertaining to this matter, please contact me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:clh/moe

RWQCB
NORTH COAST
REGION

'99 SEP 9 PM 1 54

☐LM ☐GJ ☐FR ☐RT
☐JH ☐SW ☐TD ☐KD
☐JS ☐

Calif. Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa, Rosa, CA 95403

SANTA ROSA CA AUG26'99 U.S.POSTAGE ≈ 0.33 ≈ PB METER 6709545

UNI0001* 941053093 1898 22 09/01/99
FORWARD TIME EXP RTN TO SEND
:UNION PACIFIC RAILROAD COMPANY
49 STEVENSON ST 15TH FL
SAN FRANCISCO CA 94105-2909

RETURN TO SENDER

State of California
RWQCB Region 1
SMU Unit

MEMORANDUM

TBD

TO: Susan Warner DATE: July 27, 1999
FROM: Bonnie Rolandelli

SUBJECT: **Southern Pacific Transportation Co., 3rd Street Property (North), Santa Rosa, California**
1TSR196

On this date I attended a meeting with the following people concerning this site:

David M. Solomon, Golden Gate Bridge District
Leah S. Goldberg, Attorney at Law, Hanson Bridgett
Susan M. Gallardo, Geomatrix Consultants
Penny M. Tse, Geomatrix Consultants

According to Mr. Solomon, the Golden Gate Bridge District (GGBD) will be purchasing this property from Union Pacific Railroad. While the property is in escrow, the property cannot be released to GGBD until the facility has been case closed. They are interested in conducting the necessary work in order to achieve case closure in the near future. Mr. Solomon indicated that GGBD intends on renovating the property and developing it into a new train station. He indicated that some foundation work will need to be conducted during the reconstruction.

Ms. Gallardo indicated that contaminants remain in the soil. She contends that groundwater has not been "significantly" impacted by the releases at the facility. However, Ms. Gallardo did state that PNAs had not been analyzed in the groundwater and that a workplan had been submitted to the Regional Water Board proposing additional groundwater samples. Ms. Gallardo indicated that the workplan had been incorporated in the February 1997 report, which proposed case closure for the property and had not been addressed.

I agreed to review the workplan to collect additional groundwater samples. In addition, I proposed that a leachability study be conducted on the soil.

LTR SENT 8/31/99

(sawmem21)

GOLDEN GATE BRIDGE, HIGHWAY AND TRANSPORTATION DISTRICT

TO: Bonnie Rolandelli, RWQCB

FAX NO. (707) 523-0135

FROM: (415) 257-4516 David M. Solomon

DATE: June 26, 1999

SUBJECT: NWPRA/UP Santa Rosa Station Site

Proposed Agenda for our meeting ~~tomorrow~~ today

Number of pages 2**, including this cover page.**

Note: If any pages are missing from this transmission,

please call (415) 257-4564.

a:c:\word\forms\faxcover

Proposed [DRAFT] Agenda

Meeting 10:00 a.m. July 27, 1999

Participants:

California State Water Quality Control Board, North Coast Region (RWQCB)
Northwestern Pacific Railroad Authority (NWPRA)
Union Pacific Railroad (UP) in absentia
Geomatrix Consultants, Inc. (Geomatrix), representing NWPRA and UP

Purpose

- Ownership status of site and contractual requirement for regulatory concurrence with environmental site conditions.
- Potential development of site and timetable
- Option property issues currently not resolved

Background

Historical Use of Site

Site Investigations and Results

Regulatory Status

Proposed Work

RWQCB Requirements

DMS:G:\2770\ThirdSt\agenda072799.DOC 7/23/99

E-MAIL dsolomon@goldengate.org
WEB SITE www.goldengate.org

(415) 257-4564
FAX (415) 257-4516

DAVID M. SOLOMON
SENIOR PLANNER
CALIFORNIA LICENSED ARCHITECT C22706

GOLDEN GATE BRIDGE, HIGHWAY AND TRANSPORTATION DISTRICT
BOX 9000, PRESIDIO STATION • SAN FRANCISCO, CALIFORNIA 94129-0601
1011 ANDERSEN DRIVE • SAN RAFAEL, CALIFORNIA 94901-5381

Geomatrix Consultants
Engineers, Geologists and Environmental Scientists

Susan M. Gallardo, P.E.
Principal Engineer

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Oakland, CA 94612
E-mail: sgallardo@geomatrix.com
www.geomatrix.com

(510) 663-4100
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HANSON
BRIDGETT
MARCUS
VLAHOS
RUDY-LLP

LEAH S. GOLDBERG
ATTORNEY AT LAW
DIRECT DIAL 415-995-5090
lgoldberg@hansonbridgett.com

333 MARKET STREET-23RD FLOOR
SAN FRANCISCO-CA 94105
TELEPHONE 415-777-3200
FACSIMILE 415-541-9366
MARIN OFFICE 415-925-8400

Geomatrix Consultants
Engineers, Geologists and Environmental Scientists

Penny M. Tse, P.E.
Project Engineer

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E-mail: ptse@geomatrix.com
www.geomatrix.com

(510) 663-4100
DIRECT (510) 663-4164
FAX (510) 663-4141

EXCERPT from NWPRR PSA, Geomatrix Consultants, August 1994

Rec'd 7/27/99 OAK

SANTA ROSA

This section includes the railroad right-of-way at Santa Rosa Station. This section is shown on SPTCo valuation maps V2/10 through V2/6.

From milepost 56.5 to 48 (Santa Rosa area), the Site is bordered by construction companies, lumberyards, and other commercial and light industrial facilities, residential areas, and fields. Santa Rosa Creek crosses the Site at milepost 53.5.

Geology and Hydrogeology

In the Santa Rosa Valley, the rail line is underlain by unconsolidated alluvium and poorly consolidated continental basin sediments of the Glen Ellen Formation. Municipal water supply wells tap the alluvial deposits, which provide substantial yields of good-quality water. High clay content generally results in relatively poor yields from the Glen Ellen Formation. The Wilson Grove Formation (formerly the Merced Formation) is also an important source of water for Santa Rosa. Although the formation has been intersected at depth near the railroad, the closest outcrops are several miles west of the rail line.

In the northern part of the Santa Rosa Valley, the direction of groundwater flow is expected to be generally toward Windsor Creek. Documented groundwater depths in the vicinity of the railway range from 10 to 35 feet. In the rest of the Santa Rosa Valley, groundwater movement is generally westward toward the Laguna de Santa Rosa or northward toward Mark West Creek. Near the railroad, documented depths to groundwater range from 5 to 20 feet.

Historical Review

The station properties and other historical environmental features at and along the Site are discussed below.

<u>Santa Rosa Station</u>

The Santa Rosa station is located at milepost 53.8 in the City of Santa Rosa. According to information presented in Stindt (1964), the Santa Rosa station served as a water and fuel station, and contained a turntable that was dismantled before 1925. The SPTCo structure record index reports a water tank and water column at the Site until 1953. The index and SPTCo valuation maps also indicate an approximately 3000-barrel (126,000-gallon) aboveground oil storage tank, two oil traps, an oil column, and a pump house along the western border of the station property. These facilities generally were built at the Site from 1939 to 1945, and were removed by 1960. The structure record index and SPTCo valuation maps do not show the former turntable (it did

not exist at the time SPTCo became sole owner of the railroad). A car repair building, tool house, and fuel storage building also were present at the Site; no retirement dates for these structures are listed in the structure record index. Facilities at the Santa Rosa station property are shown on Figure 14.

Geomatrix reviewed Sanborn maps dated 1885, 1888, 1893, 1904, and 1951 that showed portions of the station property. Throughout this period, the maps show the area near the station property to be commercial and industrial. The 1885 and 1888 Sanborn maps showed a limited area of the station property that included only a freight warehouse on the west side of the main rail line and a passenger depot opposite the warehouse on the east side of the tracks. The 1893 and 1904 Sanborn maps show that the former turntable was located in the south-central area of the station property. This facility was not shown on the 1951 Sanborn map. The 1951 map also shows the fuel storage house in the center area of the station property. The freight warehouse is shown relocated to the northern part of the Site near a loading platform, and the large aboveground oil storage tank in the northwestern corner of the Site is serviced by a rail spur.

Also present at the Site were USTs associated with a tool house and a fuel storage building. According to information in SPTCo files, a 50-gallon fuel oil UST and a 230-gallon gasoline UST previously were located near the tool house in the southern area of the station property. Two 10,000-gallon USTs were located in the central part of the station property for storage of leaded gasoline and diesel. An additional 230-gallon fuel oil UST was located in the central area of the property. The approximate UST locations are shown on Figure 14.

The five USTs were removed by Canonie in 1987. No signs of leakage were reported at the time of tank removal, except from the 50-gallon fuel oil UST, which had holes in it. Analytically results for soil samples from each of the tank pits detected no petroleum hydrocarbons, benzene, toluene, xylenes, ethylene dibromide, or lead. Further characterization near the former UST locations, at the request of the NCRWQCB, has revealed petroleum hydrocarbons at the station property.

Potential Environmental Features Off Site

According to SPTCo valuation maps, an underground oil tank is located east of the track centerline immediately south of Santa Rosa Creek (approximately milepost 53.3). The valuation map does not indicate whether this tank has been removed. Other historical off-site features that potentially could affect environmental conditions on the Site were identified primarily from historical Sanborn maps. These maps showed the area near the Santa Rosa station as industrial

and commercial. South of the station at locations east and west of the rail line were several oil company facilities, including those of the Sunland Refining Company, Standard Oil Company, Shell Oil Company, and Mercury Oil Company. These oil companies had large, aboveground storage tanks, oil houses, and warehouses.

Immediately adjacent to the Santa Rosa station property were grain and poultry warehouses. The 1951 Sanborn map shows the Mead-Clark Lumber Company (Table 1) southeast of the station property and east of the main rail lines. This company appeared as the Santa Rosa Lumber Company on an undated Sanborn map. Fronting the rail line just north of the Santa Rosa station were miscellaneous industrial and commercial enterprises. Typical facilities were lumber yards and a planing mill, a winery, and fruit packaging companies.

Field Reconnaissance

A walking reconnaissance was performed on 29 through 30 July 1992 from milepost 58 to 48 and included the Santa Rosa Station area. A high-rail reconnaissance was performed on 11 August 1992 from milepost 59.5 to 58 and from milepost 48 to 44; high- rail reconnaissance was performed on 12 August 1992, and included the Site between milepost 65 to 59.5. Observations at the station properties where historical environmental features were noted, and potential environmental features observed at other locations on the Site during the field reconnaissance, are described below.

Santa Rosa Station

A tool house, fuel storage house, and fuel island were the only railroad structures observed within the Santa Rosa station area. These structures, along with other significant features observed at the Santa Rosa station area, are shown on Figure 14.

A wooden structure identified as a fuel storage house was observed near the center of the station area. The structure was locked. Two apparently non-working gasoline pumps were observed on the fuel island just north of the fuel house. Four grouted soil borings were observed immediately east of the fuel island. Seven 55-gallon drums were stored next to the fuel island; four drums were labeled "soil"; two drums were labeled "water"; and one drum was unlabeled. As discussed in Section 4.7.4, the borings apparently were associated with site characterization in this area.

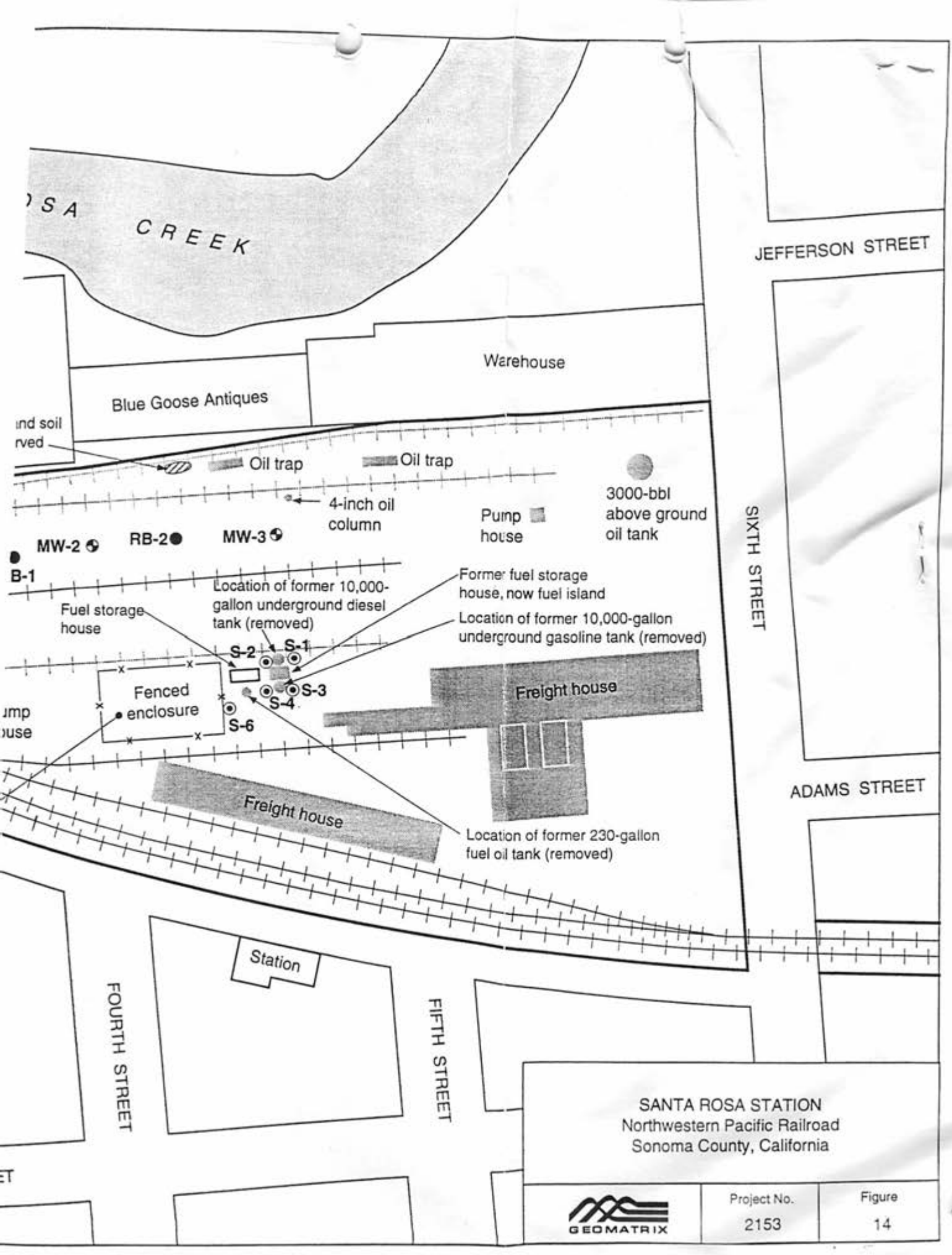
A locked fenced enclosure containing railroad equipment, a semi-trailer, and drums was observed immediately south of the fuel house. One 5000-gallon tank labeled "gas" and eighteen

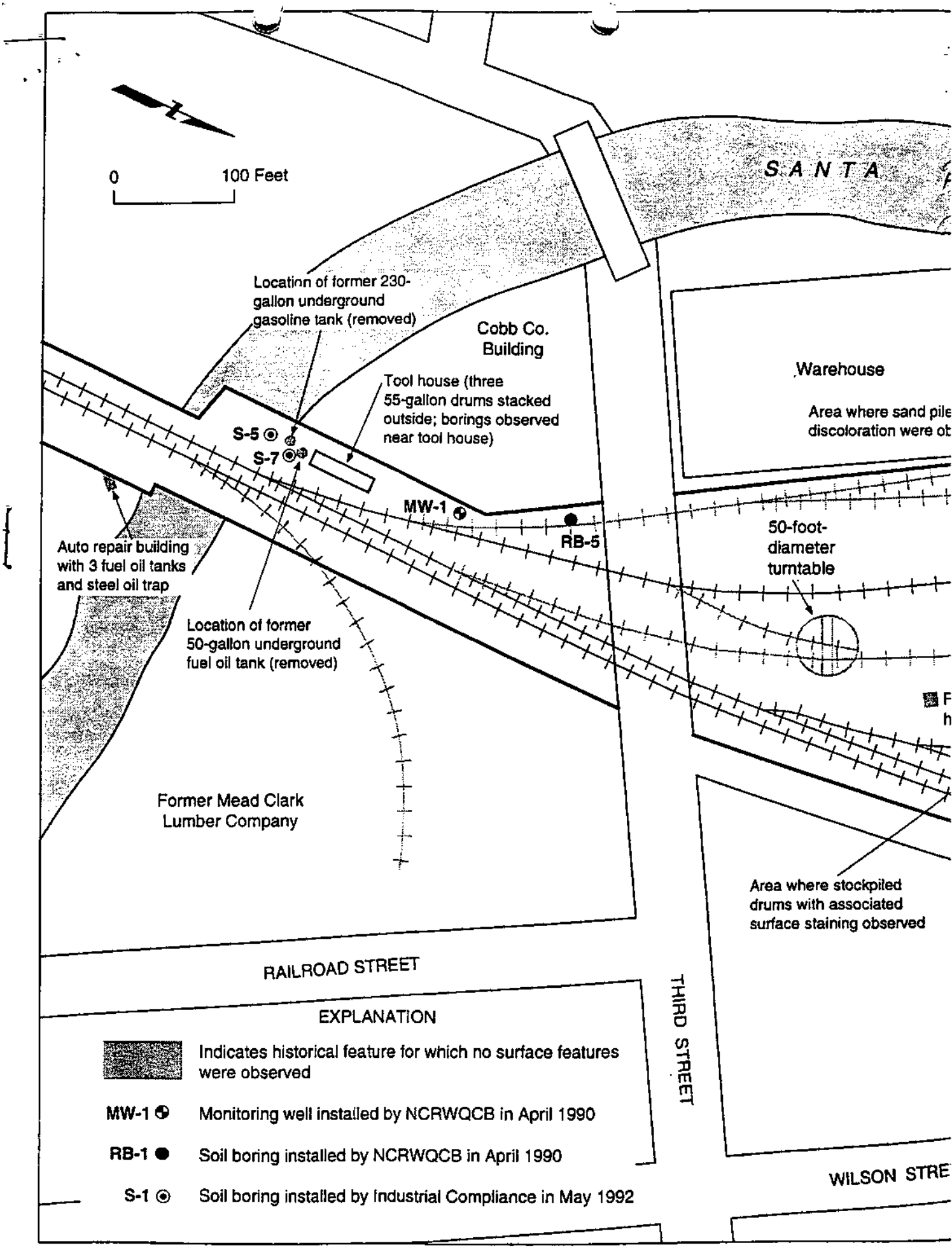
55-gallon drums were stockpiled within the fenced enclosure. Surface soil staining was observed around the 55-gallon drums and around the "gas" tank valve.

Sand piles and soil discoloration were observed on the western side of the station property outside entrance to the Blue Goose Antiques shop (see Figure 14). It appeared that the sand was being dumped by the Blue Goose Antiques facility onto the station property. The source of the soil discoloration is unknown.

Two monitoring wells were observed approximately 50 feet east of the Blue Goose Antiques facility. These monitoring wells apparently are associated with environmental characterization at the Santa Rosa station.

A locked tool house was observed in the southern end of the station. Two grouted soil borings were observed adjacent to the tool house. Three sealed 55-gallon drums were stored next to the tool house and apparently contained cuttings from the borings. The borings also were apparently associated with environmental characterization at the station property.


SA CREEK
JEFFERSON STREET
Warehouse
Blue Goose Antiques
nd soil
rved
Oil trap
Oil trap
4-inch oil column
Pump house
3000-bbl above ground oil tank
MW-2
RB-2
MW-3
B-1
Location of former 10,000-gallon underground diesel tank (removed)
Former fuel storage house, now fuel island
Fuel storage house
Location of former 10,000-gallon underground gasoline tank (removed)
S-1
S-2
S-3
S-4
S-6
Fenced enclosure
Freight house
Freight house
SIXTH STREET
ADAMS STREET
Location of former 230-gallon fuel oil tank (removed)
Station
FOURTH STREET
FIFTH STREET
SANTA ROSA STATION
Northwestern Pacific Railroad
Sonoma County, California
GEOMATRIX
Project No.
2153
Figure
14


0
100 Feet
SANTA
Location of former 230-gallon underground gasoline tank (removed)
Cobb Co. Building
Tool house (three 55-gallon drums stacked outside; borings observed near tool house)
Warehouse
Area where sand pile discoloration were ob
S-5
S-7
MW-1
RB-5
50-foot-diameter turntable
Auto repair building with 3 fuel oil tanks and steel oil trap
Location of former 50-gallon underground fuel oil tank (removed)
Former Mead Clark Lumber Company
Area where stockpiled drums with associated surface staining observed
RAILROAD STREET
THIRD STREET
WILSON STRE
EXPLANATION
Indicates historical feature for which no surface features were observed
MW-1 Monitoring well installed by NCRWQCB in April 1990
RB-1 Soil boring installed by NCRWQCB in April 1990
S-1 Soil boring installed by Industrial Compliance in May 1992

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 ∃ FAX (707) 523-0135

July 20, 1999

Mr. John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property (south), Santa Rosa, Case No. 1TSR196

Lead-Affected Soil

The June 19, 1999 "Work Plan for Excavation of Lead-Affected Soil" prepared by Geomatrix for the subject site has been reviewed. The plan is acceptable with the condition that all City of Santa Rosa regulatory requirements are met.

Groundwater Monitoring/Sampling

On July 7, 1999, I received a phone call from David Solomon with Golden Gate Bridge District. Mr. Solomon indicated that all the wells shown to be located on Railroad property have been found. Once the well locations are surveyed, a license agreement can be issued to allow Mr. Destruel's representatives on-site for a coordinated joint groundwater monitoring/sampling event with Geomatrix staff.

The purpose of the joint sampling event is to compare the analytical results of groundwater samples collected from the monitoring wells on the same day. Split samples or samples collected by a third-party must be collected. We concur with the proposed analytes and methods identified on page 2 of the April 16, 1999 "Proposed Schedule of Activities" prepared by Geomatrix. Please have the laboratory quantify all reportable peaks including chlorinated hydrocarbons (such as 1,2-DCA) using EPA Method 8260. In addition, please have the laboratory distinguish between diesel, kerosene and aged gasoline.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JEF:tab/railroad.doc

cc: Ms. Penny Tse, Geomatrix , 100 Pine Street, 10th Floor, San Francisco, CA 94111

Mr. Jim Frank, Santa Rosa Fire Department

Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173

EnviroNet Consulting, 3601 Regional Parkway, Suite A, Santa Rosa, CA 95403

Mr. Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402

Mr. Dave Montague, City of Santa Rosa, Department of Public Works, 69 Stony Circle, Santa Rosa, CA 95401

Mr. Anthony Cohen, Clement, Fitzpatrick & Kenworthy, P.O. Box 1494, Santa Rosa, CA 95402

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

TO: Rick Remple
AGT Program Manager

FROM: for Thomas B Dunbar
Susan A. Warner
Senior Water Resource Control Engineer

DATE: May 20, 1999

SUBJECT: ADDITION TO THE ABOVEGROUND TANK (AGT) PROGRAM

SITE: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, California, Case No. 1TSR196

The Regional Water Board has been overseeing the investigation and cleanup of diesel, motor oil, and polynuclear aromatic hydrocarbons at this site. Enclosed are letters notifying the responsible party that oversight charges for the site will be recovered under Section 13304.

Accordingly, attached for your use are:

1. Form 113 (enclosure 1)
2. An estimate of the magnitude of the oversight costs described in a letter dated April 26, 1999 (enclosure 2); and
3. A willingness to pay by the responsible party as shown by the enclosed form (enclosure 3)

I look forward to receiving the PCA Code for this site.

NKN:tmk\southern.doc

Form: 113
(Rev. 7/8/98)

ADDITION TO THE SLIC REIMBURSEMENT LIST

REGIONAL BOARD NO. 01

CLEANUP AND ABATEMENT ORDER NO. _____

PCA Number: _____ Effective Date: _____

Site Name: Southern Pacific Transporation Company

Street Address: 3rd street Property

City: Santa Rosa County: Sonoma

Billing Name: Union Pacific RR

Attention Name: John Moe

Street Address: 49 Stevenson St., 15th Fl

City: San Francisco State: CA Zip Code: 94105

Comments: _____

Approved By: _____ Date: 5/18/99
(Regional Board Program Manager)

Reviewed By: _____ Date: _____
(State Board SLIC Program Manager)

Inputted By: _____ Date: _____
(Accounting Office)

SUBMIT COMPLETED FORM TO SLIC FEE COORDINATOR, DIVISION OF CLEAN WATER PROGRAMS.

***** DCWP USE ONLY ***** *Agreement to Pay* _____ *Technical Rqmnts.* _____

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Da
Governo

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

April 26, 1999

Mr. John Moe
Union Pacific Railroad
One Market Plaza, Room 1004
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, CA, Case No. 1TSR196

We have received various reports for the investigation of the release of petroleum hydrocarbons and oxygenates from previous railroad yard operations at this facility. Reports confirm that a release of hazardous substances occurred, with reported levels of contaminants in groundwater and/or soil of:

- benzo(a)pyrene and the sum of other polynuclear aromatic hydrocarbons (PAHs) up to 2,010 ppb;
- total petroleum hydrocarbons as motor oil (TPHmo) up to 900 ppm; and
- total petroleum hydrocarbons as diesel (TPHd) up to 1,600 ppm.

These concentrations exceed water quality objectives (enclosure 1) in the Water Quality Control Plan for the North Coast Region (Basin Plan) for protection of beneficial water uses. The beneficial uses of areal groundwaters include municipal, agriculture and industrial water supply. The release of hazardous materials at this site is also in close proximity to Santa Rosa Creek. The beneficial uses of Santa Rosa Creek and the Russian River, as specified in the Water Quality Control Plan for the North Coast Region, include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; groundwater recharge; navigation; hydropower generation; water contact recreation; non-contact water recreation; commercial and sportfishing; warm freshwater habitat; cold freshwater habitat; wildlife habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; estuarine habitat and aquaculture. The levels of contaminants in groundwater exceed the water quality objectives for protection of these beneficial uses.

Section 13304 of the California Water Code, allows the Regional Water Board to recover expenses from a responsible party for overseeing site investigation and cleanup of unregulated

discharges adversely affecting or threatening to affect the State's waters. The Regional Water Board intends to recover costs for regulatory oversight work conducted at this site, and requests that you immediately sign and return the acknowledgment form (enclosure 2) by May 14, 1999. Failure to comply with this request may result in elevated levels of enforcement.

In compliance with AB 2507, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. a detailed estimate of the work to be performed or services to be provided;
2. a statement of the expected outcome of that work;
3. the billing rates for all individuals and classes of employees expected to engage in the work; and
4. an estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Quality Control Board staff estimate that the following work will be performed during the remainder of fiscal year 1998/1999 and into fiscal year 1999/2000 on the Southern Pacific Transportation site:

- review workplan and reports for determining the extent of contamination;
- periodic review of quarterly monitoring reports;
- meet with and provide written correspondence and telephone communications with representatives of responsible parties and other affected parties;
- conduct internal communications (i.e., meetings, memos, etc.) regarding the project;
- conduct site inspections and sampling; and
- periodic review of site compliance with California Water Code and Health and Safety Code;

STATEMENT OF EXPECTED OUTCOME

- definition of the extent of petroleum hydrocarbons and other contaminants at this site in groundwater and soil;
- evaluation of the adequacy of reports and workplans to support remediation decisions;
- preparation of meeting summaries, memos, reports to document the file record and site progress; and
- address final corrective action plan.

BILLING RATES

Enclosure 3 is an explanation of the billing process and enclosure 4 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about

$70.00 per hour. The estimated billing charge for this site during the remainder of fiscal year 1998/1999 (July 1, 1998, through June 30, 1999) and fiscal year 1999/2000 is about $5,250.

If you have any questions, please contact Nancy Negley at (707)576-2657.

Sincerely,

Lee A. Michlin
Executive Officer

SKB:tmk\sp3rdst3.doc

Enclosure:

1. Selected Water Quality Objectives
2. Acknowledgment Form
3. Reimbursement Process for Regulatory Oversight
4. Billing Rates Description

Enclosure 1
Selected Water Quality Objectives

Chemical	Background Level	Water Quality Objective
polynuclear aromatic hydrocarbons(carcinogenic)	<0.5µg/l	0.0028µg/l
total petroleum hydrocarbons as diesel	<0.5µg/l	56µg/l
total petroleum hydrocarbons as motor oil	<0.5µg/l	50µg/l

Enclosure 2

I, _____, acknowledge that I have received and have read a copy of the "Reimbursement Process for Regulatory Oversight", and that I understand the reimbursement process and billing procedure as explained in the letter. Invoices for payment of oversight costs should be mailed to the following individual and address:

INVOICING CONTACT _____

INVOICING ADDRESS _____

_____

_____

Date: _____ *Signature:* _____

Title: _____

REIMBURSEMENT PROCESS FOR REGULATORY OVERSIGHT

We have identified your facility or property as requiring regulatory cleanup oversight. Pursuant to Porter-Cologne, Section 13304, reasonable costs for such oversight can be recovered by the RWQCB from the responsible party. The purpose of the enclosure is to explain the oversight billing process structure.

INTRODUCTION

Porter-Cologne, Division 7, Section 13304, authorizes the SWRCB to set up Cost Recovery Programs. The Budget Act of 1993 authorized the State Water Resources Control Board to establish a Cost Recovery Program for Spills, Leaks, Investigations, and Cleanups (SLIC). The program is set up so that reasonable expenses incurred by the SWRCB and RWQCBs in overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely impacting the State's waters can be reimbursed by the responsible party. Reasonable expenses will be billed to responsible parties and collected by the Fee Coordinator at the SWRCB in the Division of Clean Water Programs (DCWP).

THE BILLING SYSTEM

Each cost recovery has account has a unique charge number assigned to it. Whenever any oversight work is done, the hours are billed to the account number on the employees timesheet. The cost of the staff hours is calculated by the State Accounting System based on the employees salary and benefit rate and the State Water Resources Control Board overhead rate.

Any time that cannot be directly related to an account, (such as billing and accounting work) will be charged to a special account number. The Accounting Office totals these **administrative charges** for the billing period and distributes them back to all of the accounts based on the number of hours charged to each account during that billing period.

The **Overhead Charges** are based on the number of labor hours charged to the account. The overhead charges consist of rent, utilities, travel, supplies, training, and personnel services. If there is no labor charged to the account during the billing period, there will be no overhead charges for that billing period with the exception of the last month of each fiscal year. This is due to the fact that the labor charges end June 30 for the current fiscal year. However, several kinds of overhead charges such as supply orders and travel expenses are paid after the fiscal year ends. The SWRCB Accounting Office keeps track of these charges and distributes them back to all of the accounts based on the number of hours charged to each account for the whole fiscal year that has just ended. Therefore, **the quarterly statements for the last month of the fiscal year could show no labor hours charged for the billing period, but some overhead charges could be charged to the account.**

AGREEMENT

No cleanup oversight will be performed unless the responsible party of the property acknowledges in writing that he/she agrees to reimburse the State for appropriate cleanup oversight costs. You may wish to consult an attorney in this matter. As soon as the letter is received, the account will be added to the active SLIC Cost Recovery billing list and oversight work will begin.

SPILLS, LEAKS, INVESTIGATIONS, AND LEAKS (SLIC) PROGRAM
COST RECOVERY FOR REGULATORY OVERSIGHT CLEANUPS

MONTHLY SALARY SCALE'S BY JOB CLASSIFICATION

CLASSIFICATION	ABBR.	SALARY SCALE (Includes Benefits)
Student Assistant	SA	1,914 - 2,898
Office Assistant	OA	2,083 - 2,779
Office Technician	OT	2,649 - 3,221
Environmental Specialist I	ESI	3,120 - 3,747
Environmental Specialist II	ESII	3,791 - 4,567
Sanitary Engineering Technician	SET	3,459 - 4,832
Water Resources Control Engineer	WRCE	3,728 - 5,184
Engineering Geologist	EG	3,728 - 5,184
Associate Governmental Program Analyst	AGPA	4,459 - 5,382
Environmental Specialist III	ESIII	4,567 - 5,515
Sanitary Engineering Associate	SEA	4,789 - 5,820
Associate Water Resources Control Engineer	AWRCE	5,030 - 6,110
Associate Engineering Geologist	AEG	5,030 - 6,113
Environmental Specialist IV	ESIV	5,258 - 6,348
Senior Water Resources Control Engineer	SWRCE	5,790 - 7,037
Senior Engineering Geologist	SEG	5,790 - 7,037
Supervising Water Resources Control Eng	SUWRCE	6,354 - 7,752
Staff Counsel	SC	6,497 - 7,856

2RO St. Route Santa Rosa ... ITS2145.

Enclosure 2

I, John Noe, *acknowledge that I have received and have read a copy of the "Reimbursement Process for Regulatory Oversight", and that I understand the reimbursement process and billing procedure as explained in the letter. Invoices for payment of oversight costs should be mailed to the following individual and address:*

INVOICING CONTACT John Noe

INVOICING ADDRESS Union Pacific RR
40 Avenue St 15th Fl.
San Rafael CA 94901

Date: 5/4/99

Signature: John Noe

Title: Mgr. Site Remediation

RWQCB
NORTH COAST
REGION

MAY 6 '99

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ TD ___ ☐ BOARD
☐ NKV ___

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

April 26, 1999

Mr. John Moe
Union Pacific Railroad
One Market Plaza, Room 1004
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, CA, Case No. 1TSR196

We have received various reports for the investigation of the release of petroleum hydrocarbons and oxygenates from previous railroad yard operations at this facility. Reports confirm that a release of hazardous substances occurred, with reported levels of contaminants in groundwater and/or soil of:

- benzo(a)pyrene and the sum of other polynuclear aromatic hydrocarbons (PAHs) up to 2,010 ppb;
- total petroleum hydrocarbons as motor oil (TPHmo) up to 900 ppm; and
- total petroleum hydrocarbons as diesel (TPHd) up to 1,600 ppm.

These concentrations exceed water quality objectives (enclosure 1) in the Water Quality Control Plan for the North Coast Region (Basin Plan) for protection of beneficial water uses. The beneficial uses of areal groundwaters include municipal, agriculture and industrial water supply. The release of hazardous materials at this site is also in close proximity to Santa Rosa Creek. The beneficial uses of Santa Rosa Creek and the Russian River, as specified in the Water Quality Control Plan for the North Coast Region, include municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; groundwater recharge; navigation; hydropower generation; water contact recreation; non-contact water recreation; commercial and sportfishing; warm freshwater habitat; cold freshwater habitat; wildlife habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; estuarine habitat and aquaculture. The levels of contaminants in groundwater exceed the water quality objectives for protection of these beneficial uses.

Section 13304 of the California Water Code, allows the Regional Water Board to recover expenses from a responsible party for overseeing site investigation and cleanup of unregulated

discharges adversely affecting or threatening to affect the State's waters. The Regional Water Board intends to recover costs for regulatory oversight work conducted at this site, and requests that you immediately sign and return the acknowledgment form (enclosure 2) by May 14, 1999. Failure to comply with this request may result in elevated levels of enforcement.

In compliance with AB 2507, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. a detailed estimate of the work to be performed or services to be provided;
2. a statement of the expected outcome of that work;
3. the billing rates for all individuals and classes of employees expected to engage in the work; and
4. an estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Quality Control Board staff estimate that the following work will be performed during the remainder of fiscal year 1998/1999 and into fiscal year 1999/2000 on the Southern Pacific Transportation site:

- review workplan and reports for determining the extent of contamination;
- periodic review of quarterly monitoring reports;
- meet with and provide written correspondence and telephone communications with representatives of responsible parties and other affected parties;
- conduct internal communications (i.e., meetings, memos, etc.) regarding the project;
- conduct site inspections and sampling; and
- periodic review of site compliance with California Water Code and Health and Safety Code;

STATEMENT OF EXPECTED OUTCOME

- definition of the extent of petroleum hydrocarbons and other contaminants at this site in groundwater and soil;
- evaluation of the adequacy of reports and workplans to support remediation decisions;
- preparation of meeting summaries, memos, reports to document the file record and site progress; and
- address final corrective action plan.

BILLING RATES

Enclosure 3 is an explanation of the billing process and enclosure 4 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about

$70.00 per hour. The estimated billing charge for this site during the remainder of fiscal year 1998/1999 (July 1, 1998, through June 30, 1999) and fiscal year 1999/2000 is about $5,250.

If you have any questions, please contact Nancy Negley at (707)576-2657.

Sincerely,

Lee A. Michlin
Executive Officer

SKB:tmk\sp3rdst3.doc

Enclosure:

1. Selected Water Quality Objectives
2. Acknowledgment Form
3. Reimbursement Process for Regulatory Oversight
4. Billing Rates Description

Enclosure 1
Selected Water Quality Objectives

Chemical	Background Level	Water Quality Objective
polynuclear aromatic hydrocarbons(carcinogenic)	<0.5µg/l	0.0028µg/l
total petroleum hydrocarbons as diesel	<0.5µg/l	56µg/l
total petroleum hydrocarbons as motor oil	<0.5µg/l	50µg/l

Enclosure 2

I, _____, acknowledge that I have received and have read a copy of the "Reimbursement Process for Regulatory Oversight", and that I understand the reimbursement process and billing procedure as explained in the letter. Invoices for payment of oversight costs should be mailed to the following individual and address:

INVOICING CONTACT _____

INVOICING ADDRESS _____

_____

_____

Date: _____ *Signature:* _____

Title: _____

REIMBURSEMENT PROCESS FOR REGULATORY OVERSIGHT

We have identified your facility or property as requiring regulatory cleanup oversight. Pursuant to Porter-Cologne, Section 13304, reasonable costs for such oversight can be recovered by the RWQCB from the responsible party. The purpose of the enclosure is to explain the oversight billing process structure.

INTRODUCTION

Porter-Cologne, Division 7, Section 13304, authorizes the SWRCB to set up Cost Recovery Programs. The Budget Act of 1993 authorized the State Water Resources Control Board to establish a Cost Recovery Program for Spills, Leaks, Investigations, and Cleanups (SLIC). The program is set up so that reasonable expenses incurred by the SWRCB and RWQCBs in overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely impacting the State's waters can be reimbursed by the responsible party. Reasonable expenses will be billed to responsible parties and collected by the Fee Coordinator at the SWRCB in the Division of Clean Water Programs (DCWP).

THE BILLING SYSTEM

Each cost recovery has account has a unique charge number assigned to it. Whenever any oversight work is done, the hours are billed to the account number on the employees timesheet. The cost of the staff hours is calculated by the State Accounting System based on the employees salary and benefit rate and the State Water Resources Control Board overhead rate.

Any time that cannot be directly related to an account, (such as billing and accounting work) will be charged to a special account number. The Accounting Office totals these **administrative charges** for the billing period and distributes them back to all of the accounts based on the number of hours charged to each account during that billing period.

The **Overhead Charges** are based on the number of labor hours charged to the account. The overhead charges consist of rent, utilities, travel, supplies, training, and personnel services. If there is no labor charged to the account during the billing period, there will be no overhead charges for that billing period with the exception of the last month of each fiscal year. This is due to the fact that the labor charges end June 30 for the current fiscal year. However, several kinds of overhead charges such as supply orders and travel expenses are paid after the fiscal year ends. The SWRCB Accounting Office keeps track of these charges and distributes them back to all of the accounts based on the number of hours charged to each account for the whole fiscal year that has just ended. Therefore, **the quarterly statements for the last month of the fiscal year could show no labor hours charged for the billing period, but some overhead charges could be charged to the account.**

AGREEMENT

No cleanup oversight will be performed unless the responsible party of the property acknowledges in writing that he/she agrees to reimburse the State for appropriate cleanup oversight costs. You may wish to consult an attorney in this matter. As soon as the letter is received, the account will be added to the active SLIC Cost Recovery billing list and oversight work will begin.

SPILLS, LEAKS, INVESTIGATIONS, AND LEAKS (SLIC) PROGRAM
COST RECOVERY FOR REGULATORY OVERSIGHT CLEANUPS

MONTHLY SALARY SCALE'S BY JOB CLASSIFICATION

CLASSIFICATION	ABBR.	SALARY SCALE (Includes Benefits)
Student Assistant	SA	1,914 - 2,898
Office Assistant	OA	2,083 - 2,779
Office Technician	OT	2,649 - 3,221
Environmental Specialist I	ESI	3,120 - 3,747
Environmental Specialist II	ESII	3,791 - 4,567
Sanitary Engineering Technician	SET	3,459 - 4,832
Water Resources Control Engineer	WRCE	3,728 - 5,184
Engineering Geologist	EG	3,728 - 5,184
Associate Governmental Program Analyst	AGPA	4,459 - 5,382
Environmental Specialist III	ESIII	4,567 - 5,515
Sanitary Engineering Associate	SEA	4,789 - 5,820
Associate Water Resources Control Engineer	AWRCE	5,030 - 6,110
Associate Engineering Geologist	AEG	5,030 - 6,113
Environmental Specialist IV	ESIV	5,258 - 6,348
Senior Water Resources Control Engineer	SWRCE	5,790 - 7,037
Senior Engineering Geologist	SEG	5,790 - 7,037
Supervising Water Resources Control Eng	SUWRCE	6,354 - 7,752
Staff Counsel	SC	6,497 - 7,856

3RD St. Project, Santa Rosa CAS No 1TSR196

Enclosure 2

I, JOHN MOE, *acknowledge that I have received and have read a copy of the "Reimbursement Process for Regulatory Oversight", and that I understand the reimbursement process and billing procedure as explained in the letter. Invoices for payment of oversight costs should be mailed to the following individual and address:*

INVOICING CONTACT JOHN MOE

INVOICING ADDRESS UNION PACIFIC RR
49 STEVENSON ST, 15TH FL.
S.F., CA 94105

Date: 5/4/99 *Signature:* John Moe

Title: MGR. SITE REMEDIATION

RWQCB
NORTH COAST
REGION

MAY 6 '99

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ TD ___ ☐ BOARD
☐ NKV ___

F

Cal/EPA

Pete Wilson
Governor

March 13, 1998

North Coast Regional Water Quality Control Board

5550 Skylane Blvd
Suite A
Santa Rosa, CA
95403
(707) 576-2220
FAX (707) 523-0135

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

The November 1997 "Response to 30 September 1997 Letter" prepared by Geomatrix for the subject site has been reviewed. Regional Water Board staff comments are:

Southern Property

We concur with the proposal to conduct the coordinated sampling event with the consultant doing work for Jean Destruel (former Mead Clark Lumber Company) for the purpose of collecting duplicate samples. As mentioned in our September 30, 1997 letter, the well located on the Northwestern Pacific Railroad Authority (NWPRA) property in the vicinity of the former underground storage tanks is an extraction well screened across two water bearing zones. Therefore, please provide us in advance of field work with a description of your purge methods, if any. Please provide us with your proposed analytes and analytical methods.

We understand that EnviroNet, on behalf of Mr. Destruel, is in the process of pursuing a site access agreement from the NWPRA to conduct work on the southern property.

We acknowledge the likelihood for on-site migration of gasoline from the east. However, inconclusive and insufficient information has been provided for Regional Water Board staff to conclude that the former Mead Clark Lumber Company tank is the sole source of groundwater impact beneath the railroad property. Please refer to our February 20, 1997 letter regarding diesel contamination in the vadose zone which may be indicative of surface spillage.

Please contact Jim Frank with the Santa Rosa Fire Department at (707) 543-3526 concerning the proposal to remove soil in the vicinity of SRB-13 and SRB-14. An excavation and backfilling permit may be required.

Option Property

In our September 30, 1997 letter, we indicated that we were interested in sufficient characterization of the property to evaluate the threat or impact to water quality. Geomatrix, on your behalf, proposes to drill soil borings SRB32 through SRB34 along the western edge of the property for the collection of grab groundwater samples for PNA and diesel analyses. We do not concur that the proposed work will adequately characterize the option property which was a former water and fueling yard.

Additional comments include:

* It was stated on page 3 that "depth to water is indicated on page 6 of the text and on the corresponding lithologic logs in Appendix C of the February 1997 report (approximately 10 to 12 feet)."

  We are aware of the general depth to groundwater beneath the site. We are interested in knowing the depth to groundwater in the individual borings and the depth where the groundwater samples were collected. The depth to groundwater was not identified on the boring logs unless a symbol, other than that shown on the "Boring Log Explanation" was used.

* We also requested additional information concerning the turn table, and piping associated with the 3000-barrel above-ground tank, oil traps and oil column. Geomatrix reports on page 4 that, "No additional information is available pertaining to the exact location, use, or condition of former piping or other features within the Option Property." We suggest exploratory field work to supplement where historical information is lacking. These issues will need to be addressed.

* Geomatrix reports on page 4 that, "There were no documented water supply wells on the property". We can agree that documentation is often lacking concerning the presence of water supply wells on properties. However, the response did not answer the question which was an inquiry concerning the use of the former pump houses.

* We requested a copy of the Phase I which has not been provided. Attachment A has yet to be provided.

This case has been transferred to the Site Mitigation Unit of our office for regulatory oversight since the majority of issues appear to be non-underground storage tank related. If you have any questions I can be reached at (707) 576-2675. We look forward to a receipt of a workplan that will adequately characterize the property.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:das/unionpac

cc: Santa Rosa Fire Department
Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111
Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173

Southern Pacific Trans Co.
Third Street Property
Santa Rosa

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

14 November 1997
Project 2770.05

WATER QUALITY
CONTROL BOARD
REGION 1

NOV 17 '97

Geomatrix Faxed Copy on 11/14/97 at 15:17 JJF

☐ BK ☐ RK
☐ CJ ☐ LR
☐ FR ☐ TW
☐ RT ☐ KD
☐ JH ☐ PG
☐ SW ☐ JS
☐ TD ☑
☐ ALL STAFF ☑ FILE

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Subject: Response to 30 September 1997 Letter
Case No. ITSR196
Santa Rosa Station/Third Street Property
Southern Section and Option Property
Santa Rosa, California

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is responding to the 30 September 1997 letter from the Regional Water Quality Control Board, North Coast Region (RWQCB) regarding the subject site in Santa Rosa, California (Figure 1). The subject site was divided into three general areas of investigation (Figure 2): The Southern Section which is located south of Third Street, the Northern Section which is located north of Third Street, and the Option Property which is located north of Third Street and west of the Northern Section.

As indicated in the RWQCB letter, no further work is required in the Northern Section. The following sections of this letter address your comments regarding the previous work performed in the Southern Section and the Option property, as documented in Geomatrix's 31 October 1996[1] and 21 February 1997 reports[2].

SOUTHERN SECTION

Petroleum Hydrocarbon Characterization

In its October 1996 report, Geomatrix concluded petroleum hydrocarbons quantified as gasoline that were detected in groundwater migrated onto the property from an upgradient (interpreted groundwater flow direction is to the southwest and west), off-site source; no diesel

[1] Geomatrix Consultants, Inc., 1996, "Results of Soil and Groundwater Sampling, Northwestern Pacific Railroad, Property Near Santa Rosa Station, Santa Rosa, California," 31 October.

[2] Geomatrix Consultants, Inc., 1997, "Results of Soil and Groundwater Sampling, Northwestern Pacific Railroad, Santa Rosa Station Option Property, Santa Rosa, California," 21 February.

or petroleum products that may have been associated with former site operations had impacted soil or groundwater at the site. This conclusion was supported by the following information:

- No petroleum hydrocarbons quantified as diesel (TPHd) or motor oil (TPHm) were detected in vadose zone soil samples collected at the site by either Industrial Compliance[3] (near the former underground storage tanks[USTs]) or Geomatrix (near the former USTs and other locations at the site). These results indicate that there is no on-site source for the constituents detected in groundwater beneath the site.

- As reported by Geomatrix in its October 1996 report, the magnitude of the concentrations of TPHd reported by Industrial Compliance in grab groundwater samples collected in the Southern Section (14 and 6.4 milligrams per liter [mg/l]) may suggest the presence of dissolved, lighter-end petroleum hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel due to the laboratory analytical method used (EPA Method 8260).

- The absence of TPHd in groundwater at the site was confirmed with analysis of grab groundwater samples collected by Geomatrix in March 1995. At this time, significant concentrations of gasoline in the groundwater were confirmed.

- Data from monitoring wells at the adjacent, upgradient Mead Clark Lumber Company site indicate significant concentrations of gasoline (product and dissolved constituents). Grab groundwater samples collected along the eastern boundary of the Southern Section, which is upgradient of the former UST location, contained significantly elevated concentrations of gasoline and related constituents, indicating that gasoline from the Mead Clark Lumber Company site is migrating onto the Southern Section.

We disagree that the Southern Section is a potential source of diesel to groundwater. However, to address the RWQCB's concern, we propose to collect duplicate samples from wells located upgradient and on the Southern Section during the next Mead Clark Lumber Company sampling event that we understand will be occurring in the near future; we also will collect a groundwater sample from well MW-1 that is located on the Southern Section at this time. The purpose of this sampling will be to determine whether the petroleum hydrocarbons detected on the Southern Section are of similar composition to the petroleum hydrocarbons detected at the Mead Clark Lumber Company site. As requested by the RWQCB, we also will analyze the samples for polynuclear aromatic compounds (PNAs).

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[3]Industrial Compliance, 1992, "Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California," 30 July.

Lead Detections in Soil

As indicated in the Geomatrix report, lead was detected at elevated concentrations relative to background for the site in the shallow soil sample collected from each of the two borings. These concentrations (590 and 170 milligrams per kilogram) are well below hazardous waste concentrations and below the Preliminary Remediation Goals[4] for industrial soil. However, to address the RWQCB's concern of the potential threat for surface run-off of lead to the Santa Rosa Creek, we propose removing the upper two feet of soil in the immediate area surrounding borings SRB-13 and SRB-14. This area (approximately 200 square feet) will be covered with clean fill and nominally compacted.

OPTION PROPERTY

Report Clarifications

Depth to groundwater: grab groundwater samples were collected from between approximately 10 to 12 feet below ground surface (bgs) in all borings (SRB20 through SRB31). For borings SRB20 through SRB28, depth to water is indicated on page 6 of the text and on the corresponding lithologic logs in Appendix C of the February 1997 report (approximately 10 to 12 feet bgs). Borings SRB29, SRB30, and SRB31 (grab groundwater samples only) were advanced to groundwater based on previous borings in the area; specific depth to groundwater measurements were not collected for these borings.

Field screening results and field observations used to analyze discrete samples: with respect to analysis of discrete soil samples, field screening procedures did not include the use of a quantitative measuring device such as a photoionization detector. The decisions to analyze discrete samples in lieu of composite samples (borings SRB21, SRB22, and SRB27) were based on qualitative field observations during sample collection. The soil samples collected between approximately 6 to 11 feet bgs and 12.5 to 13.5 feet bgs for borings SRB21 and SRB22, respectively, exhibited unusual odors relative to the soil from other borings collected in the area in the opinion of Geomatrix field personnel. Discrete shallow soil samples were analyzed for boring location SRB27 because this boring was located approximately where stockpiled drums with associated surface staining was observed. Only low to non-detectable petroleum concentrations were reported by the laboratory in these samples.

Information Pertaining to Historical Features

The locations of current and historical features on the Option Property (turn tables, pit traps, pump house, etc.) were based on Northwestern Pacific Railroad (NWPRR) valuation maps.

---

[4] United States Environmental Protection Agency (EPA), 1996, Region 9 Preliminary Remediation Goals, 1 August.

These maps indicate the approximate locations of facilities on and around railroad property for information purposes only and do not reflect surveyed locations. No additional information is available pertaining to the exact location, use, or condition of former piping or other features within the Option Property. Additionally, based on the results presented in the October 1996 and February 1997, these historical features have not impacted groundwater quality on the property.

There were no documented water supply wells on the property.

Total Petroleum Hydrocarbons Detected in Groundwater (Fuel/Heating Oil Tank Area)

As reported by Geomatrix in its February 1997 report, Industrial Compliance reported the presence of TPHd in a grab groundwater sample collected near a former fuel oil UST at a concentration of 31 mg/l (figure 3, boring IC-B6). Grab groundwater samples collected by Geomatrix near and approximately downgradient to the former fuel oil UST did not contain TPHd. Additionally, groundwater samples collected from downgradient wells MW-2 and MW-3 by the RWQCB in 1990 also do not support that a groundwater impact has occurred as a result of the former fuel oil UST. The concentration of TPHd that was detected in the Industrial Compliance sample and the irreproducibility of this data by both Geomatrix and the RWQCB, may suggest the presence of non-dissolved petroleum in the sample. It should be noted that the vadose zone soil sample from IC-B6 contained TPHd at 37 milligrams per kilogram (mg/kg) and that the drilling method used by Industrial Compliance (California-modified split spoon) is commonly known to displace soil to lower depths. Thus, the reported TPHd in the Industrial Compliance sample could be an artifact of the grab sampling method and indicate that no groundwater impact has occurred.

Additionally, with regard to heating oil tanks, leakage from such tanks and their appurtenant structures generally have had little or no impact on water quality due to the lower migration potential of this later-boiling point hydrocarbon mixture relative to organic solvents or other fuels[5]. No soil or groundwater sampling should be required when closing such a tank unless there is some independent information that a water quality problem exists.

Based on the above listed factors, we do not recommend further sampling in this area.

Sampling Adjacent to Former Site Features

Boring SRB23 was located immediately south and approximately downgradient of the former 3000-gallon barrel aboveground storage tank. The results of the composite soil sample

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[5] SFRWQCB, 1994, Letter to San Francisco Bay Area Agencies Overseeing UST Cleanup, Re: Residential or Farm Heating Oil Tanks, 21 June.

analysis indicate that shallow (1.5 to 7.5 feet bgs) soil in this area contains low concentrations of petroleum and polynuclear aromatic hydrocarbons but these constituents were not detected in the deeper (10 to 14.5 feet bgs) sample. Additionally, the grab groundwater sample analysis from this boring was non-detect for TPHd, TPHm, and volatile organic compounds (VOCs). If activities pertaining to the use of this tank had affected the groundwater quality in this vicinity, the results at this source and approximately downgradient location would have been expected to detect significant concentrations of the previously mentioned analytes. Identifying the lateral extent of low levels of petroleum and polynuclear aromatic hydrocarbons in soil would not provide any additional information with respect to the groundwater quality in this area because groundwater at this potential source was not impacted.

The intent of borings SRB21 and SRB22 was to assess the possibility of significant environmental impact to soil and groundwater quality in the vicinity of the oil traps. As previously mentioned, information provided on the railroad valuation maps regarding feature locations was not surveyed by the NWPRR and as a result, the plotted locations of the former oil traps on Geomatrix figures are approximate. Due to obstructions (such as debris) present at the site at the time of sampling, boring SRB222 was placed as close to the approximate former oil trap location as possible. It is significant to note that although SRB22 does not appear to be located specifically at the former oil trap, it is directly downgradient of it. Soil sample analytical results from each of borings SRB21 and SRB22 indicate the presence of weathered, relatively immobile TPHd and TPHm. Additionally, as reported, low concentrations of PNAs were reported in some samples. Grab groundwater results for these borings were non-detect for TPHd, TPHm, and VOCs, indicating no impact to groundwater from these analytes at or downgradient of the former oil traps. Therefore, based on these results, defining the lateral extent of affected soil in the vicinity of the oil traps is not relevant since groundwater at these potential sources was not impacted.

We do not concur that additional sampling to evaluate the lateral extent of TPHm detected in shallow soil at boring location SRB20 is required. The grab groundwater sample at this location confirms that no groundwater impact has occurred in this area. Furthermore, soil samples collected at borings SRB24, SRB25, and SRB26, also located along trackage, did not contain petroleum hydrocarbons, indicating that the concentration of TPHm in shallow soil at SRB20 is not indicative of the presence of petroleum hydrocarbons beneath trackage throughout the site.

Analysis of PNAs in Groundwater

As stated in the Geomatrix report, PNAs were not detected in significant concentrations in soil at the site. Additionally, the detected PNAs are relatively insoluble. However, to satisfy the RWQCB's concern for sufficient characterization of this property with respect to water

quality, we propose collecting three additional grab groundwater samples along the downgradient, eastern edge of the property as indicated on Figure 2 (proposed borings SRB32 through SRB34). These borings are near and downgradient of the former aboveground oil tank and of SRB21 and SRB22 (oil trap) were PNAs were detected at depth. Grab groundwater samples will be collected in accordance with Geomatrix protocols (Attachment A) and transported under Geomatrix chain-of-custody procedure to a state-certified analytical laboratory for chemical analysis. Samples will be analyzed for PNAs by EPA Method 8310. Additionally, to confirm our previous results, we will analyze the samples for TPHd according to EPA Method 8015 following silica gel cleanup (EPA Method 3630B).

Drill cuttings and equipment wash water will be stored on-site in labeled drums pending appropriate disposal. Borings will be backfilled to the ground surface with cement grout.

We would appreciate discussing this response to the 30 September RWQCB letter with you as soon as possible so that we can implement the work presented herein. Please call either of the undersigned with your comments.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu
I:\PROJECT\2770\14NOV97.DOC

cc: John Moe, UPRR
Leah Goldberg, HBMVR

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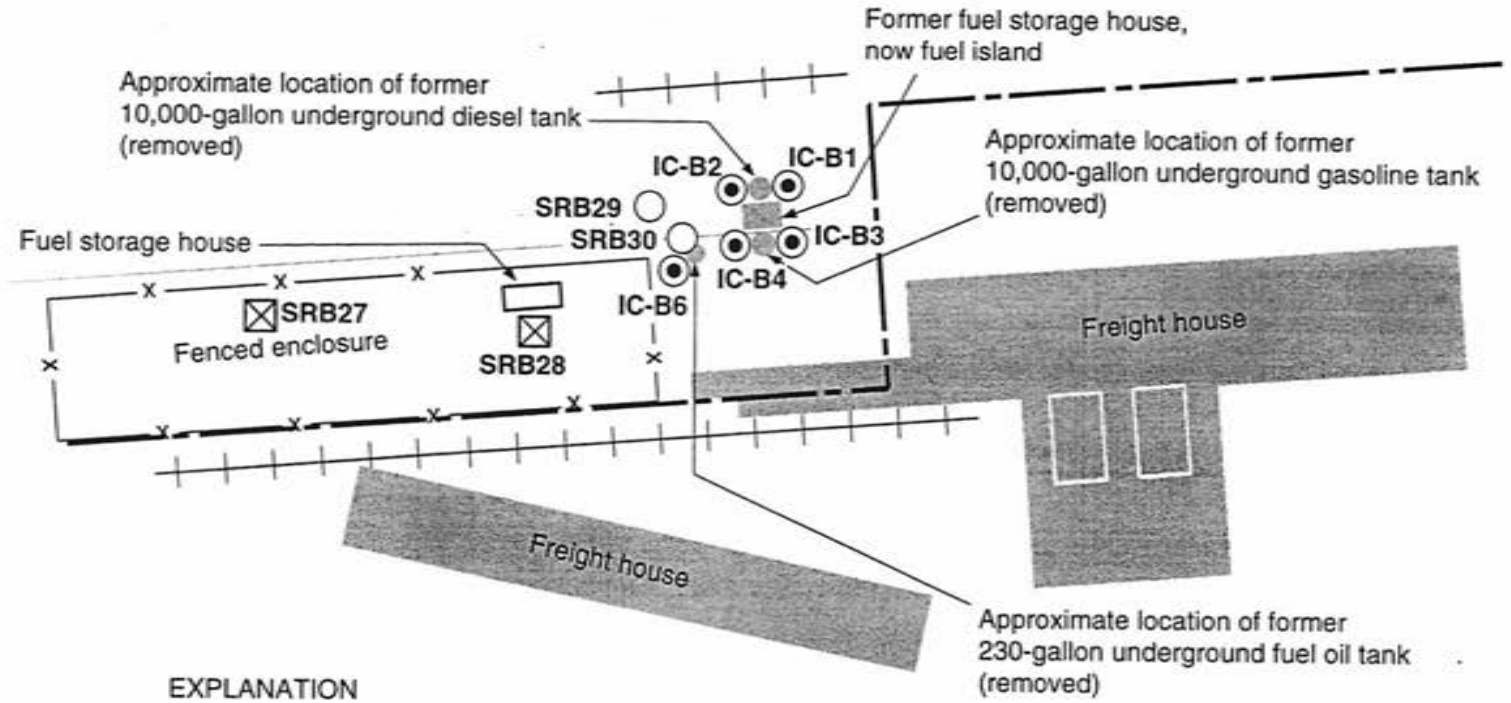
GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018



EXPLANATION

- ○ Geomatrix Phase II grab groundwater only sampling location
- ⊠ Geomatrix Phase II soil only sampling location
- IC-B2 ◉ Approximate soil sampling location performed by Industrial Compliance (May 1992)
- Indicates historical feature for which no surface features were observed
- Option property boundary

0 80 Feet

Approximate scale

Drawing is schematic

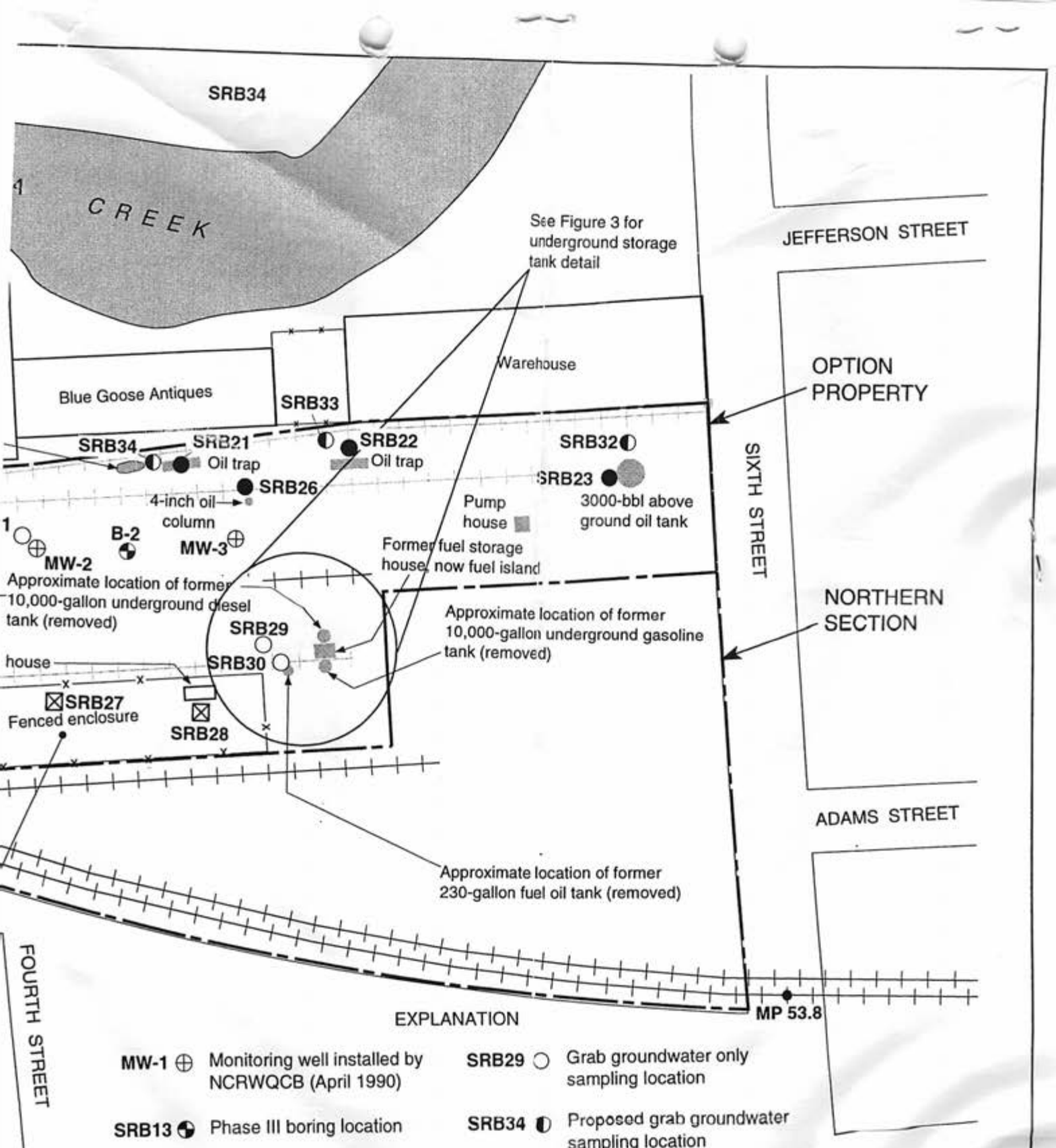
GEOMATRIX

UNDERGROUND STORAGE TANK REMOVAL-DETAIL
Northwestern Pacific Railroad Corridor
Santa Rosa Station Option Property
Santa Rosa, California

Figure 3

Project No. 2770.04

96P367.004

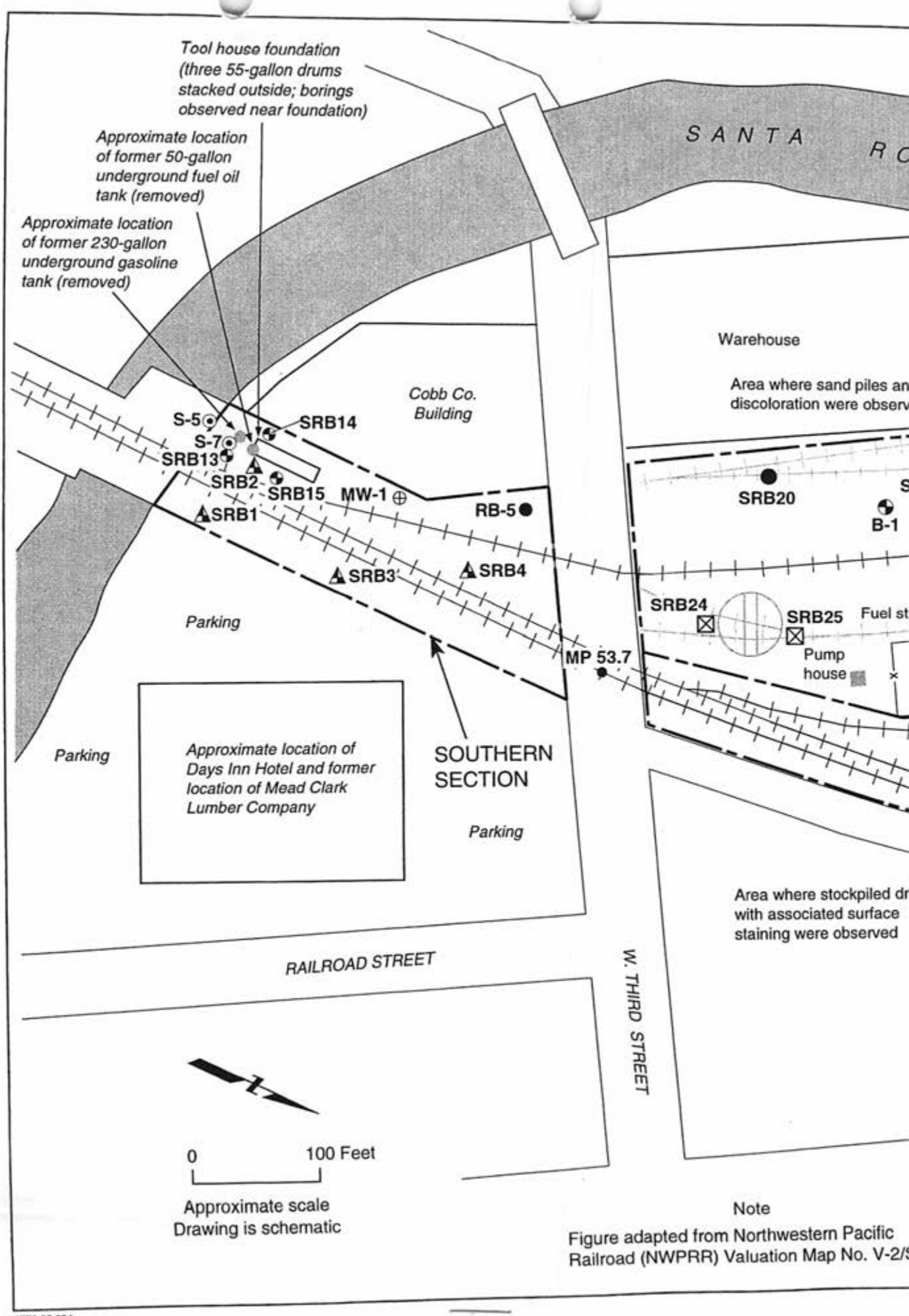


EXPLANATION

MW-1 ⊕	Monitoring well installed by NCRWQCB (April 1990)	SRB29 ○	Grab groundwater only sampling location
SRB13 ◔	Phase III boring location	SRB34 ◐	Proposed grab groundwater sampling location
SRB3 ▲	Phase II boring location		
RB-5 ●	Soil boring installed by NCRWQCB (April 1990)		
S-5 ⊙	Soil boring installed by Industrial Compliance (May 1992)		
——·——	Property sale boundary		

SITE PLAN AND BORING MAP
Northern Section, Southern Section
and Option Property
Northwestern Pacific Railroad Corridor
Santa Rosa, California

GEOMATRIX	Project No. 2770.05	Figure 2


Tool house foundation (three 55-gallon drums stacked outside; borings observed near foundation)
Approximate location of former 50-gallon underground fuel oil tank (removed)
Approximate location of former 230-gallon underground gasoline tank (removed)
SANTA
Warehouse
Area where sand piles an
discoloration were observ
Cobb Co. Building
S-5
S-7
SRB13
SRB14
SRB2
SRB15
MW-1
SRB1
RB-5
SRB20
B-1
SRB3
SRB4
SRB24
SRB25
Fuel st
Pump house
MP 53.7
Parking
Parking
Parking
Approximate location of Days Inn Hotel and former location of Mead Clark Lumber Company
SOUTHERN SECTION
Area where stockpiled dr
with associated surface
staining were observed
RAILROAD STREET
W. THIRD STREET
0
100 Feet
Approximate scale
Drawing is schematic
Note
Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S

2770.05.034

Cal/EPA

North Coast Regional Water Quality Control Board

5550 Skylane Blvd
Suite A
Santa Rosa, CA
95403
(707) 576-2220
FAX (707) 523-0135

Pete Wilson
Governor

September 30, 1997

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

This letter is a written follow-up of our May 9, 1997 meeting. At that time, we discussed the October 1996 "Results of Soil And Groundwater Sampling", the October 31, 1996 "Work Plan for Soil and Groundwater Sampling" and the February 1997 "Results of Soil and Groundwater Sampling" prepared by Geomatrix. The subject site is divided into three general areas of investigation; the southern section which is located south of Third Street, the northern section which is located north of Third Street and the "Option Property" which is located north of Third Street and west of the northern section. Our comments are:

General Comments:

The drilling permit for the most recent Geomatrix phase of work was issued by Sonoma County Environmental Health Services on November 4, 1996. The workplan to conduct the work was submitted for our review on November 5, 1996. The work was implemented on November 14, 1996 without workplan acceptance from our agency and without any notification or contact from Union Pacific or Geomatrix. You indicated during our May 9, 1997, meeting that future work would be coordinated with us.

In general, additional information is needed for the southern section and the option property.

Southern Section

Total Petroleum Hydrocarbons as diesel (TPHd) were reported in groundwater at 14,000 and 6,500 parts per billion (ppb) during the Industrial Compliance phase of work in 1992. Total Petroleum Hydrocarbons as gasoline (TPHg) was not reported. TPHd was not reported during the Geomatrix phase of work, however, TPHg was.

The lack of TPHd in this area is inconclusive. Please refer to our February 20, 1997 letter for additional comments concerning TPHd reported for this area.

The presence of a groundwater extraction well in this area and the potential to use this well as a groundwater sampling point was discussed. It was determined that the well was screened in two water bearing zones. It is unknown at this time whether this well is suitable for the collection of representative samples. Other wells exist in the area which may be useful. In any case, additional samples will need to be collected to characterize the contaminants in groundwater.

In addition, PNAs have been detected in groundwater collected from MW-1. Future groundwater sampling in this area will need to include PNAs.

Lead was detected in this area in shallow soil samples at concentrations above background levels (590 and 170 parts per million). Samples collected at deeper depths showed concentrations at background levels. The threat to groundwater quality may be minimal, however, the potential for surface runoff of lead to the Creek exists. This will need to be addressed.

Option Property

The option property was reported to be a former water and fueling station. Potential sources of contamination have been identified and investigated with the most recent results reported in the February 1997 Geomatrix "Results of Soil and Groundwater Sampling". Additional clarification and historical information needs to be provided and additional site characterization work needs to be conducted.

Please provide the following clarifications:

* The depths where groundwater samples were collected.

* The depths to groundwater. (The depths to groundwater were not shown on the boring logs or included in the text).

* The field screening results.

* The field observations concerning obvious impact (which resulted in several discrete samples being analyzed).

* The method of abandonment of the turn table and the mechanism used to remove rain/surface water and or/petroleum hydrocarbons from the subsurface unit during its use. And, the location of any piping (or former piping) associated with liquid transfer from the turn table.

* The location of any piping (or former piping) used to transfer oil from the 3000-barrel above-ground tank to the location(s) of use. And, the location of any piping (or former piping) associated with the oil traps and 4-inch oil column also needs to be identified.

* The use of the former pump houses. It is not clear at this time if the pump houses were associated with water supply wells. If so, the current status of the wells will need to be identified.

Additional site characterization work will need to include:

* The area of the former heating oil tank where product and stained soil were reported in the boring log during the Industrial Compliance phase of work. TPHd also was reported in groundwater at 31,000 ppb. TPHd was tested for and not reported in groundwater collected from this area during the Geomatrix phase of work.

* The area of the 3000-gallon barrel above-ground tank. One soil boring was collected in this area immediately south of the former tank which may not adequately represent actual site conditions. Investigative work in this area should include areas of piping (or former piping).

* Soil boring SRB21 was placed in the center of the oil trap location; however, SRB22 was not. Please clarify the difference in sampling locations. The lateral extent of contamination will need to be defined at both locations. Investigative work in this area should include areas of piping (or former piping), if any.

* Motor oil was reported at up to 900 ppm in shallow soil collected from SRB20. The lateral extent will need to be defined. It is not clear if these concentrations represent overall soil conditions beneath the track (and former track).

* PNA's were reported in soil throughout the area. However, groundwater samples were not analyzed for PNAs. It is stated on page 7 of the Geomatrix report that "The concentrations of PNAs were lower than the EPA Preliminary Remediation Goals (PRGs) for industrial exposure". Exposure related goals/concentrations may not be protective of water quality.

In general, we are interested in sufficient characterization of this property to evaluate the threat and/or impact to water quality. Composite soil samples were collected which may not be representative of site conditions. Monitoring wells are recommended to enable the collection of repeatable groundwater quality information. A workplan will need to be submitted on or before November 14, 1997. In addition, please provide us with a copy of the Phase 1 report for our review and records.

Northern Section

It was agreed that no further work is required for this area.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

cc: Santa Rosa Fire Department

Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111

Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173

NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD

Meeting Participation Record

SUBJECT: SP Trans Co.

DATE & TIME: 5/9/97 10:00

PLACE: NCRWQCB

Name	Representing	Telephone Number
JOAN FLECK	NCRWQCB	576-2475
TOM DUNBAR	NCRWQCB	576-2701
JOHN MOE	UNION PACIFIC	(415) 541-2557
Leah S. Goldberg	NWPRA - Hanson Bridgett	415-995-5090
SUSAN GALLARDO	GEOMATRIX	415 434-9400

UNION PACIFIC RAILROAD

J. C. (JOHN) MOE, P.E.

CONSULTANT
REPRESENTING
UNION PACIFIC RAILROAD

ONE MARKET PLAZA
SAN FRANCISCO, CA 94105
PHONE: 415-541-2557
FAX: 415-541-1325

HANSON·BRIDGETT
MARCUS·VLAHOS·RUDY, LLP

LEAH S. GOLDBERG
Attorney at Law

TELEPHONE: (415) 777-3200
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333 MARKET STREET, 23RD FLOOR
SAN FRANCISCO, CA 94105-2173

Geomatrix Consultants
Engineers, Geologists, and Environmental Scientists

Susan M. Gallardo, P.E.
Principal Engineer

100 Pine Street, 10th Floor
San Francisco, CA 94111

(415) 434-9400
FAX (415) 434-1365

(meetrec)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

February 20, 1997

Greg Shepherd
Southern Pacific Transportation Company
Southern Pacific Building, Environmental Services
One Market Plaza
San Francisco, CA 94105

Dear Mr. Shepherd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

The October 1996 "Results of Soil and Groundwater Sampling" and the October 31, 1996 "Work Plan for Soil and Groundwater Sampling" prepared by Geomatrix for the subject site have been reviewed. Regional Water Board staff comments are:

Results of Soil and Groundwater Sampling

* It is stated on page 4 that "Information reviewed by Geomatrix in the regulatory file did not indicate that deeper soil samples had been collected at boring RB-5 for chemical analysis".

  For your records, soil samples were collected from RB-5 at 4.0, 5.5, 7.0, 8.5 and 10.5 feet below ground surface (bgs). Total petroleum hydrocarbons as diesel (TPHd) were reported in the soil samples collected from 4.0, 5.5 and 7.0 feet bgs at 16, 140 and 15 parts per million (ppm), respectively. No detectable levels of TPH as gasoline and diesel were reported in the samples collected at 8.5 and 10.5 feet bgs. Diesel odors were noted from 4 to 5.5 feet in the boring log.

* It is stated on page 4 that "The magnitude of the concentrations of TPH reported in the diesel range suggested the presence of non-dissolved petroleum in the samples and/or the presence of lighter hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel". This statement is referring to the diesel detections in groundwater samples collected from B-5 and B-7 at 14,000 and 6,500 parts per billion (ppb) reported in the July 30, 1992, Industrial Compliance document. Gasoline range hydrocarbons were not reported in samples B-5 and B-7 at that time.

  Industrial Compliance staff did not report free phase product in the samples. And, the typical gasoline/diesel range hydrocarbon ratio associated with aged gasoline was not observed.

  Our records show that diesel in soil and groundwater has been reported for the southern property. Please see comment 1 concerning diesel in B-5. Diesel was also reported in MW-1 soil samples at 61 ppm at 5.0

feet bgs, 41 ppm at 10 feet bgs, 58 ppm at 16.5 feet bgs, 640 ppm at 20.5 feet bgs and 1400 ppm at 30 feet bgs. The presence of diesel in shallower depths may be an indication of surface spills in this area.

No detectable levels of diesel were reported for groundwater samples SRB-1, SRB-3 and SRB-4; however, the detection limit was raised to 2500 ug/l due to high concentrations of non-target compounds in the samples.

Additional information will be needed to assess the nature of the contamination in this area. We recognize the potential for onsite migration of gasoline from the former Mead Clark site. The lack of diesel in groundwater in this area is not yet conclusive.

* It is stated on page 5 that "Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department". Please provide us with a copy of the drilling permit for our records.

* The results of composited soil samples may not be representative of site conditions.

Work Plan for Soil and Groundwater Sampling

* It is stated on page 2 that "Soil and Groundwater samples will be collected in accordance with Geomatrix protocols (Attachment A)". Attachment A was not included in the workplan. Please submit Attachment A for our records.

* It is stated on page 2 that "Soil samples (up to eight) at each boring will be composited into an upper and a lower sample by the analytical laboratory for chemical analysis. The remaining discrete samples from each boring will be placed on hold pending analytical results for the composite samples".

  The results of composited samples may not be representative. We request that discrete samples be collected for chemical analysis.

* A roundhouse is a subsurface structure where engines are placed for a direction change and/or engine repair and servicing. Please clarify if the roundhouse was completely removed or filled in.

  If the entire structure was completely removed, a soil boring in the center of the roundhouse appears appropriate. If the structure was filled in, the fill material should be identified and sampled.

  In addition, a roundhouse would be expected to contain a mechanism to remove rain/surface water and/or petroleum hydrocarbons. Please provide additional information concerning the roundhouse piping and discharge system.

* SRB-21 and SRB-22 are proposed to investigate the former oil traps. Please provide additional information concerning the function and construction of the oil traps. Any piping systems associated with the oil traps should be identified. SRB-21 is proposed center of the oil trap and SRB-22 is not. Please clarify the difference in proposed locations.

* A pump house is shown on Figure 1 south of the former above ground oil tank. Please clarify if this location was a former water supply well pump house.

Please include the following:

* A soil/groundwater boring west (downgradient) of the former 3000-~~gallon~~ barrel above ground oil tank. The potential for spills in this area exists and one soil/groundwater sample may not adequately characterize this area.

* A soil/groundwater boring downgradient (west) and within close proximity of the former roundhouse. As stated above, the roundhouse may have been an area where engine repair/servicing was conducted with releases of heavier hydrocarbons occurred. Soil sample B-1, drilled during the Regional Water Board site investigation and located west of the former roundhouse, contained 200 ppm total oil and grease at 12 feet bgs.

* A groundwater sample downgradient and in close proximity of the fuel storage house and drum storage area.

Petroleum hydrocarbons have been reported in groundwater east of the site in the business district of fourth and fifth streets. You may consider placing a groundwater sampling location between the former railroad yard and the business district to investigate potential upgradient sources.

We look forward to the above requested clarifications. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:lmf/sptrans

cc: Santa Rosa Fire Department
Sonoma County Environmental Health Services
Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111

SPTrans Co 3rd St

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

31 October 1996
Project 2770.04

WATER QUALITY
CONTROL BOARD
REGION 1
NOV 5 '96

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, California 95403

RK ☐ RK ☐
CJ ☐ LR ☐
FR ☐ KD ☐
RT ☐ PG ☐
JH ☐ JG ☐
SW ☐ ☐
TBD ☐ REPLY
ALL STAFF ☐ FILE

Subject: Work Plan for Soil and Groundwater Sampling
Santa Rosa Station Option Property
Northwestern Pacific Railroad
Healdsburg Segment

Dear Ms. Fleck:

Geomatrix Consultants, Inc. (Geomatrix), has prepared the enclosed work plan on behalf of Southern Pacific Transportation Company (currently Union Pacific Railroad) for the subject site. The proposed work includes soil and groundwater sampling at the site. The objective of the work is to evaluate possible significant environmental impacts that may have resulted from historical features and to respond to your request for additional characterization near a former fuel oil underground storage tank. The work is scheduled to begin in November 1996.

Please contact the undersigned if you have questions or require further information, please contact either of the undersigned.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells
Elizabeth K. Wells, P.E.
Senior Engineer

Susan Gallardo
Susan M. Gallardo, P.E.
Principal Engineer

EKW/SMG/cll
2770\FLECK.DOC

cc: Mr. Greg Shepherd, Southern Pacific Transportation Company
Jill Rood, Esq., Holme Roberts & Owen
Rory Campbell, Esq., Hanson, Bridgett, Marcus, Vlahos & Rudy

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

31 October 1996
Project 2770.04

WATER QUALITY
CONTROL BOARD
REGION 1

NOV 5 '96

☐ BK ___ ☐ RK ___
☐ CJ ___ ☐ LR ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ___
☐ ___ ☐ REPLY
☐ ALL STAFF ☐ FILE

Mr. Greg Shepherd
Southern Pacific Transportation Company
One Market Plaza, 7th Floor
San Francisco, California 94105

Subject: Work Plan for Soil and Groundwater Sampling
Santa Rosa Station Option Property
Northwestern Pacific Railroad
Healdsburg Segment

Dear Mr. Shepherd:

Geomatrix Consultants, Inc. (Geomatrix) has developed a Phase II sampling program for the Santa Rosa Station option property located along the Healdsburg segment of the Northwestern Pacific Railroad corridor (NWPRR) (Figure 1). The site is designated as an option sale property for the NWPRR transaction between the Southern Pacific Transportation Company (SPTCo; currently Union Pacific Railroad [UPRR]) and the NWPRR Task Force. The objective of the program presented herein is to evaluate possible significant environmental impacts that may have resulted from historical features, or features that were identified during the Phase I environmental site assessment performed in 1992 and early 1993.[1] Additionally, the proposed program includes sampling in the vicinity of the former underground fuel oil storage tank to respond to a request by the North Coast Regional Water Quality Control Board (NCRWQCB) for additional characterization in this area. In developing the Phase II program, we considered: 1) potential chemical usage based on the type of feature and its dates of operation, when known; 2) depth to groundwater; and 3) mobility of potential chemical constituents in the environment. This work plan includes site background, the proposed sampling program, and estimated schedule.

BACKGROUND

The Santa Rosa station formerly served as a water and fuel station. Within the portion of the station designated as an option property there was a turntable that was dismantled in 1925. A 3000-barrel aboveground oil storage tank, two oil traps, and an oil column also were located on the option property (Figure 1). According to SPTCo records, these facilities were constructed at the site sometime between 1939 and 1945, and were removed by 1960. In the northeastern portion of the sale property there is a fuel storage house; in addition, three underground storage tanks (USTs)

[1] Geomatrix Consultants, Inc., 1994, Preliminary Site Assessment, Northwestern Pacific Railroad, Marin, Sonoma, Mendocino, and Napa Counties, California, August.

were located in this area (10,000-gallon diesel UST, 10,000-gallon gasoline UST, and 230-gallon fuel oil UST) and were removed in 1987. No apparent leakage from the USTs was documented at the time of their removal by Canonie Environmental. Soil samples collected from borings in the UST areas by Industrial Compliance (IC) in 1992 did not contain detectable concentrations of petroleum hydrocarbons above the water table. Subsequent analysis of a grab groundwater sample collected from a boring near the former fuel oil tank by IC reportedly contained 31,000 parts per billion (ppb) total petroleum hydrocarbons characterized as diesel (TPHd). A groundwater sample collected from on-site well MW-3, installed by the NCRWQCB and located approximately 100 feet downgradient of the former fuel oil tank, contained TPHd at a concentration of 400 ppb. Grab groundwater samples collected by IC from four borings drilled at the location of the former gasoline and diesel USTs did not contain TPHd, total petroleum hydrocarbons characterized as gasoline (TPHg), or benzene, toluene, ethylbenzene, and xylenes (BTEX) above laboratory detection limits, indicating no impact to groundwater from the former USTs.

Based on information collected during the Phase I program, the depth to groundwater in the vicinity of the Santa Rosa station site ranges between approximately 7 to 16 feet below ground surface (bgs); the groundwater flow direction reportedly is to the west toward Santa Rosa Creek.

PROPOSED PROGRAM

As previously discussed, the objectives of the sampling program are to evaluate possible significant environmental impacts at the site as a result of historical features and to collect additional analytical data in the vicinity of the former fuel oil UST at the request of the RWQCB. The Phase II program includes drilling 12 borings to 15 feet bgs (Figure 1) using a direct-push technology rig. Four borings will be sampled only for soil: two in the area of the former turntable; one adjacent to the fuel storage house; and one in an area where surface staining was observed. Five additional borings along the downgradient boundary of the property will be sampled for soil and groundwater; of these borings, one is adjacent to the former aboveground storage tank, two are adjacent to former oil traps, and one is adjacent to a former oil column. Three boring locations will be sampled for groundwater only; these are in the vicinity and downgradient of the former fuel oil UST. Soil and groundwater samples will be collected in accordance with Geomatrix protocols (Attachment A).

Soil samples (up to eight) at each boring will be composited into an upper and a lower sample by the analytical laboratory for chemical analysis. The remaining discrete samples from each boring will be placed on hold pending analytical results for the composite samples. Should the analytical results of a composited sample suggest an environmental impact, certain depth-discrete samples could then be selected for specific chemical analysis to evaluate the depth at which the potential environmental impact exists.

Samples will be transported under Geomatrix chain-of-custody procedure to a state-certified analytical laboratory for chemical analysis. Soil samples will be analyzed for TPHd and total petroleum hydrocarbons characterized as motor oil (TPHmo) by United States Environmental Protection Agency (EPA) Method 8015, polynuclear aromatic hydrocarbons by EPA Method 8310, and 17 Title 22 metals by EPA Method 6000/7000 series. Groundwater samples will be analyzed for TPHd by EPA Method 8015 and volatile organic compounds by EPA Method 8240. All TPHd and TPHmo analyses will be performed after silica get cleanup.

Drill cuttings and equipment washwater will be stored on site in labeled drums pending appropriate disposal. Borings will be backfilled to the ground surface with cement grout.

SCHEDULE AND REPORTING

Geomatrix, at the request of SPTCo, has initiated implementation of this work plan. Drilling permit applications have been submitted to the County of Sonoma Department of Health Services. Upon receipt of the permits, field activities will be conducted. We estimate sampling will be completed in November 1996. Upon receipt of analytical results, a report documenting field activities and results will be prepared. The final report will include our conclusions and recommendations for further work, if any.

Please call either of the undersigned if you have any questions or require further information for the Santa Rosa Station option property.

Sincerely yours,

GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells

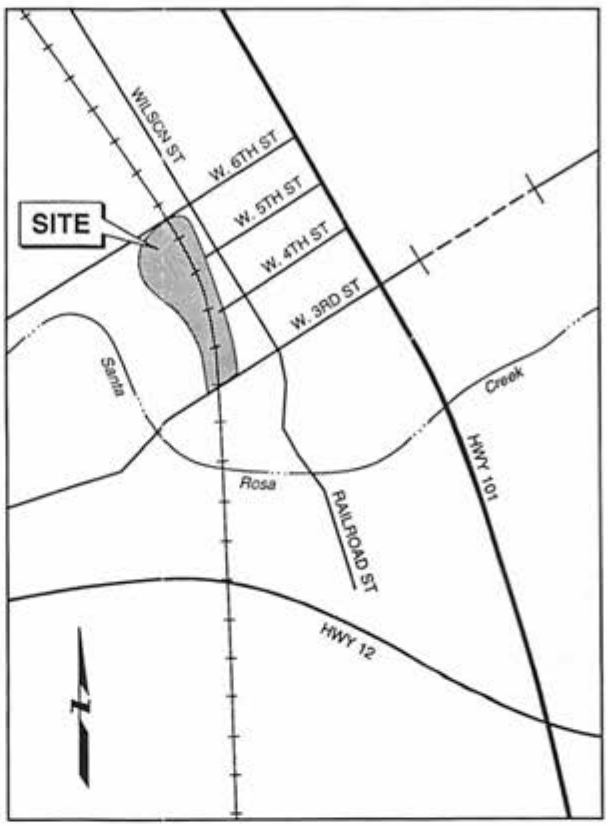
Elizabeth K. Wells, P.E.
Senior Engineer

Susan Gallardo

Susan Gallardo, P.E.
Principal Engineer

EJW/SMG/cll
2770\WORKSOIL.DOC

Attachments: Figure 1: Santa Rosa Station
A: Protocols



LOCATION MAP

EXPLANATION

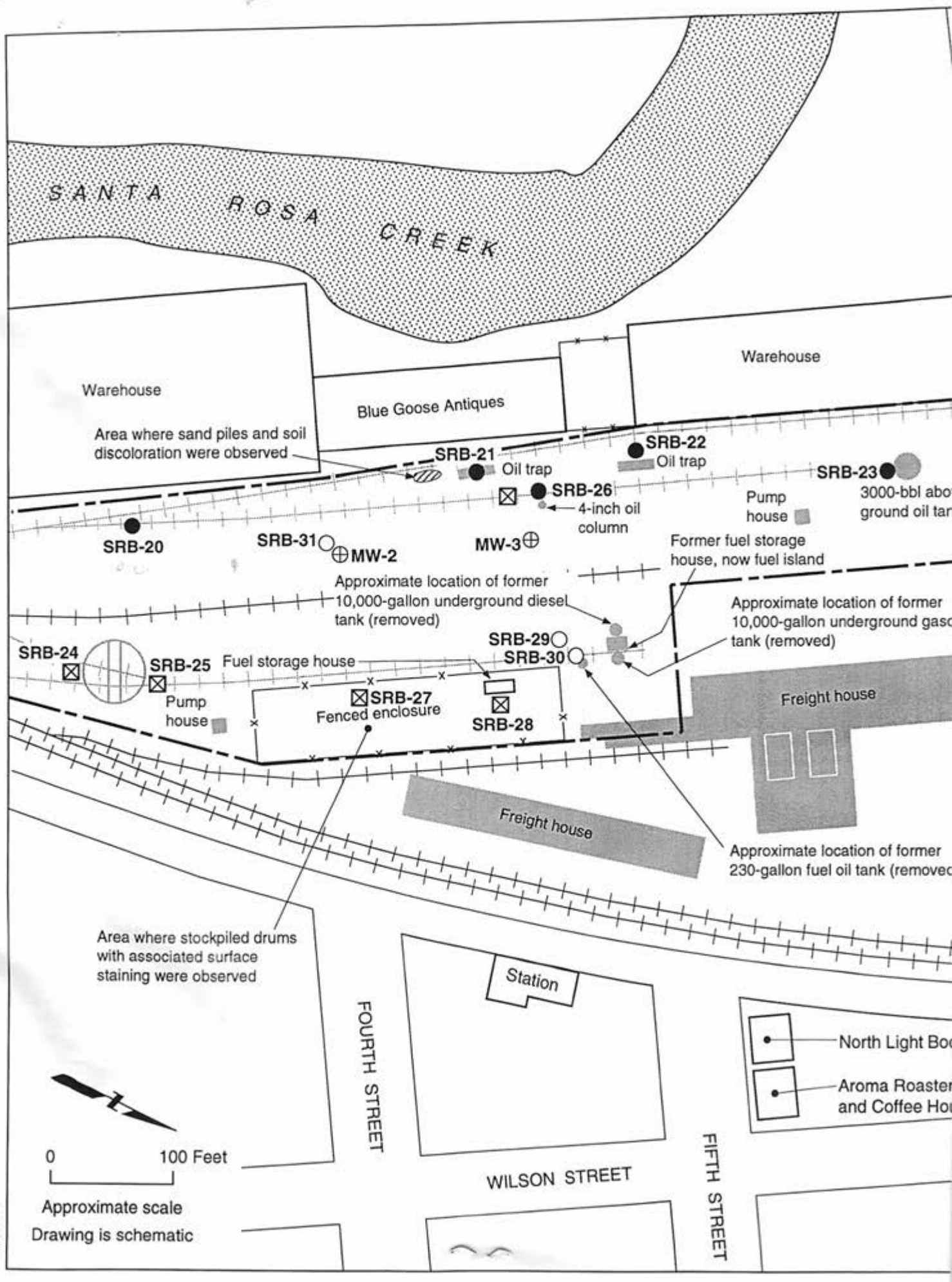
- ● Proposed soil and grab groundwater sampling location
- ○ Proposed grab groundwater only sampling location
- ⊠ Proposed soil only sampling location
- MW-2 ⊕ Former monitoring well installed by NCRWQCB (April 1990)
- Indicates historical feature for which no surface features were observed
- Proposed option property boundary

Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V2/S-8d.

SANTA ROSA STATION
MILE POST 53.7
Northwestern Pacific Railroad Corridor
Sonoma County, California

GEOMATRIX	Project No. 2770.04	Figure 1


SANTA ROSA CREEK
Warehouse
Warehouse
Blue Goose Antiques
Area where sand piles and soil discoloration were observed
SRB-21
Oil trap
SRB-22
Oil trap
SRB-23
3000-bbl abo
ground oil tar
SRB-26
4-inch oil column
Pump house
SRB-20
SRB-31
MW-2
MW-3
Former fuel storage house, now fuel island
Approximate location of former 10,000-gallon underground diesel tank (removed)
Approximate location of former 10,000-gallon underground gaso
tank (removed)
SRB-29
SRB-30
SRB-24
SRB-25
Fuel storage house
Pump house
SRB-27
Fenced enclosure
SRB-28
Freight house
Freight house
Approximate location of former 230-gallon fuel oil tank (removed
Area where stockpiled drums with associated surface staining were observed
Station
FOURTH STREET
North Light Boo
Aroma Roaster
and Coffee Hou
FIFTH STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
99P3457.002

Southern Pacific Trans Co
Third St Property
Santa Rosa

WATER QUALITY
CONTROL BOARD
REGION 1
OCT 10 '96

Southern Pacific Lines

Environmental Affairs Group
Southern Pacific Building · One Market Plaza · San Francisco, California 94105

G. F. Shepherd
Director Environmental Projects

(415) 541-2545
FAX (415) 541-1325

☐ BK ___ ☐ RK ___
☐ CJ ___ ☐ LR ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ JEF
☐ ___ ☐ REPLY
☐ STAFF ☐ FILE

October 8, 1996

VIA Federal Express
Ms. Joan Fleck:
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd. Suite A
Santa Rosa, CA 95403

Dear Ms. Fleck:

SUBJECT: Southern Pacific Transportation Co, Third Street Property, Santa Rosa, CA

In response to your letter dated August 13, 1996, enclosed please find a copy of a report prepared by Geomatrix concerning the subject property. Based on investigations performed by Geomatrix and by Industrial Compliance, Geomatrix concludes that no further work is required on the southern portion of the property. Additional work will be performed in the northern section of the property as part of a property transfer assessment associated with the Northwestern Pacific Right Of Way sale. Soil and groundwater sampling and testing will be performed which should address any outstanding concerns the Regional Water Quality Control Board may have with the former tank location. The work is scheduled to commence in November and a workplan will be forwarded to the Regional Water Quality Control Board prior to commencement of the work. If you have any questions please contact me at 415-541-2545.

Sincerely

Greg Shepherd

cc: Susan Gallardo Geomatrix Consultants Inc.

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

F

August 13, 1996

Greg Shepherd
Southern Pacific Transportation Company
Southern Pacific Building, Environmental Services
One Market Plaza
San Francisco, CA 94105

Dear Mr. Shepherd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

On December 20, 1995 you were provided with a letter concerning the State Water Resources Control Board recommended "Interim Guidance on Petroleum Hydrocarbon Cleanups". Since that time, the file for the subject site has been reviewed to determine whether this case qualifies as a soils only or a low risk groundwater case where passive bioremediation and monitoring would be allowed rather than active groundwater remediation. Regional Water Board staff comments are:

* This case does not qualify as a soil case only due to the documented impact to water quality.

* This case does not qualify as a low risk groundwater case at this time because:

    1. The extent of the diesel contamination in groundwater has not been defined.

    2. The southern portion of the site is located adjacent to Santa Rosa Creek.

    3. Co-mingled plumes may exist in this area.

Your August 23, 1995 submittal, in response to our August 14, 1995 request for a workplan was also reviewed. You indicate that "Southern Pacific can not agree to undertake another investigation of its property when clearly the sources are from neighboring sites". You base that determination on the Industrial Compliance report dated July 30, 1992, results of other investigations conducted in the area (including one by the Regional Water Board) and recent testing conducted by GeoMatrix.

Southern Pacific Transportation Company (SPTCo) is being asked to investigate the impact to groundwater in the vicinity of former tanks A (fuel oil) and B (fuel oil).

* Former tank A was located north of West Third Street adjacent to the office yard.

  The analytical results for soil samples collected from B-6 (south of tank A) show the presence of TPH as diesel at 37 ppm. The groundwater results showed the presence of TPHd at 31,000 ppb. The boring log indicates a bluish gray color and odor at 10.5 feet. "Small micelles of black hydrocarbon" were reported at 11.5 feet.

  The Industrial Compliance report indicates that "Further investigations are necessary to assess the origin of the hydrocarbons" referring to the area of former tank A. Our records show the nearest known diesel release site to be located approximately 400 feet to the east. Micelles of black hydrocarbon indicate product which generally is associated with a nearby source.

* Former tank B was located south of West Third Street bordered by Santa Rosa Creek to the south, 175 Railroad Avenue (former Mead Clark Lumber Company) to the east and No. 2 Third Street to the west. The tank was reported to have stored fuel oil (diesel).

  The analytical results for soil samples collected from borings drilled in the vicinity of former tank B (B-5 and B-7) showed the presence of TPH as diesel at 37 and 46 parts per billion at 21 feet below ground surface. The analytical results of groundwater samples from B-5 and B-7 showed the presence of TPH as diesel at 14,000 and 6500 parts per billion, respectively. Gasoline was not reported in the soil and groundwater samples.

  The Industrial Compliance report indicates that the source of contamination in this area is unknown. It further indicates that floating product, which has been detected on the adjacent properties on both sides of the site, appears to be the source of the TPH and dissolved aromatic constituents that were detected in the groundwater in this investigation. Industrial Compliance is referring to the former Mead Clark Lumber Company site and the underground storage tank location north of No. 2 Third Street. Floating product has been reported in these two areas; however, it has been identified as gasoline, not diesel.

The analytical results of soil samples collected from the Regional Water Board soil boring for MW-1 and B-5, located on SPTCo property north of the former tank B, indicate the presence of TPH as diesel from 4 to 30 feet bgs and 4 to 7 feet bgs, respectively. Diesel odors were reported in B-5 from 4.5 to 9 feet. The results may be indicative of a surface spill in that area.

You are welcome to submit any additional information that you have (including the GeoMatrix report that I have been unable to locate) to support your position that the diesel releases in the area of tanks A and B are from other sources. If not, a workplan to define the extent of contamination in those areas is due on or before October 15, 1996. The workplan will need to be prepared by a California registered engineer or geologist with experience consistent with Sections 6735, 7835 and 7835.1 of the California Business and Professions Code.

If you have any questions or would like to meet to discuss this case please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:lmf/sptco

cc: Santa Rosa Fire Department
Sonoma County Environmental Health Services
Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Tony Cohen, Clement, Fitzpatrick & Kenworthy, 3333 Mendocino Avenue, Santa Rosa, CA 95401
Dave Montague, City of Santa Rosa, 69 Stony Circle, Santa Rosa, CA 95401
GeoMatrix, 100 Pine Street, San Francisco, CA 94111

SP Trans Co.
F

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

December 20, 1995

Greg Shepherd
Southern Pacific Transporation Company
Southern Pacific Building
Environmental Services
One Market Plaza
San Francisco, CA 94105

Dear Mr. Shepherd:

Subject: **Interim Guidance on Petroleum Hydrocarbon Cleanups**
Third Street Property, Case No. 1TSR196

The State Water Resources Control Board (State Water Board) contracted with the Lawrence Livermore National Laboratory (LLNL) and the University of California at Berkeley, Davis, Los Angeles, and Santa Barbara to conduct an eighteen-month review of the regulatory framework and cleanup process currently applied to California's leaking underground fuel tanks (LUFT). In October 1995, the LLNL submitted its final report to the State Water Resources Control Board entitled "Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks".

The study concluded that fuel hydrocarbons have limited impacts on human health, the environment, or California's groundwater resources. The costs of cleaning up LUFT fuel hydrocarbons are often inappropriate when compared to the magnitude of the impact on groundwater resources.

The LLNL report will be considered by the California State Senate Bill 1764 Advisory Committee as it drafts recommendations to the State Water Board regarding policy and regulatory changes. The State Water Board will evaluate the LLNL report along with the recommendations from the SB 1764 Advisory Committee to determine needed rule-making changes affecting groundwater cleanup activities related to LUFTs. Regulatory changes, if necessary, will not occur for some time and interim guidance has been provided to the Regional Water Boards by State Water Board staff. The State Water Board is recommending that the Regional Water Boards and the Local Oversight Program agencies:

1. Prioritize the review and closure of low impact cases that require little or no action in order to be closed. The most obvious example is the case where the tank has been pulled, there is no free product, and only soil has been impacted.

2. For low risk groundwater-affected cases (shallow groundwater with maximum depth to water less than 50 feet and no drinking water wells screened in the shallow groundwater zone within 250 feet of the leak), allow passive bioremediation and monitoring, instead of pump-and-treat, soil vapor extraction, and air sparging.

The North Coast Regional Water Board staff currently oversees at least 670 underground tank cases and 120 petroleum-only non-underground tank cases. Staff is commencing an assessment of all these cases to determine where the above guidance is applicable. We will be contacting all interested parties associated with each case in the near future, and intend to apply the above guidance. We emphasize that this guidance is interim and final regulatory changes, if any, will be formally adopted by the State Water Board after appropriate consideration of all applicable information and evidence.

Please contact Joan Fleck or Luis Rivera at (707) 576-2220 if you have any questions regarding this interim guidance.

Sincerely,

Benjamin D. Kor
Executive Officer

BDK:JEF:tab/057

CONTROL BOARD
REGION
AUG 28 '95

Southern Pacific Lines

Environmental Affairs Group
Southern Pacific Building · One Market Plaza · San Francisco, California 94105

G. F. Shepherd
Director Environmental Projects

(415) 541-2545
FAX (415) 541-1325

☐ BK ___ ☐ BK ___
☐ CJ ___ ☒ CJ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ ___
☐ SW ___ ☐ REP
☐ ___ ☐ FILE
ALL STAFF

August 23, 1995

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403

SUBJECT: Southern Pacific Transportation Co, Third Street Property, Santa Rosa Case No 1TSR196

Dear Ms Fleck:

Southern Pacific is in receipt of your letter dated August 14, 1995. We are in touch with Geomatrix to determine the status of the drums noted in your letter. In addition we will contact California Northern who currently operates this section of the tracks to determine drums status. The drums will be secured and sampled for disposal.

In response to your request for investigation, we have reviewed the tank pull reports prepared by Canonie and the investigation report prepared by Industrial Compliance dated July 30, 1992. Although the tank reports by Canonie document that a release from the tanks was not apparent, Southern Pacific agreed to perform additional work on the site to confirm the Canonie findings. The July 30, 1992 report prepared by Industrial Compliance documents that the source of hydrocarbons is clearly not from SPTCo operations.

There have been a number of investigations in the area, including some undertaken by the Regional Board that clearly document upgradient sources of contamination that are migrating to and impacting groundwater beneath, Southern Pacific property. I have contacted Geomatrix with respect to the results of their recent testing in the southern portion of the property. Their testing indicates a similar trend with respect to upgradient sources.

Given the above Southern Pacific, can not agree to undertake another investigation of its property when clearly the sources are from neighboring sites. We will forward a copy of the Geomatrix report to you when it is finalized. Alternatively, we can have Geomatrix submit a brief summary of their findings at this particular location should you desire.

If you have any questions or if I can be of further assistance please contact me at 415-541-2545.

Sincerely,

Greg Shepherd

cc: D. Long
S. Gallardo
K. Montgomery (Karen please see attached letter from the Regional Board and notify California Northern for action)

F

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

August 14, 1995

Greg Shepherd
Southern Pacific Transportation Company
Southern Pacific Building, Environmental Services
One Market Plaza
San Francisco, CA 94105

Dear Mr. Shepherd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa
Case No. 1TSR196

On September 3, 1992 this agency requested a workplan to address the threat and/or impact to water quality in the vicinity of former tanks A, B and C at the subject site. The request was made in response to the July 30, 1992 "Preliminary Soil and Groundwater Investigation" prepared by Industrial Compliance. The report documented groundwater impact from diesel in those areas. As of this date, a workplan has not been submitted. Soil and groundwater cleanup needs to move forward for this area.

Other sources of contamination have been identified and the potential for overlapping plumes exist, particularly in the area of former tanks B and C. In addition, contaminated groundwater, shown to contain gasoline, BTEX, diesel and solvents, continually discharges to Santa Rosa Creek from a small diameter pipe north of the Third Street Bridge. Recent observations and analytical results document the seepage of contaminated groundwater into Santa Rosa Creek from the east bank south of the Third Street Bridge.

Accordingly, a workplan is due to this agency on or before September 15, 1995 to further investigate the impact to water quality in the vicinity of former tanks A (north of Third Street) and former tanks B and C (south of Third Street & North of the Santa Rosa Creek). The extent of contamination needs to be defined and a timely cleanup needs to occur.

On March 30, 1995 I contacted Jeff Nelson of GeoMatrix with regards to drums located on the property that were scattered and in some cases lying on their sides in ponded water. It appeared that some type of environmental work had been conducted on the property. Jeff indicated that GeoMatrix had recently conducted work and a report would be submitted in the near future. At that time I requested that the drums be gathered up and secured.

On June 14, 1995 Jeff called to inform me that drum issue would be taken care of on June 15, 1995. However, as of June 25, 1995 the drums were still scattered on the property.

Please provide this agency with a copy of the GeoMatrix report for our records when it is completed. And, please have the drums gathered and secured as soon as possible. If the drums are no longer needed the contents should be properly disposed of.

I look forward to receipt of the workplan by September 1, 1995 and the GeoMatrix report in the near future. And, thank you in advance for taking care of the drums.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:tab/sptrans

cc: Santa Rosa Fire Department

Sonoma County Environmental Health Services

Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402

Tony Cohen, Clement, Fitzpatrick & Kenworthy, 3333 Mendocino Avenue, Santa Rosa, CA 95401

Dave Montague, City of Santa Rosa Department of Public Works, 69 Stony Circle, Santa Rosa, CA 95401

GeoMatrix, 100 Pine Street, San Francisco, CA 94111

SP Trans Co

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY — PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

TRANSMITTAL

Faxed to Jarbutt 6.7.95 am

date: _____

TO: FINALIZE doc? One pages etc.

Al:

Here is the memo that Craig Johnson was working off when he initially contacted Dale Claypoole last week. Today we got an estimate that we would like to pursue regarding this work. It is from CLEAR HEART DRILLING — copy enclosed.

SUBJECT:

Let me know what else you need.

COMMENTS: Luis Rivera — 6.6.95 16:20
8.590.2656

cc:

For Your Information For Your Review For Your Review & Comment As Requested

If you have any questions, please call Luis G. Rivera (707)576-2656.

May 31. 1995 ***DRAFT # 2***

Memorandum

To: Dale Claypoole
State Water Resources Control Board

From: Benjamin D. Kor
Executive Officer
North Coast Regional Water Quality Control Board

Subject: ***Emergency Request for Funds from the Cleanup & Abatement Account for Abandonment of Two Monitoring Wells***

On June 22, 1989 the State Water Board approved funds from the Cleanup & Abatement Account for the interim cleanup and/or investigation of four sites within the North Coast Region. *SWRCB Resolution No. 89-54* allotted $278,800 for interim cleanup, investigation, and oversight of the projects at the four sites by the North Coast Regional Water Board.

The account for that effort was identified as no. CA61. Our records show that the entire $278,800 was spent. This request is in relation to the "site" known as *Third Street Culvert.*

Four monitoring wells were installed at the Third Street Culvert location in Santa Rosa. Regional Water Board staff discovered that two of the wells (MW-2 and MW-3) have been seriously damaged. The wells are located on Northwestern Pacific Railroad Company property (Attachment A).

The tops of the two well casings were accidentally sheared off. The holes are open. Depth to groundwater is only about 10 feet. The wells are therefore unusable, a serious threat to water quality, and a potential liability to the Regional Water Board. Repair is not cost effective because of the severity of the damage. Furthermore, the subject monitoring wells are no longer needed to complete the investigation of pollution in the area.

The costs associated with well abandonment have been researched and are estimated as follows:

- Well abandonment of two 4 inch diameter 30 foot wells by licensed contractors = $1175 to $1200 for labor and materials.

- Sonoma County Public Health Department permit fee = $200 for both wells.

- Drill cutting characterization and disposal by Regional Water Board Staff = $200.

Estimated cost is $1600. With contingencies, we request authority to spend $2000 to complete this project.

Joan Fleck & Luis Rivera d:wells 5.31.95

CLEAR HEART DRILLING, LLC

Geotechnical & Environmental Drilling Services

DATE: June 6, 1995

TO: CALIFORNIA STATE WATER QUALITY BOARD

ATTENTION: Joan Fleck

DRILLING ESTIMATE

SITE: Santa Rosa, Third & Fifth Sts.

SCOPE OF WORK: Furnishing the labor, equipment and materials, as well as performing the field operations for, first, the drilling, destruction and grouting of (2) 4" monitor wells to 25' maximum. Cuttings will be left on site. Christy boxes and pipe will be removed.

COST ESTIMATE: $1140.00

TERMS & CONDITIONS: All drilling is performed at the direction of the client, and the client assumes full responsibility for locating and avoiding underground utilities or hazards, and all liability resulting from the drill site selection.

Clear Heart is not responsible for the handling, storage, transportation, or disposal of any cuttings, fluids, or hazardous materials created in the course of the work, nor any contamination or adverse effects caused thereby.

All drill sites are accessible with truck-mounted drilling and support equipment unless noted in the scope of work.

The drilling is not in bedrock.

The client is responsible for site security.

Cost estimate is based on no traffic conditions, i.e. drilling in the street or sidewalk, unless noted in the scope of work.

Standby rate is $110/hour.

State and local permits are obtained by client.

Health and safety plans are provided by client.

This price is for Level C & D work.

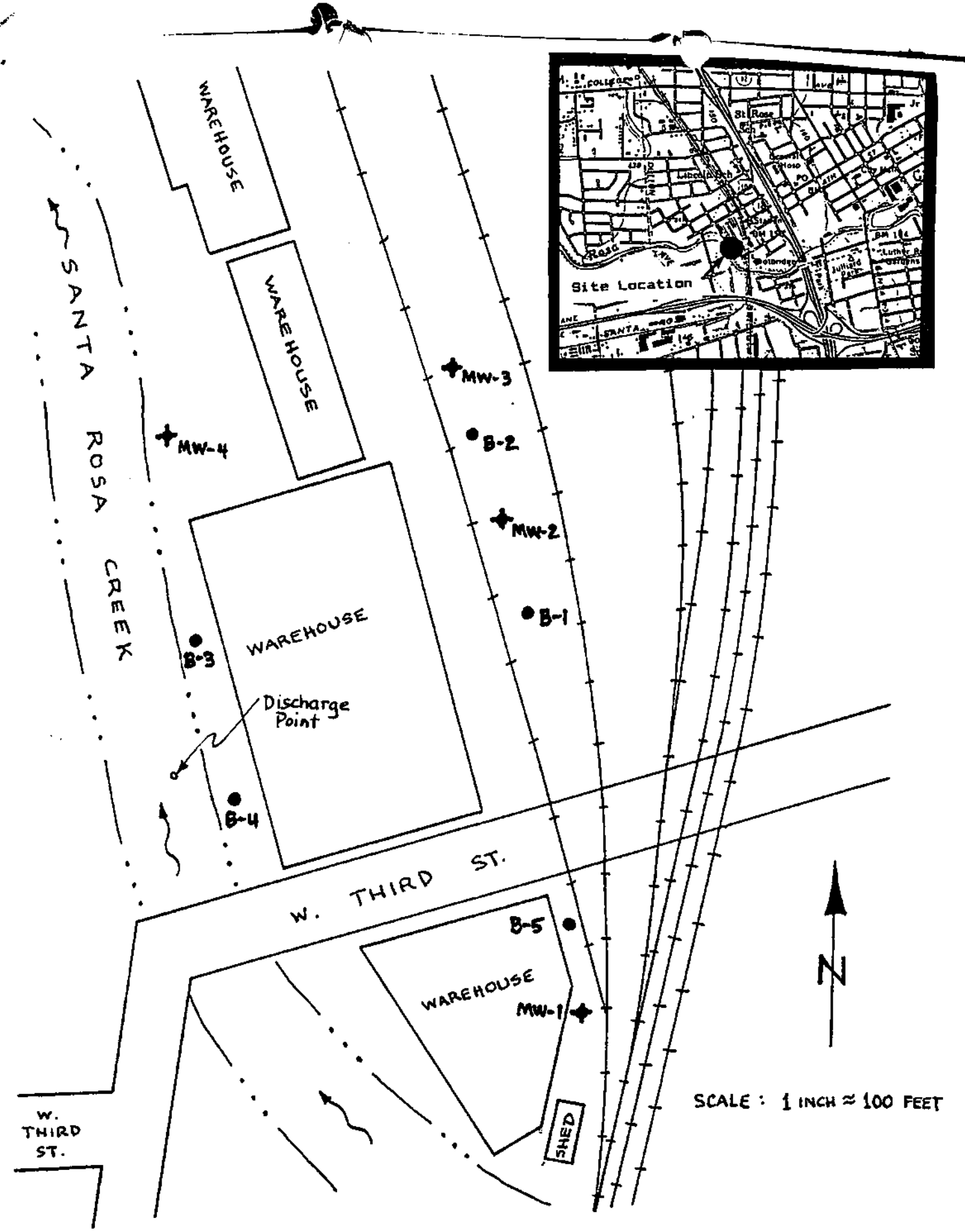
Price does not include well development unless stated in scope of work.

All our crews are 40 hour OSHA-HAZMAT trained for 29CFR 1919.120 with an annual 8 hour refresher and medical surveillance.

Our California C-57 license is deemed current.

Please call if you have any questions. Thank you.

17851 Santa Rosa Avenue • Guerneville, CA 95446 Telephone 707/869-9610 FAX 707/869-9610 Lic. A,B,C-57 #467904



THIRD STREET CULVERT, SANTA ROSA
Site Location Map

Figure 1

State of California
RWQCB Region 1
UGT Unit

INTEROFFICE COMMUNICATION

TO: LGR

DATE: JUNE 5, 1995

FROM: JEF

SUBJECT: WELL ABANDONMENT

ON THIS DAY I SPOKE TO:

CHRIS at WEEKS DRILLING
823-3184
ORIGINAL BID DATE 4/94 $1132.00 OK

CLEARHEART DRILLING
869-9610
Faxed on 6/6/95 See attached
$1140.00

ACTION NEEDED:

SPTrans Co 2nd St.

CONTROL BOARD
REGION 1
JUN 30 '95

COUNTY OF SONOMA – DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION – HAZMAT PROGRAM
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6565

For Office Use Only

Amount paid $213.00 S/B
Receipt number 2-03513
Payment date 06/14/95
Revenue code 1475

APPLICATION FOR MONITORING WELL PERMIT
for Regional Board Lead/Environmental Assessment

☐ BK ☐ RK
☐ CJ ☑ LR
☐ FR ☐ KD
☐ RT ☐ PG
☐ JH ☐
☐ SW ☐
☐ ☐
☐ STAFF ☐

Site ID # 0004 Permit # 95-1471-HMW

Well type: ☐ Monitoring well ☐ Recovery extraction well ☐ Boring ☐ Injection well
☐ Soil gas survey ☐ Hydropunch ☐ Air sparging/venting ☒ Other ABANDONMENT

Well depth 25 Boring depth _____ Hydro depth _____ Air sparging/venting depth _____

On-site well/boring _____ ID # _____ # Off-site well/boring _____ ID # _____

Submit legal right-of-entry/off-site well address/encroachment permit

On-Site Address 175 Railroad

On-Site Owner [illegible] Phone _____

Address [illegible] AP# _____

Responsible Party [illegible] Phone [illegible]

Address [illegible]

Consultant [illegible] Phone _____

Address _____ License #/Type _____

Drilling Contractor [illegible] Phone 869-9610

Address [illegible] C-57 License # 467904

Type of work: ☐ Initial investigation _____ # Wells ☐ Subsequent investigation _____ # Wells ☒ Destruct 2 # Wells

Groundwater investigation due to: ☐ Underground tank ☐ Surface impoundment ☒ Assessment
☐ Surface disposal practice—specify involved industry _____
☐ Other _____

Perforated intervals 5-20' Chemical constituents _____

Disposal method for soil cuttings _____ Disposal method for development water N/A

Drilling method _____ Method of drill equip. rinsate containment _____

If destroying a well, abandonment method [illegible]

Submit plot plan of wells in relation to all sewer or septic lines.

001475D
UST-FEES 213.00
TTLAMT 213.00
CHECKS 213.00
CHANGE 0.00
03513 M2 9:20

Is well to be constructed within:
100 feet of a septic tank or leachfield? ☐ Yes ☐ No
50 feet of any sanitary sewer line? ☐ Yes ☐ No
25 feet of any private sanitary sewer line? ☐ Yes ☐ No 6/14/95

In addition, all monitoring wells must include *identification system* affixed to interior surface:

1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be *affixed* to the *exterior surface* security structure.

RWQCB approval _____ Date _____

Address 175 Railroad
Santa Rosa

Site ID # 0004

Permit # 95-1471-HMW

WORKERS COMPENSATION CERTIFICATE

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 525-6565, 24 hours in advance, to notify the Hazardous Materials Specialist when completing or destroying a well. I will furnish the Director of Public Health and the owner a legible copy of the State Water Well Driller's Report within 15 days in order to obtain final approval on this well. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

☐ A currently effective certificate of Workers Compensation Insurance coverage is on file with this office, *made out in the name of the Sonoma County Public Health Department.*

Jay M. Soule Date 6/14/95

Signature of Well Driller—*no proxies*

Insurance Carrier Golden Eagle Expiration Date 1/1/96

Once all wells/borings are installed, submit a "Letter of Completion" to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH DIVISION

Permit approval by John L Cordeiro Date mk 6/28/95

Constr. approved by _____ Observed? ☐ Yes ☐ No Well # _____ Date ____/____/____

Copies: File–white Driller–yellow Consultant–pink Owner/RP–gold

monwell2.frm (rev. 07/94)

State of California
RWQCB Region 1
UGT Unit

INTEROFFICE COMMUNICATION

TO: File

DATE: July 19, 1995

FROM: Joan

SUBJECT: SP Trans Co. Third St.

After weeks of phone tag, brief discussions and more phone tag Alison with SP Trans Company indicated that the access agreement would be faxed to me by Thursday, July 20, 1995.

I contacted Clear Heart and requested that they schedule the work.

Alison - (303) 812-5174
Janie Moeller (303) 812-5146
Fax (303) 812-5157
} SP Trans Co Contracts

ACTION NEEDED:

State of California
RWQCB Region 1
UGT Unit

INTEROFFICE COMMUNICATION

TO: File DATE: 6/2/95

FROM: Joan

SUBJECT: SP Trans Co. / Third St. Culvert

On this day I left a message with Ed Banks concerning access to the property for well abandonment.

SP. Corporate Office (415) 541-1000

On 6/14/95 Jeff with GeoMatrix called to inform me that they will be taking care of the drums on 6/15/95. The report for the work recently conducted is in progress.

ACTION NEEDED:

State of California
RWQCB Region 1
UGT Unit

INTEROFFICE COMMUNICATION

TO: File DATE: 3/30/95

FROM: Joan

SUBJECT: S.P. Trans Co 3rd & 5th Street

On this day I spoke to Jeff Nelson of Geomatrix. I requested that they retrieve the drums that are scattered about and secure them. I also asked if they conducted work at the site. He said yes, the work was conducted about 1 week ago and they are waiting for the results. A report will be submitted.

He said the work was driven by the sale of the property.

He will call me in a couple weeks to report the drum retrieval project and any information he has at that time.

Jeff Nelson (415) 434-9400

ACTION NEEDED: None

State of California
RWQCB Region 1
UGT Unit

INTEROFFICE COMMUNICATION

TO: File

DATE:

FROM: Joan

SUBJECT: Southern Pacific

SEE: THIRD ST. CULVERT
MEAD CLARK LUMBER CO.
SIERRA, DAVID
FRANCHETTI, PETER

ACTION NEEDED:

DISK1:COMMUNI.FRM

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

September 3, 1992

Tim Becker
Southern Pacific Transportation Company
One Market Plaza
San Francisco, CA 94105

Dear Mr. Becker

Subject: Southern Pacific Transportation Company (SPTCo), Third Street Property, Santa Rosa, CA UGT No. 1TSR196

I have reviewed the "Preliminary Soil And Groundwater Investigation" prepared by IC Industrial Compliance for the above site. These comments are being sent to you as the responsible party for ensuring an adequate investigation and remediation and copies are being sent to your consultant and local involved agencies.

1. Regional Board staff concur that based on the available information it appears that a release of petroleum products has not occurred from the former tanks 24 and 25.

2. Regional Board staff also concur that further assessment is needed associated with the apparent release from the former tank A.

3. Regional Board staff do not concur with the recommendation that no further work is required in the area of former tanks B and C. This recommendation is based on the evidence of floating product being detected on adjacent properties. Please be aware that the former Mead Clark site, which is to the east, has been identified as a gasoline release. The free product detected north of the SPTCo has also been identified as gasoline. If the detections of diesel from grab water samples 5 and 7 were the result of a gasoline release, a higher ratio of total petroleum hydrocarbons as gasoline to diesel would be expected. The lower concentrations of diesel in the groundwater samples would be considered indicative of weathered gasoline. In this case, TPH gas showed no detectable levels. Based on all available information, the SPTCo fuel oil tank is suspect as a source for the diesel contamination in this area.

4. Work conducted previously by the Regional Water Quality Control Board staff on the Southern Pacific Transportation property, indicate the presence of diesel North Coast Regional Water Quality Control Board (NCRWQCB) well No. 3 at 400 parts per billion (ppb). Diesel was also detected in the soil boring for this well at 11 to 30 parts per million (ppm) from 6 to 16 feet. In addition, total oil and grease at 200 ppm and PNAs were detected in NCRWQCB Boring No. 1 at 12 feet.

A workplan will need to be submitted addressing the threat and/or impact to water quality in the areas of former tank A, former tank B and C, NCRWQCB MW-3 and soil boring 1.

It has been brought to our attention that the Southern Pacific Transportation Company property north of Third Street may be involved in real estate transactions in the near future. Regional Board staff are committed to working with you on a schedule that will address your needs.

If you have any questions or concerns please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JEF:tam/sptco

cc: Walter Floyd, Industrial Compliance, 9719 Lincoln Village Drive, Suite 310, Sacramento, CA 95827
Jeff Lewin, Sonoma County Health Department
Richard Deatherage, P.O. Box 6743, Santa Rosa, CA 95406
Peter Franchetti, P.O. Box 408, Santa Rosa, CA 95402-0408
Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Ray Cobb, P.O. Box 19668, Irvine, CA 92713
Days of the West, Inc., 11020 White Rock Road, Rancho Cordova, CA 95670
Edd Clark, 98 Broadmoor Court, Novato, CA 94949
Anthony Cohen, Clement, Fitzpatrick & Kenworthy, 3333 Mendocino Avenue, Santa Rosa, CA 95402
Rick Mosier, Santa Rosa City Public Works Department, 69 Stony Circle, Santa Rosa, 95401

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

September 3, 1992

Tim Becker
Southern Pacific Transportation Company
One Market Plaza
San Francisco, CA 94105

Dear Mr. Becker

Subject: Southern Pacific Transportation Company (SPTCo), Third Street Property, Santa Rosa, CA UGT No. 1TSR196

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If you have any questions or concerns please call me at (707) 576-2675.

Sincerely,

ORIGINAL SIGNED BY

Joan Fleck
Associate Engineering Geologist

JEF:tam/sptco

cc: Walter Floyd, Industrial Compliance, 9719 Lincoln Village Drive, Suite 310, Sacramento, CA 95827
Jeff Lewin, Sonoma County Health Department
Richard Deatherage, P.O. Box 6743, Santa Rosa, CA 95406
Peter Franchetti, P.O. Box 408, Santa Rosa, CA 95402-0408
Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Ray Cobb, P.O. Box 19668, Irvine, CA 92713
Days of the West, Inc., 11020 White Rock Road, Rancho Cordova, CA 95670
Edd Clark, 98 Broadmoor Court, Novato, CA 94949
Anthony Cohen, Clement, Fitzpatrick & Kenworthy, 3333 Mendocino Avenue, Santa Rosa, CA 95402
Rick Mosier, Santa Rosa City Public Works Department, 69 Stony Circle, Santa Rosa, 95401

Calif. Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

SANTA ROSA SEP 2 12 PM CA

U.S.POSTAGE
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WATER QUALITY
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☐_____ ☐REPLY
☐ALL STAFF ☐FILE

Days of the West, Inc.
11020 White Rock Road
Rancho Cordova, CA 95670

DAYS770 347462021 1792 09/10/92

:DAYS OF THE WEST INC
MOVED LEFT NO ADDRESS
UNABLE TO FORWARD
RETURN TO SENDER

Industrial Compliance

9719 Lincoln Village Drive, Suite 310 Sacramento, CA 95827 916/369-8971 FAX 916/369-8370

WATER QUALITY
CONTROL BOARD
REGION 1

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☐ ALL STAFF ☐ FILE

July 30, 1992

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
1440 Guerneville Road
Santa Rosa, CA 95403

Subject: Preliminary Soil and Groundwater Investigation Submittal
Southern Pacific Transportation Company
Third Street Property
Santa Rosa, California
IC Project No. 05383

Dear Ms. Fleck:

On behalf of Southern Pacific Transportation Company (SPTCo), Industrial Compliance (IC) has prepared the attached report presenting the results of a preliminary Soil and Groundwater Investigation on an SPTCo property located on Third Street in Santa Rosa, California.

If there are any question, please contact Mr. Walter Floyd.

Sincerely,

Walter Floyd
Project Geologist

Mark S. Dockum, C.E.G.
Project Manager

WF:MSD:au

Attachments

Dedicated to solving your environmental problems.

A Subsidiary of SP Environmental Systems, Inc.

Interoffice Communication

To: SAW, FILE Date: June 12, 1992

From: JEF

Subject: Southern Pacific Transportation Company, Third and Wilson Street Property, Santa Rosa

On May 18, 1992 I was on-site during drilling activities at the above site. At the time of my arrival they had completed the first three borings which were located at the former two 10,000 gallon gasoline and diesel tank locations. Mr. Walter Floyd, of Environmental Systems who is handling the project, indicated that the first three borings appeared to be clean.

The fourth boring was stopped and relocated due to auger resistance. The second attempt also met auger resistance. At that point Mr. Floyd and myself went to the most southern former tank area to evaluate the feasibility for drilling. Adjacent buildings and overhead power lines were a conflict. The former locations were marked but it did not look good as far as getting the rig in place.

At the time of our return, the fourth boring had been successful. It appears that there may have been concrete debris in the former tank excavation.

The drill rig was moved down to the area south of Third Street. The drill rig was able to drill in the marked spot. The soil appeared to be consistently clay all the way down. At about 22 feet contamination was detected. The clay was a bluish color and contained a strong petroleum odor. The second boring in this area could not be drilled in the desired place and they requested my recommendations. The closest the rig could be situated in relation to the former tank pit was about 6 feet to the west. I said that would be fine. I returned to the office.

I called Mr. Floyd later that week and asked about the remaining work. He indicated that the second boring south of Third Street also had contamination at the soil/groundwater interface, as did the remaining boring north of Third Street east of the tank dispensers. Mr. Floyd indicated on-site that he did not feel the contamination detected was due to railroad tanks and appears to be coming on-site from the Mead Clark site. I told him he'll need to put his reasoning in writing and that I would look at it.

STATE OF CALIFORNIA

OFFICE MEM
STD. 100 (REV. 10-91)

DATE 5/13/92

TO
SAW
FILE

ROOM/STA. NO.

FROM

PHONE NUMBER ATSS ☐

ROOM/STA. NO.

SUBJECT ~~North Western~~ Southern Pacific RR, Third St. SR

Walter Floyd called to inform me that drilling would occur on Monday, May 18th. I'm planning on being out there after 10:00 a.m.

Walter Floyd
Industrial Compliance (SPTCo)
(914) 369-8971

91 62476

STATE OF CALIFORNIA

OFFICE MEMO
STD. 100 (REV. 1/90)

DATE: 5/5/92

TO: SAW
FILE

ROOM/STA. NO.

FROM: JEF

PHONE NUMBER ATSS ☐

ROOM/STA. NO.

SUBJECT: NorthWestern Pacific Trans. Co / 3rd St., S.R.

I called Walter Floyd (916) 369-8971 to find out status of work at above site. He said the County lost their permit package and they had to resubmit. They are planning on work the week of May 11th or May 18th. Walter will let me know so I can be out there.

PROTECT YOUR INFORMATION ASSETS

89 55191

STATE OF CALIFORNIA

PETE WILSON, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
NORTH COAST REGION

1440 GUERNEVILLE ROAD
SANTA ROSA, CA 95403
(707) 576-2220

November 25, 1991

Walter Floyd
Project Geologist
SP Environmental Systems, Inc.
9719 Lincoln Village Drive, Suite 310
Sacramento, CA 95827

Dear Mr. Floyd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California, UGT No. 1TSR196

I have received and reviewed your November 1, 1991 addendum to the soil investigation workplan. I look forward to the implementation of the workplan and addendum at the earliest possible date. Please provide me with a five (5) day notice of drilling so I can schedule a site visit during field activities.

If you have any questions, please call me at (707) 576-2220.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:pcg/jffloyd

cc: Jeff Lewin, Sonoma County Health Department
Santa Rosa Fire Department
Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Ray Cobb, P.O. Box 19668, Irvine, CA 92713
Days of the West, Inc., 11020 White Rock Road, Rancho Cordova, CA 95670
Edd Clark, 98 Broadmoor Court, Novato, CA 94949
Anthony Cohen, Clement, Fitzpatrick & Kenworthy, 3333 Mendocino Avenue, Santa Rosa, CA 95402
Peter Franchetti, P.O. Box 408, Santa Rosa, CA 95402-0408
Rick Mosier, Santa Rosa City Public Works Department, 69 Stony Circle, Santa Rosa, CA 95401

SP ENVIRONMENTAL SYSTEMS, INC.

9719 LINCOLN VILLAGE DR., SUITE 310 SACRAMENTO, CA 95827 (916) 369-8971 FAX (916) 369-8370

November 1, 1991

WATER QUALITY
CONTROL BOARD
REGION 1

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☐ ALL STAFF ☐ FILE

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
1440 Guerneville Road
Santa Rosa, CA 95403

Subject: Addendum to Soil Investigation Workplan
Southern Pacific Transportation Company
Third Street Property
Santa Rosa, California
SPEvS Project No. 05383

Dear Ms. Fleck:

SP Environmental Systems Inc. (SPEvS), on behalf of Southern Pacific Transportation Company (SPTCo), has prepared this addendum to the SPEvS workplan for a Phase II soil investigation dated August 30, 1991. This addendum is in response to your letter dated September 20, 1991.

Your letter indicated that the lateral and vertical extent of hydrocarbons identified in the Regional Board investigation be defined. SPEvS proposes to address this in a separate phase of work after the condition around the former underground storage tanks (USTs) has been assessed.

SPEvS would like to modify the sampling plan in response to your comments. It is proposed that borings be advanced with a core barrel sampler fit within the hollow stem of the lead auger to provide a continuous core of each 5-foot interval. At every 5-foot interval, starting in native soil, a California modified split spoon sampler will be used to collect soil samples into brass tubes as was previously proposed. If the continuous core section shows a change in lithology which could effect contaminant migration, or an interval of obvious contamination, then a sample will be collected by filling a laboratory supplied, 8-ounce glass jar with soil from the continuous cored section.

The borings will be advanced to a depth of 18 to 20 feet below ground surface (BGS), the depth which groundwater was encountered in most of the borings advanced in the Regional Board investigation. A groundwater sample will be collected if there is sufficient standing water in the augers 10 minutes after the 18 to 20-foot depth soil sample has been retracted.

Your letter indicated that the borings advanced in the location of former USTs with a volume less than 1000-gallon would have to be located at the fill or pump end of the UST. The Canonie report describing the tank removal operations dated June 30, 1988, makes no references to the tanks' orientation within the pit. To our knowledge, there is no record as

to which side of the UST was the fill or pump end. With the exception of the two 10,000-gallon USTs, the USTs were only 230-gallon or smaller and one boring in the center would satisfy the intent of re-sampling these USTs.

As required in your letter, there will be two borings advanced in location of each of the two former 10,000-gallon USTs, one at each end of the tank.

It was originally proposed to have all samples analyzed for Total Petroleum Hydrocarbons (TPH) as gasoline and diesel. In response to your letter, samples will also be analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using either EPA Method 8020 or 8260, oil and grease using EPA Method 418.1 or 8270 Modified, and polynuclear aromatic compounds (PNAs) using EPA Method 8270 or 8310. All samples will be analyzed by a state certified laboratory and Tri-Regional quantitation limits will be met.

Please notify us that this addendum will satisfy your requirements for an investigation at the above referenced site. If there are any questions or concerns, please do not hesitate to contact me at (916) 369-8971.

Sincerely,

Walter Floyd

Walter Floyd
Project Geologist

/WDF

cc: D. W. Long, Esq.

STATE OF CALIFORNIA

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
NORTH COAST REGION

1440 GUERNEVILLE ROAD
SANTA ROSA, CA 95403
(707) 576-2220

September 20, 1991

Walter Floyd
Project Geologist
SP Environmental Systems, Inc.
9719 Lincoln Village Drive suite 310
Sacramento, CA 95827

Dear Mr. Floyd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California; UGT No. 1TSR196

I have received and reviewed the August 30, 1991 workplan for the Soil Investigation for the Southern Pacific Transportation Company, Third Street Property. These comments are being sent to you as the responsible party for ensuring adequate investigation and remediation of the site, and copies are being sent to the involved local agencies.

It appears that the objective of the workplan is to provide the data needed to make a more conclusive evaluation concerning the 1987 Southern Pacific Transportation Company removal of five underground storage tanks. The workplan appears appropriate for that objective, but it should be made clear that contamination of soil and groundwater has been detected at the site requiring that the vertical and horizontal extent of contamination be defined.

The following clarifications are needed:

1. The workplan indicates that samples will be collected at every 5-foot intervals. Since the former tank pits were backfilled with clean fill at the time of tank removal, the first sample should be collected from the native soil within 2 feet of the former tank location. From that point, samples should be collected every five feet, at any change in lithology, areas of obvious contamination, and at the soil groundwater interface. If groundwater is encountered a sample must be collected. All the collected samples need to be analyzed. Continuous logging of lithology of all soil borings is preferred.

2. It is proposed that one soil boring will be drilled in each tank pit. The location of the boring for the tanks less than 1,000 gallons should be at the fill or pump end of the tank. For tanks between 1,000 and 10,000 gallons, two borings should be drilled, one on each end of the tank.

3. The workplan states that samples will be analyzed for total petroleum hydrocarbons in the gasoline and diesel range using either a modified EPA Method 8260 or 8015. Please refer to Table

2 of the Tri-Regional Board Staff Recommendations For Preliminary Evaluation and Investigation of Underground Tank Sites (Tri-Regionals) for type of hydrocarbon leak and corresponding analytical tests. Soil and groundwater analyses should include the contaminants that have been detected at the site to date. Methods other than those listed on Table 2 can be substituted but must meet the Practical Quantitation Reporting Limits listed on page 18 and 19. Samples must be analyzed by a state certified laboratory.

I look forward to the implementation of the proposed work at the earliest possible date. I would appreciate a five (5) day notice of the soil boring date in order to schedule a site visit during field activities.

If you have any questions concerning the above comments please call me at (707) 576-2220.

Sincerely,

Joan Fleck
Associate Engineering Geologist

cc: Jeff Lewin, Sonoma County Health Department
Santa Rosa Fire Department
Jean Destruel, P.O. Box 529, Santa Rosa CA 95402
Days of the West, Inc., 11020 White Rock Rd. Rancho Cordova CA 95670
Edd Clark, Edd Clark and Associates, 98 Broadmoor Ct. Novato, CA 94949
Anthony Cohen, Clement, Fitzpatrick & Kenworthy Inc. 3333 Mendocino Ave. P.O. Box 1494, CA Santa Rosa 95402
Mr. T.M. Cobb, T.M. Cobb Company, P.O. Box 19668, Irvine, CA 92713
Mr. Peter Franchetti, North Bay Investment Co., P.O. Box 408, Santa Rosa, CA 95402-0408
Rick Mosier, Santa Rosa City Public Works Department, 69 Stony Circle, Santa Rosa, CA 95401

SP ENVIRONMENTAL SYSTEMS, INC.

9719 LINCOLN VILLAGE DR., SUITE 310 SACRAMENTO, CA 95827 (916) 369-8971 FAX (916) 369-8370

August 30, 1991

WATER QUALITY
CONTROL BOARD
REGION 1

SEP 3 '91

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☐ALL STAFF ☐FILE

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
1440 Guerneville Road
Santa Rosa, CA 95403

Subject: **Soil Investigation**
Southern Pacific Transportation Company
Third Street Property
SPEvS Project No. 05383

Dear Ms. Fleck:

SP Environmental Systems Inc., on behalf of Southern Pacific Transportation Company, has prepared the enclosed work plan for a Phase II soil investigation at the above referenced site. If there are any questions or concerns, please do not hesitate to contact me at (916) 369-8971.

Sincerely,

Walter Floyd

Walter Floyd
Project Geologist

WDF:ekw

Enclosure

cc: D. W. Long

INTRODUCTION

SP Environmental Systems Inc. (SPEvS), on behalf of Southern Pacific Transportation Company (SPTCo), has prepared this work plan addressing hydrocarbon affected soil in the SPTCo Santa Rosa railyard. This work plan is submitted in response to your letter dated July 24, 1991.

BACKGROUND INFORMATION

The California Regional Water Quality Control Board - North Coast Region (Regional Board) conducted a soil and groundwater investigation in the area of West Third Street in Santa Rosa, California, in response to petroleum hydrocarbons from an unknown source being discharged into the Santa Rosa ~~River~~ Creek via the Third Street culvert. As part of this investigation, 3 monitoring wells and 3 exploratory soil borings were placed on the SPTCo yard (see Figure 1). The results of analyses on samples collected during this investigation indicate that there are petroleum hydrocarbons affecting the soil and groundwater.

A total of five underground fuel storage tanks (USTs) were removed from the yard in December, 1987. The results of analyses on soil samples collected during the UST removals indicate that there was no leakage of hydrocarbons into the environment.

The position of one of the Regional Board's monitoring well (MW-1) is in the same general vicinity as a former 230-gallon gasoline storage tank that had been removed by Canonie Environmental Consultants (CEC) for SPTCo in 1987. The soil sample from this pit was analyzed for total extractable hydrocarbons instead of total purgeable hydrocarbons. Because of this, the non-detect that was originally obtained may be considered invalid.

Soil samples collected during the installation of MW-1 by the Regional Board contained elevated hydrocarbon concentrations. The sample from a depth of 5 feet below ground surface (BGS) was analyzed as containing 1550 parts per million (ppm) of oil and grease, 61 ppm of diesel, and 12 ppm of gasoline. The hydrocarbon concentrations apparently decreased with depth until the sample immediately above the water table (17.5 feet BGS) contained only 58 ppm of diesel fuel. Below the water table, the concentrations apparently increased. The

sample at 20.5 feet BGS was analyzed as containing 640 ppm of diesel; at 25 feet BGS there was no detectable concentration , but, at 30 feet BGS the sample was analyzed as containing 1,400 ppm of diesel.

An exploratory boring (B-5) approximately 100 feet north of MW-1 reportedly contained a thin lens (approximately 1-foot thick) of diesel-affected soil at a depth of 5 feet BGS. The concentration in this soil was 140 ppm.

The position of the Regional Board's monitoring well (MW-3) was installed downgradient (assuming groundwater flow is towards the Santa Rosa Creek) of two 10,000-gallon USTs that were removed in 1987. These USTs stored gasoline and diesel fuel.

All of the soil samples collected above the water table during the installation of MW-3 were analyzed as containing between 11 and 30 ppm of diesel. A water sample from this well contained 400 ppb of diesel.

Soil samples from an exploratory boring (B-2) located approximately 100 feet south of MW-3 indicated that there were no detectable concentrations of hydrocarbons in any of the samples from this boring.

PROPOSED SCOPE OF WORK

It is proposed that one exploratory boring be advanced in each of the 5 former UST locations at the Santa Rosa Yard.

The borings will be drilled with a drill rig equipped with 8-inch diameter hollow stem augers. Samples will be collected at every 5-foot interval by driving a California Modified Split Spoon Sampler down the hollow stem of the drilling augers.

Each sample will be collected by driving the split spoon into the soil at every 5-foot interval. The sampler will be retracted and soil samples within removed. The samples selected for potential laboratory analyses will be immediately covered with Teflon sheets and tight fitting end caps. The end caps will be taped to the tube with duct tape. The samples will be labeled

and stored in a cooled ice chest until delivery to a state-certified analytical laboratory following chain-of-custody protocol.

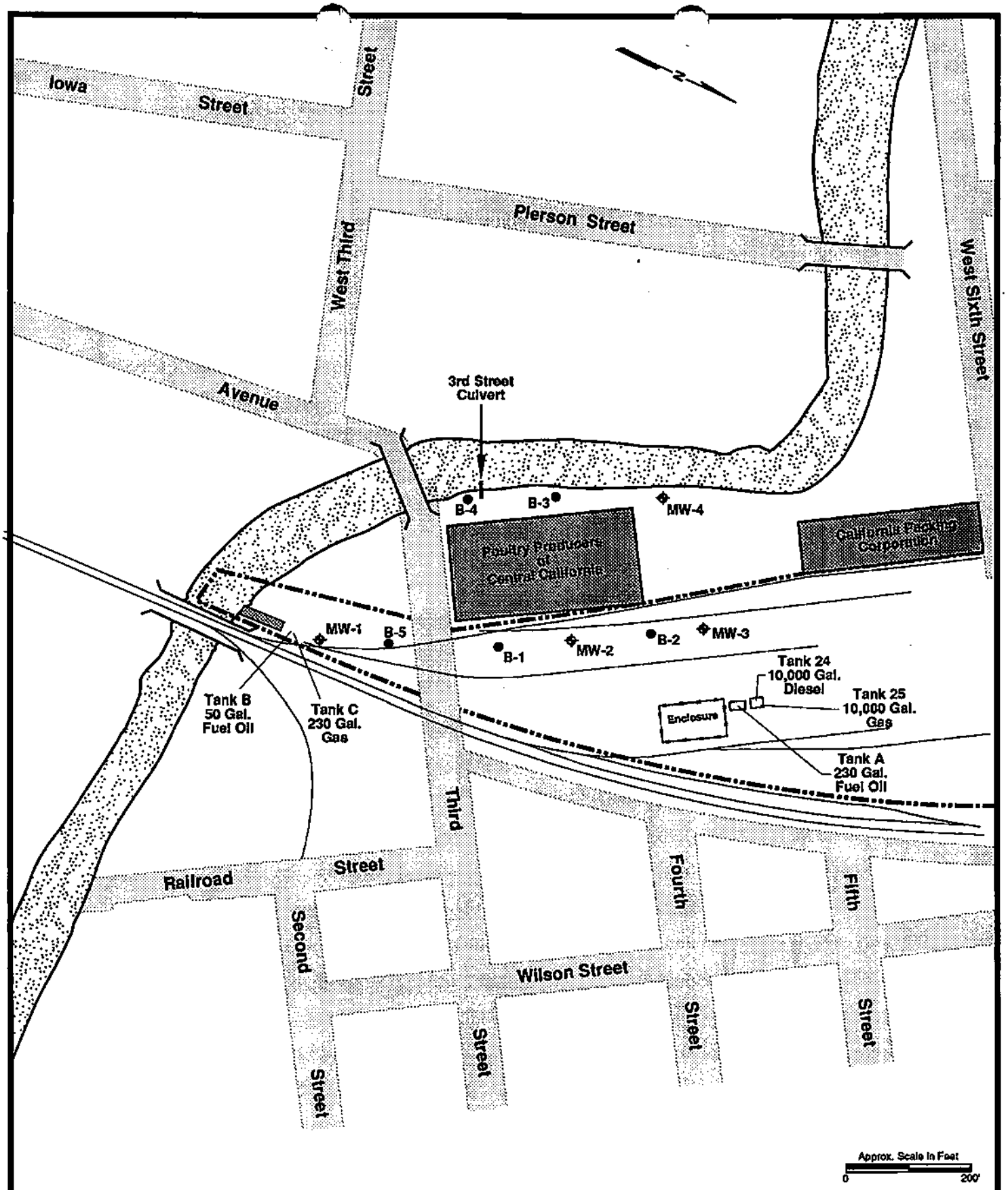
The borings will be advanced until groundwater is encountered or to an approximate depth of 25 BGS, whichever is less. Groundwater is anticipated between 11 to 18 feet BGS. The borings will be backfilled with a cement/bentonite grout upon completion. The cuttings will be stockpiled atop plastic sheeting and covered pending analytical results for their proper disposal.

ANALYTICAL METHODS

The samples collected from the borings will be analyzed for Total Petroleum Hydrocarbons (TPH) in the gasoline and diesel range using either a modified EPA Method 8260 or a modified EPA Method 8015. The samples will be analyzed on a routine turn around time (3-week).

REPORTAGE

Upon receipt of the analytical laboratory reports, SPEvS will generate a report presenting the analytical data, geologic findings, and results and interpretations of the investigation.



SP ENVIRONMENTAL SYSTEMS, INC.	SITE MAP SOUTHERN PACIFIC TRANSPORTATION CO. SANTA ROSA RAIL YARD SANTA ROSA, CALIFORNIA		FIGURE: 1
PROJECT NO: 05383	DATE: 08/29/91		SCALE: as shown
DRAWN BY: PD	CHECKED BY: WF		

05383 Fig 1/disc 42/Phase II SI 0891

STATE OF CALIFORNIA PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
NORTH COAST REGION
1440 GUERNEVILLE ROAD
SANTA ROSA, CA 95403
(707) 576-2220

July 24, 1991

Mr. J. W. Ivanusich
Northwestern Pacific Railroad Co.
1200 Corporate Center Drive
Monterey Park, California 91754

Dear Mr. Ivanusich:

Subject: Third Street Culvert, Santa Rosa UGT No. 1NSR145

As you know, the North Coast Regional Water Quality Control Board has been conducting a soil and groundwater investigation in the area of West Third Street due to a petroleum contamination discharging from a culvert into the Santa Rosa Creek below the Third Street Bridge. The investigation included the installation of three monitoring wells from three of six soil borings located on your property.

Groundwater monitoring results show positive detections for Naphthalene (40 ppb), 2-Methylnaphthalene (18 ppb), diesel (1500 ppb), Benzene (1120 ppb), Toluene (40 ppb), Ethylbenzene (248 ppb), Xylene (200 ppb) and total petroleum hydrocarbons (gas) (6300 ppb) in Monitoring Well #1. Monitoring Well No. 2 was none detected. Monitoring Well No. 3 was positive for diesel at 400 ppb. Soil samples indicate the presence of diesel and polynuclear aromatics (creosote).

Our files indicate that five tanks were removed from the property in December of 1987. It appears that analytical results are inconsistent with field observations, and soil and water samples may not have been collected following Regional Board recommendations. The above detections and inconclusive tank removal data indicate that further assessment is needed to determine the extent of contamination and the threat and/or impact to surface and groundwater. Accordingly, pursuant to Section 13267 of the California Water Code, please submit a workplan no later than September 1, 1991, prepared by a Registered California Engineer or Geologist familiar with groundwater investigations.

Please call me at (707) 576-2220 if you have any questions or concerns. I would be happy to meet with you concerning the above request.

Sincerely,

for Janice M. Hobel
Joan Fleck
Associate Engineering Geologist

JEF:lmf/3rdsp

cc: Jeff Lewin, Sonoma County Health Department
Santa Rosa Fire Department
Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402
Days of the West, Inc 11020 White Rock Rd. Rancho Cordova, CA 95670
Edd Clark, Edd Clark & Associates, 98 Broadmoor Ct. Novato, CA 94949
Anthony Cohen, Clement, Fitzpatrick & Kenworthy Inc. 3333 Mendocino Ave.
P.O. Box 1494, CA Santa Rosa 95402
City of Santa Rosa
Mr. T.M. Cobb, T.M. Cobb Company, P.O. Box 19668, Irvine, CA 92713
Mr. Michael Franchetti, North Bay Investment Co., Inc., P.O. Box 408,
Santa Rosa, CA 95402-0408

SEE THIRD ST. CULVERT
FILE FOR HISTORICAL
BACKGROUND

Southern Pacific
Transportation Company
Southern Pacific Building • One Market Plaza • San Francisco, California 94105

CONTROL BOARD
REGION 1

AUG 15 '90

August 13, 1990

Santa Rosa -- UST

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☐ALL STAFF ☐FILE

Mr. Michael Cloud
Regional Water Quality Control Board
1440 Guerneville Road
Santa Rosa, CA 95403

RE: Third Street Culvert, Santa Rosa

Dear Mike:

I enjoyed meeting with you at the subject site on August 8, 1990. I have completed the questionnaire you sent a few weeks ago and have attached it to this letter.

Based upon our discussion, I checked our files for underground tanks. Southern Pacific Transportation Co. (SPTCo.) pulled five tanks from the study area in December, 1987. Laboratory analyses of soils samples from each of the five tank pits indicated non-detectable levels of BTX, TVPH, TEPH, EDB, and lead. Only one tank, a 50 gallon fuel oil tank, appeared to have corrosion holes. At the request of the Fire Dept. person on site at the time of the pull (Mr. John Zanzi), water found in the tank was sampled for BTX; the results were non-detect for BTX. According to the Fire Dept. Site Report, the tank appeared to be abandoned for many years. There was no evidence of product. I have attached a copy of the tank removal report for your information.

Our files indicate that the Regional Board queried SPTCo. about these same tanks on the same parcel back in 1988. The conclusion on September 21, 1988, by Christine Scheib, Intern Environmental Specialist with the RWQCB, was that the subject case was closed. I have no new information that updates what was provided to your office two years ago.

Per your request, I searched our records for any information regarding an underground fuel tank on former railroad property adjacent to and south of 3rd Street, near the creek. I found no reference to any such tank in the SP files. Records indicate that the property in question was sold by the San Francisco & North Pacific Railroad to California Fruit Canners Association in 1916.

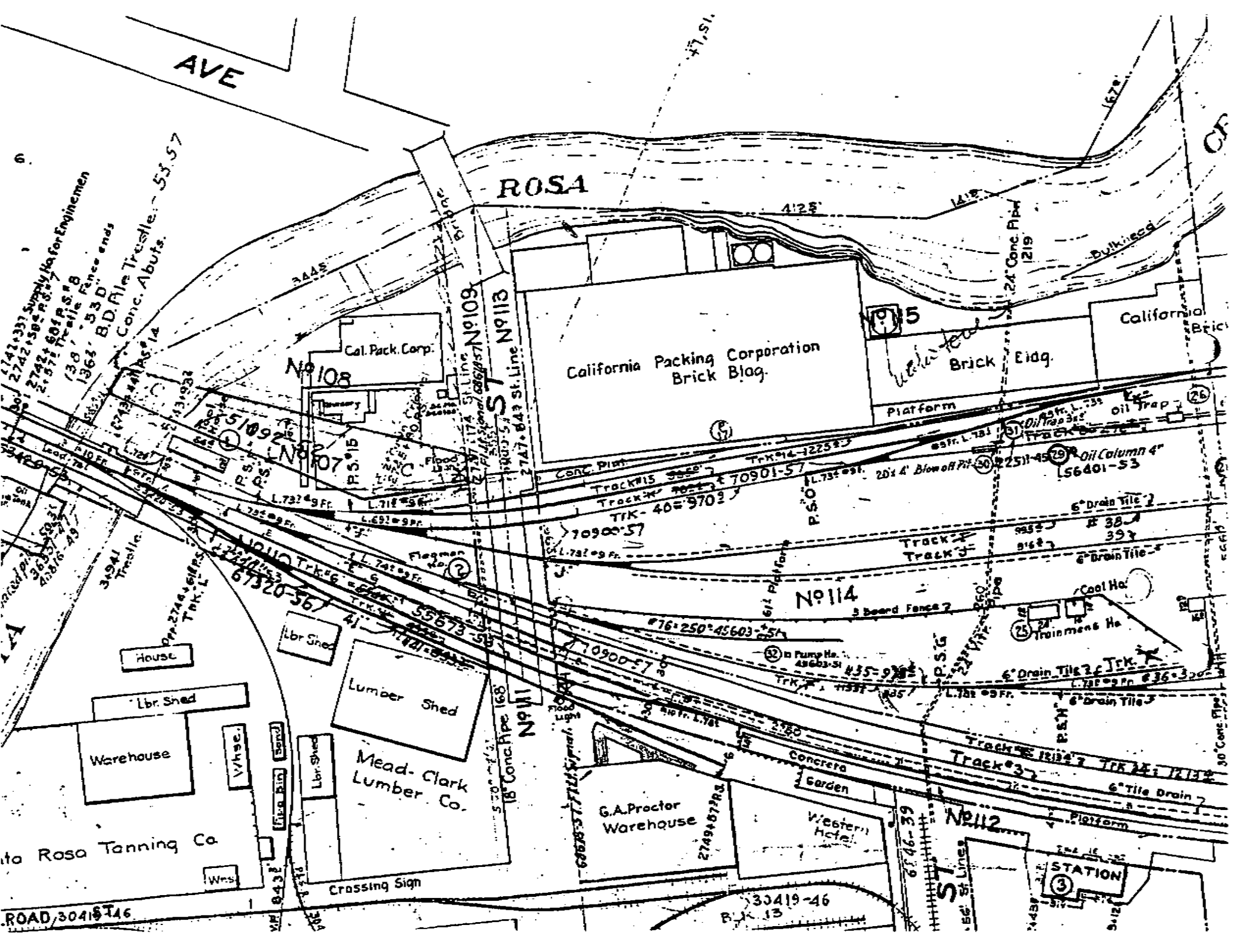
Please call me at 415/541-2559 if I can be of any further assistance.

Sincerely,

Randall T. Smith
SP ENVIRONMENTAL SYSTEMS, INC.

attachment

strosa.rts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ROSA
California Packing Corporation Brick Bldg.
Cal. Pack. Corp.
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No 113
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No 112
Brick Bldg.
Platform
Oil Trap
Oil Column 4"
Track #15
Track #14
Track #3
Track #2
6" Drain Tile
6" Tile Drain
Concrete
Garden
Coal Ho.
Trainmens Ho.
Pump Ho.
Lumber Shed
Mead-Clark Lumber Co.
Warehouse
House
Lbr. Shed
Wheel
Sand
Tank
Wtr.
Rosa Tanning Co.
G.A. Proctor Warehouse
Western Hotel
Crossing Sign
STATION
ROAD/3041 & T46
30419-46
Blk. 13
Flagman
Flood Light
Conc. Pipe
Conc. Abuts.
B.D. Pile Trestle - 53'57
Trestle Fence ends
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Bulkhead
Conc. Pipe
Conc. Plat
Board Fence
Lead
Trk.
Sig.
P.S.
Bridge
St. Line
Curve
Flood Light

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

CHEMICAL STORAGE AND USE QUESTIONNAIRE

I. COMPANY NAME: Southern Pacific Transportation Co.

II. FACILITY ADDRESS: Fourth St. near Wilson, Santa Rosa, CA

III. CHEMICAL STORAGE AND USE AT THE SITE. Complete Sections A-G for all chemicals in current use or that have been used in the past, use additional sheets if necessary.

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: Diesel

C. METHOD OF STORAGE: UNDERGROUND TANK ✓ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 10,000 gal

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: NA

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___ NA

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: leaded gasoline

C. METHOD OF STORAGE: UNDERGROUND TANK ✓ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 10,000 gallons in one tank, 230 gallons in oth

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: Fuel Oil

C. METHOD OF STORAGE: UNDERGROUND TANK X ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 230 gal + 50 gal tanks.

E. WASTE DISPOSAL METHOD: SEWERED ____ HAULED ____ ON-SITE DISPOSAL ____

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: _____

C. METHOD OF STORAGE: UNDERGROUND TANK ____ ABOVE GROUND TANK ____ BARRELS ____
OTHER (specify) _____

D. QUANTITY STORED: _____

E. WASTE DISPOSAL METHOD: SEWERED ____ HAULED ____ ON-SITE DISPOSAL ____

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: _____

C. METHOD OF STORAGE: UNDERGROUND TANK ____ ABOVE GROUND TANK ____ BARRELS ____
OTHER (specify) _____

D. QUANTITY STORED: _____

E. WASTE DISPOSAL METHOD: SEWERED ____ HAULED ____ ON-SITE DISPOSAL ____

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

IV. FACILITY INFORMATION

A. STANDARD INDUSTRIAL CODE (SIC): 4011

B. GENERATOR NUMBER (EPA/STATE): No number for this site

C. BRIEF DESCRIPTION OF OPERATIONS:

Equipment storage at present. Formerly, vehicle fueling, freight loading, passenger train service, and steam locomotive fueling

D. HISTORY: DATE OPERATIONS BEGAN: 1900s, perhaps late 1800s
PRIOR OWNERS: Peter Donahue
J.M. Donahue, John F. Boyce

E. ASSESSOR'S PARCEL NUMBER: 010-171-05; 00-171-04

V. THIS QUESTIONNAIRE SHALL BE SIGNED BELOW AS FOLLOWS:

A. In the case of corporations, by a principal executive officer at the level of vice-president or his duly authorized representative if such representative is responsible for the overall operation of the facility, or

B. In the case of a partnership, by a general partner, or

C. In the case of a sole proprietorship, by the proprietor, or

D. In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

This questionnaire has been completed under penalty of perjury and, to the best of my knowledge, is true and correct.

Signature: Randy T. Smith Date: AUG 13, 1990

Printed Name: RANDALL T. SMITH

Title: Project Consultant Phone: 415/541-2559

Contact Name: _____

Title: _____ Phone: _____

CanonieEnvironmental

Canonie Environmental Services Cor
1625 South Grant Street
Suite 260
San Mateo, California 94402
Phone. 415-573 8012

June 30, 1988

87-055.33

Mr. John Zanzi
Fire Inspector
Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404

Transmittal
Southern Pacific Transportation Company
Underground Storage Tank Removal
Santa Rosa, California

Dear Mr. Zanzi:

On behalf of Southern Pacific Transportation Company, we are submitting the Final Site Report for the underground storage tank removal that was done by Canonie Environmental Services Corp. for Southern Pacific. If you have any questions regarding the Final Site Report, please call us.

Very truly yours,

Alan Muellerleile
Project Engineer

Jeffrey A. Klaiber /SDL
Jeffrey A. Klaiber
Project Supervisor

AM/JAK/ssm

cc: Tim Becker, Southern Pacific

Canonie Environmental

Canonie Environmental Services Corp.
[illegible] South [illegible] Street
Suite 260
[illegible]
Phone [illegible]

June 27, 1988

87-055.33

Mr. Tim P. Becker
Southern Pacific Building
One Market Plaza, Room 1007
San Francisco, CA 94105

Final Site Report
Underground Storage Tank Removal
Santa Rosa, California

Dear Tim:

Enclosed, please find the results of the underground storage tank removal activities performed by Canonie Environmental Services Corp. (Canonie) at the Southern Pacific Transportation Co. (Southern Pacific) rail yard in Santa Rosa, California (Figure 1). This letter summarizes the underground storage tank removals and soil sampling associated with the removal of the five tanks from the site. The work was performed on December 11, 14, and 15, 1987, in accord with the July 17, 1987, engineering agreement between Canonie and Southern Pacific. As detailed herein, Canonie considers these tank removals completed.

In response to the California Administrative Code, Title 23, Chapter 3. Water Resources Control Board, Subchapter 16, Underground Storage Tank Regulations, Canonie was retained by Southern Pacific to remove underground storage tanks from many of their California sites. The activities at Santa Rosa included:

- Removal of one 10,000-gallon diesel tank
- Removal of one 10,000-gallon leaded gasoline tank
- Removal of one 230-gallon leaded gasoline tank
- Removal of one 230-gallon fuel oil tank
- Removal of one 50-gallon fuel oil tank
- Associated soil and ground water sampling
- Backfilled the tank pits with clean soil.
- Compacted the soil to minimize settling.

The tanks were manifested and transported by Erickson Trucking, Inc. as hazardous waste to Erickson Inc's TSD facility in Richmond, California for proper disposal. Copies of the certificates of disposal and uniform hazardous waste manifests are provided in Attachment B.

Tank Removal Activities

The activities associated with removal of the 10,000-gallon diesel tank located beside the fueling island, as shown on Figure 2, consisted of the following:

- Removed one 10,000-gallon diesel tank (Tank 24). The tank removal procedures are outlined in Attachment A. No holes, signs of leakage, or overfilling were noted upon removal.
- Obtained two soil samples at 11 feet below grade, SS-T1-I and SS-T1-O in the tank pit sidewall directly above the soil-water interface. The samples were analyzed for total extractable petroleum hydrocarbons (TEPH). The sampling locations are shown on Figure 2 and sampling methodology and preservation are described in Attachment A.

The activities associated with removal of the leaded gasoline tanks, as shown on Figures 2 and 3 consisted of the following:

- Removed one 10,000-gallon and one 230-gallon gasoline tank (Tank 25, Figure 2; Tank C, Figure 3). A slight discoloration of the soil was evident, but no holes or signs of leakage were noted upon removal.
- Obtained two soil samples, SS-T2-I and SS-T2-O, at 11 feet below grade, directly above the soil-water interface, and one water sample, W-1g, from Tank Pit 25. The samples were analyzed for total volatile petroleum hydrocarbons (TVPH), lead (Pb), ethylene dibromide (EDB) and benzene, toluene, xylene (BTX). Obtained soil sample SS-C1 from Tank Pit C, two feet below the tank. The sample was analyzed for total entractable petroleum hydrocarbons (TEPH). The sampling locations are shown on Figures 2 and 3.

The activities associated with removal of the fuel oil tank located beside the office, as shown on Figure 2, consisted of the following:

- Removed one 230-gallon fuel oil tank (Tank A, Figure 2). No holes, signs of leakage, or overfilling were noted upon removal.

- Obtained one soil sample, SS-A1, 3.5 feet below grade to verify, by laboratory analysis, the observed lack of hydrocarbons in the tank pit. The sample was analyzed for total extractable petroleum hydrocarbons (TEPH). The sampling location is shown on Figure 2 and sampling methodology and preservation are described in Attachment A. Laboratory reports are provided in Attachment C.

The activities associated with removal of the 50-gallon fuel oil tank (Tank B, Figure 3) located south of the motor car shed were as follows:

- Removed the 50-gallon fuel oil tank. Upon removal, approximately 20 corrosion holes were noted in the tank.

- Obtained one soil sample, SS-B1, five feet below grade and analyzed for total extractable petroleum hydrocarbons (TEPH). In addition, a water sample, W-1 F.O. was obtained from water that had apparently infiltrated the tank from the surface. The sample was analyzed for BTX at the request of the on-site representative from the fire department.

Site Condition

From field observations and laboratory analyses, the following statements can be made about the soil and ground water conditions at the tank sites in Santa Rosa:

- Laboratory analyses resulted in nondetectable levels of BTX, TVPH TEPH, EDB and Pb for all the soil samples obtained from the five tank pits.

- The water sample obtained from inside the 50 gallon fuel oil tank (Tank B) showed nondetectable amounts of BTX.

- The water sample obtained from the 10,000 gallon gasoline tank pit (Tank 25) showed nondetectable levels of BTX and 0.05 ppm TVPH.

- During excavation, it appeared as though the slight sheen on the water in tank pit 25 resulted from the residual product that drained out of the product supply line when the line was removed from this tank.

Based upon these observations and analyses, Canonie recommends no additional work be performed at the site in connection with the five tanks that were removed.

In accordance with CAC Title 23, Chapter 3, Water Resources Control Board, Subchapter 16, Underground Storage Tank Regulations and the California Regional Water Quality Control Board, North Coast Region, Guidance on Procedures for Underground Tank Removal and Cleanup, August, 1986, Santa Rosa City Ordinance No. 2534, Section 18-44.80.141, and Chapter 6.5, Division 20 of the Health and Safety Code, August, 1987 regulations governing underground storage tank removals in Santa Rosa, California, copies of this letter and attachments should be forwarded to the following agencies:

Mr. John Zanzi
Fire Inspector
Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404

We appreciate the opportunity to have been of service to Southern Pacific on the project. Should you have any questions or comments, please contact us.

Very truly yours,

Alan L. Muellerleile
Project Engineer

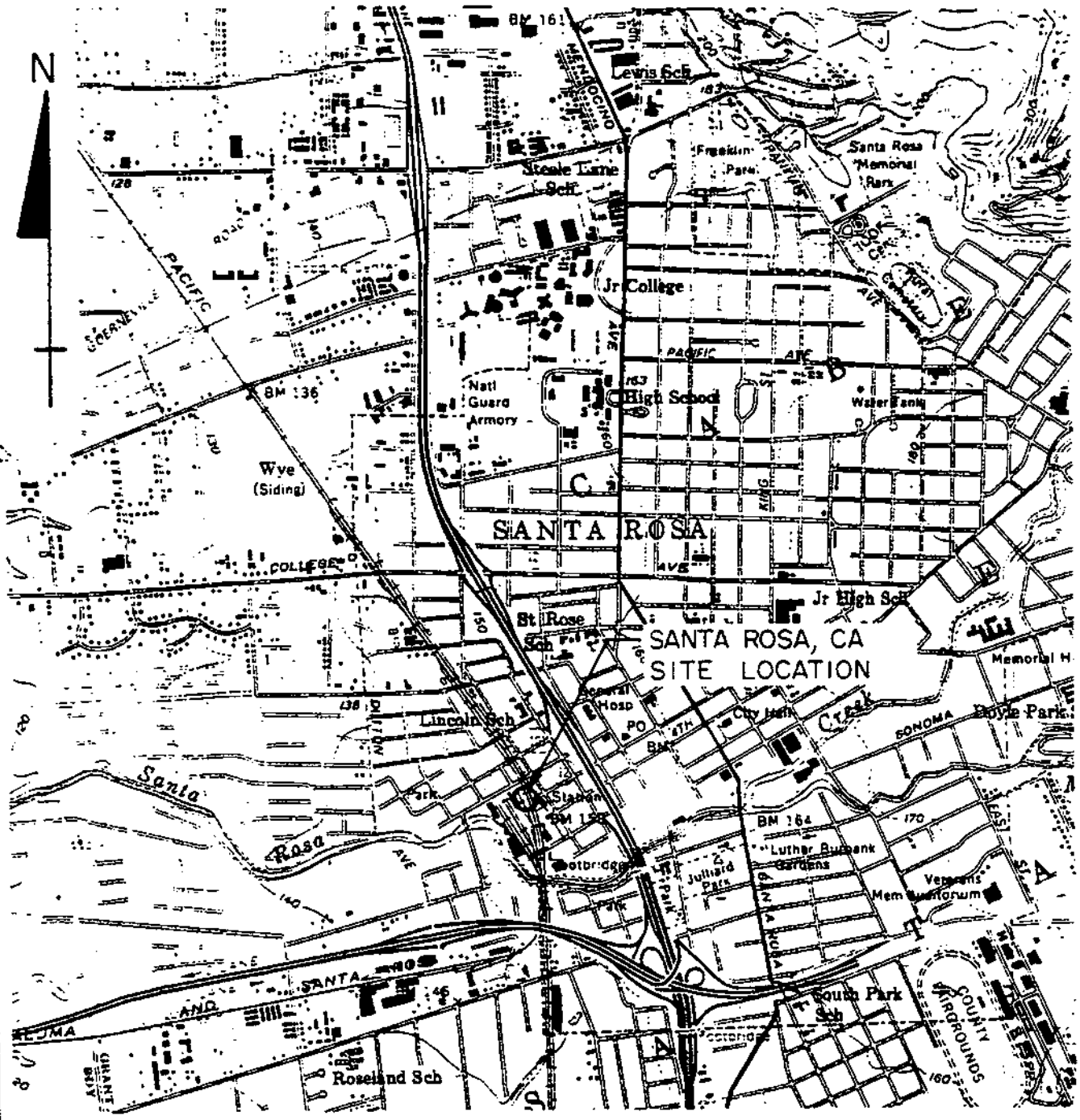
Jeffrey A. Klaiber, P.E.
Project Supervisor

ALM/JAK/ssm

Enclosures

FIGURES

102340



CALIF

QUADRANGLE LOCATION

SITE LOCATION PLAN
SANTA ROSA, CALIFORNIA

PREPARED FOR

SOUTHERN PACIFIC TRANSPORTATION COMPANY

Canonie Environmental

REFERENCE

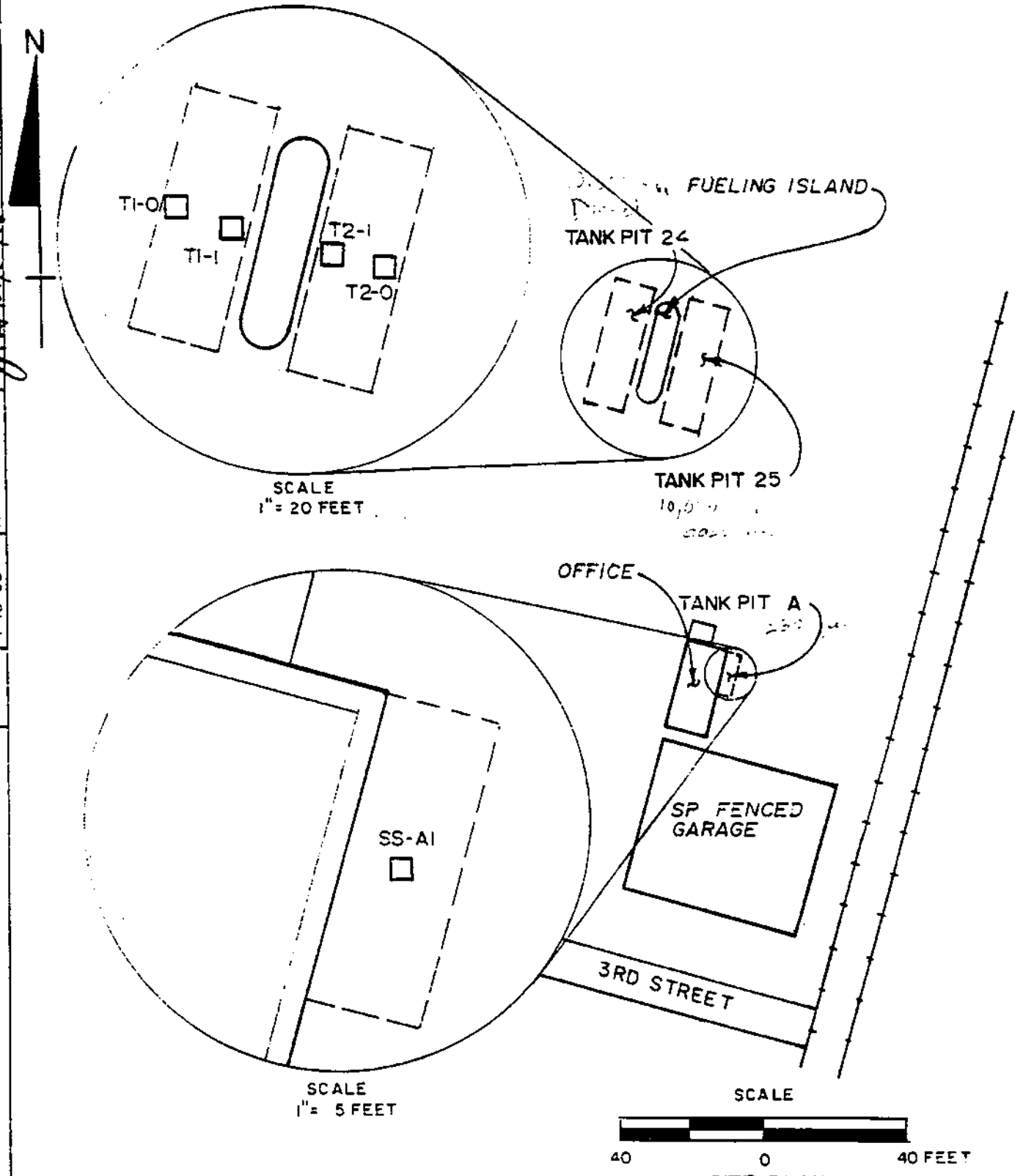
USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED SANTA ROSA, CALIFORNIA
DATED 1954 (REV. 1980)

DATE: 10-22-87	FIGURE 1	DRAWING NUMBER
SCALE AS SHOWN		87-055-A29

REVISIONS	NO	DATE

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
R. HACHER			87-055-A29
10-22-87			

113525



LEGEND:

——— LIMITS OF EXCAVATION

□ SOIL SAMPLE LOCATION

SITE PLAN
SANTA ROSA, CALIFORNIA
PREPARED FOR
SOUTHERN PACIFIC TRANSPORTATION COMPANY

Canonie Environmental

DRAWN BY	L. HART 1-10-88
CHECKED BY	
APPROVED BY	
DRAWING NUMBER	87-055-A142

REVISIONS

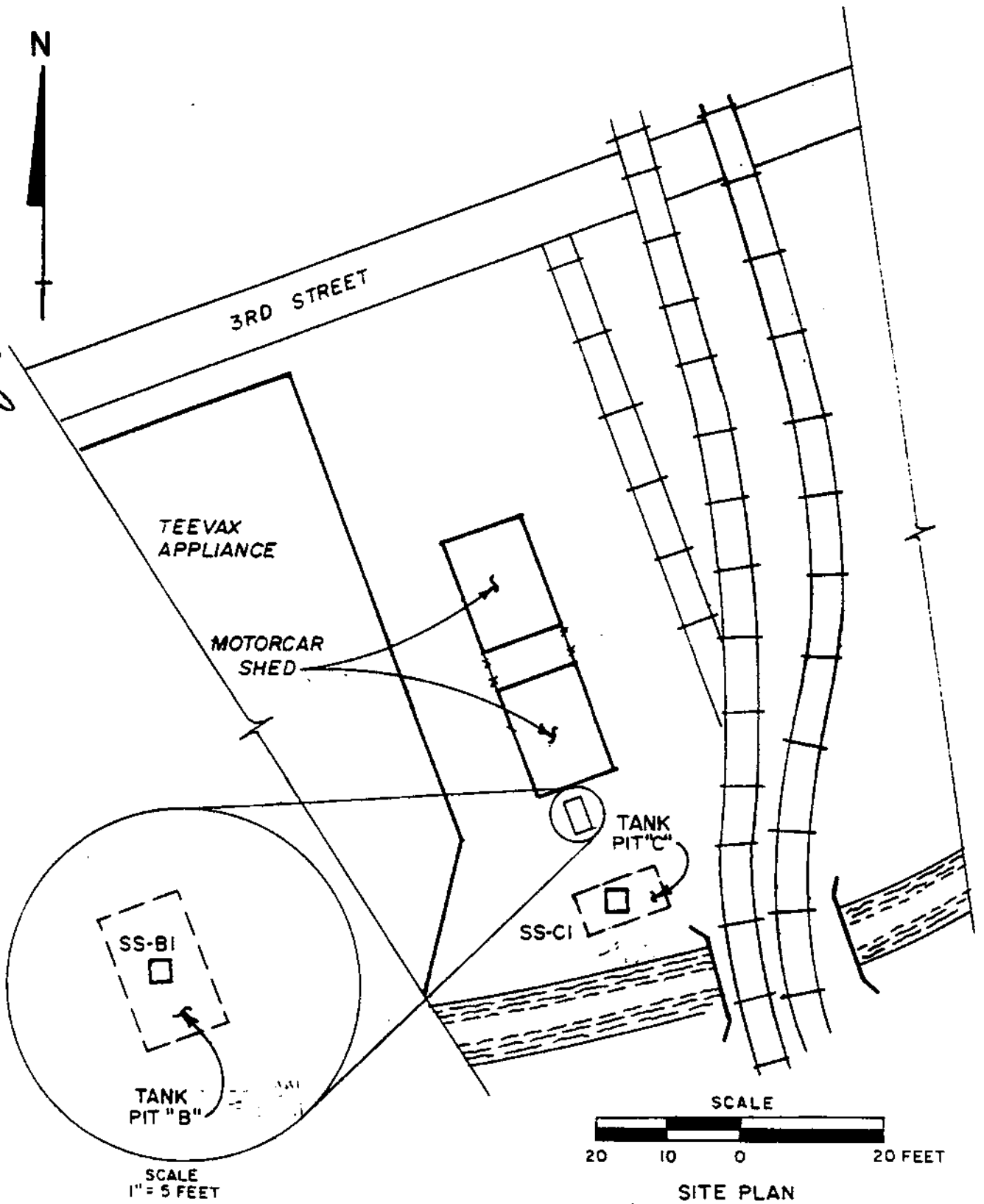
NO.	DATE

DATE: 1-10-88
SCALE: AS SHOWN
FIGURE 2
DRAWING NUMBER 87-055-A142

113926

REVISIONS	NO.	DATE

DRAWN BY	L. HART	1-11-88
CHECKED BY		
APPROVED BY		
DRAWING NUMBER	87-055-A143	



LEGEND:

——— LIMITS OF EXCAVATION

□ SOIL SAMPLE LOCATION

SITE PLAN
SANTA ROSA, CALIFORNIA

PREPARED FOR

SOUTHERN PACIFIC TRANSPORTATION COMPANY

Canonie Environmental

DATE: 1-11-88 SCALE: AS SHOWN	FIGURE 3	DRAWING NUMBER 87-055-A143

Laboratory Report for

Ms. Audrey Ogburn
Canonie Environmental
1825 S. Grant Street, Suite 260
San Mateo, CA 94402

January 7, 1988

By

Canonie Environmental
212 Frank West Circle, Suite A
Stockton, CA 95206
(209) 983-1340

87-055-33-3279

Table 1
Codes of Samples Received
From SP - Santa Rosa
Project: 87-055-33

Sampler ID	Date Sampled	Date Received	Lab ID#	Sample Type	Container
Analysis: BTX					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube
W-1g	12-14-87	12-21-87	722384	Water	40ml vial
			722385	Water	40ml vial
Analysis: Ethylene Dibromide					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube
Analysis: Total Ext. Petroleum Hydrocarbons					
SS-A1 4	12-14-87	12-21-87	722381	Soil	Brass Tube
SS-B1	12-14-87	12-21-87	722382	Soil	Brass Tube
SS-C1	12-14-87	12-21-87	722383	Soil	Brass Tube
SS-T1-I	12-14-87	12-21-87	722377	Soil	Brass Tube
SS-T1-O	12-14-87	12-21-87	722378	Soil	Brass Tube
Analysis: Total Lead					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube

Table 2
Results of BTX Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

01-05-1988
87-055-33-3279
Page 2

Sampler ID:	SS-T2-I	SS-T2-O
Lab ID#:	722379	722380
Analyte(s)		
Benzene	ND 0.2	ND 0.2
Toluene	ND 0.2	ND 0.2
Xylene	ND 0.2	ND 0.2
Total Volatile Petroleum Hydrocarbons	ND 1.0	ND 1.0

Analyst Checked by

Note:
ND X denotes none detected to a level of X.

Table 3
Results of BTX Analysis on Water
Samples Received From SP - Santa Rosa
Results in mg/l

Sampler ID:	W-1g
Lab ID#:	722384
Analyte(s)	
Benzene	ND 0.0005
Toluene	ND 0.0005
Xylene	ND 0.0005
Total Volatile Petroleum Hydrocarbons	0.05

SA
Analyst

MLG
Checked by

Note:
ND X denotes none detected to a level of X.

Table 4
Results of Ethylene Dibromide Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-T2-I	SS-T2-O
Lab ID#:	722379	722380
Analyte(s)		
Ethylene Dibromide	ND 0.020	ND 0.020

Analyst Checked by

Note:
ND X denotes none detected to a level of X.

Table 5
Results of Total Ext. Petroleum Hydrocarbons Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-A1 4	SS-B1	SS-C1	SS-T1-1	SS-T1-0
Lab ID#:	722381	722382	722383	722377	722378
Analyte(s)					
Total Extractable Petroleum Hydrocarbons	ND 10.	ND 10.	ND 10.	ND 10.	ND 10.

Analyst Checked by

Note:
ND X denotes none detected to a level of X

Table 6
Results of Total Lead Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-T2-1	SS-T2-0
Lab ID#:	722379	722380
Analyte(s) Total Lead	ND 5.0	ND 5.0

M.A. Analyst Checked by

Note:
ND X denotes none detected to a level of X.

Table 1
Codes of Samples Received
From SP - Santa Rosa
Project: 87-055-33

Sampler ID	Date Sampled	Date Received	Lab ID#	Sample Type	Container
Analysis: Purgeable Aromatics					
WS-1F.O.	12-14-87	12-22-87	722456	Water	40ml vial

Table 2
Results of Purgeable Aromatics Analysis on Water
Samples Received From SP - Santa Rosa
Results in mg/l

Sampler ID: WS-1F.O.

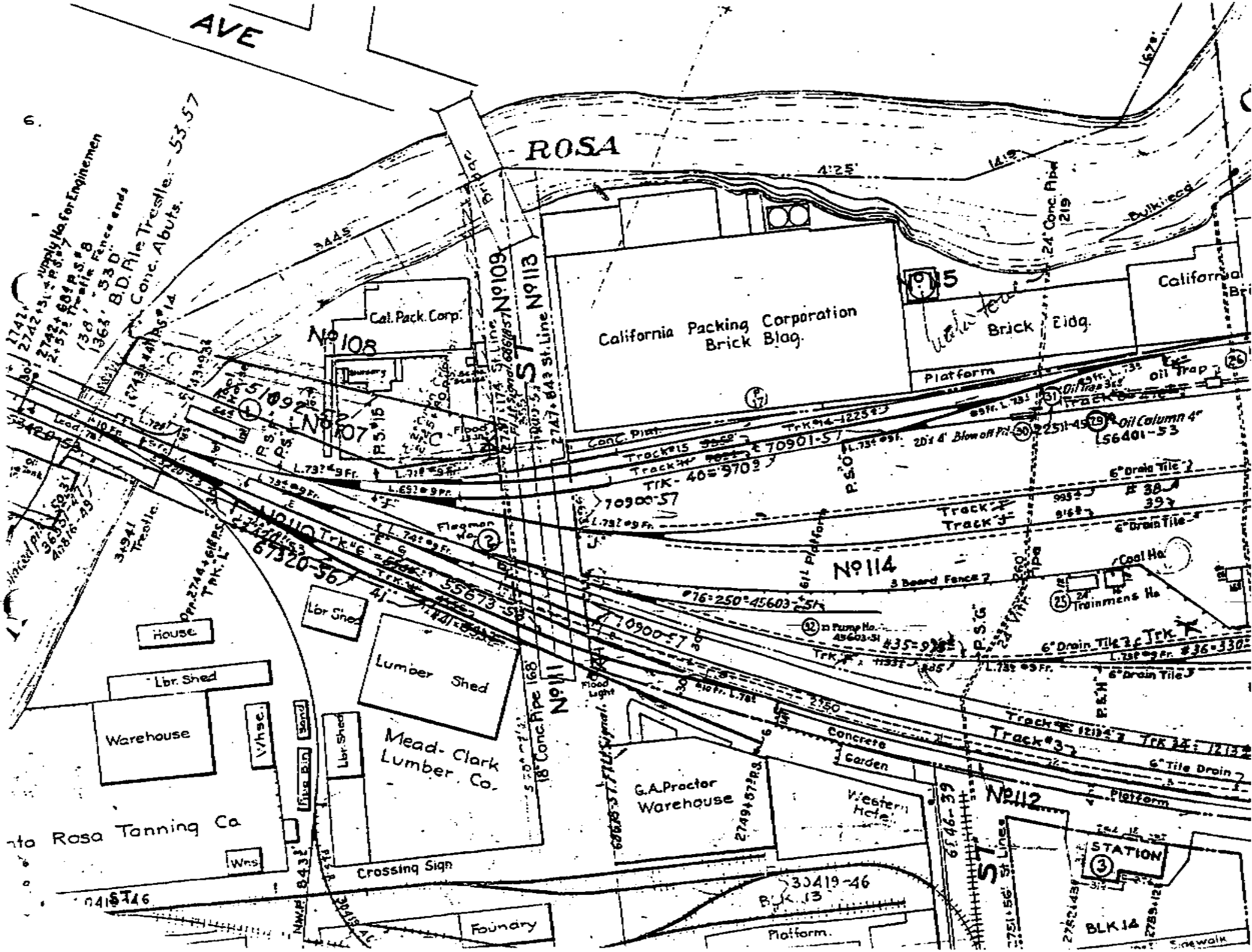
Lab ID#: 722456

Analyte(s)	
Benzene	ND 0.005
Chlorobenzene	ND 0.005
1,2-Dichlorobenzene	ND 0.005
1,3-Dichlorobenzene	ND 0.005
1,4-Dichlorobenzene	ND 0.005
Ethylbenzene	ND 0.005
Toluene	ND 0.005
Xylene	ND 0.005

SA
Analyst

MLG
Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak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Cal. Pack. Corp.
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Mead-Clark Lumber Co.
Warehouse
House
Lbr. Shed
Foundry
G.A. Proctor Warehouse
Western Hotel
Concrete
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1TSR196

Sonoma County

SOUTHERN PACIFIC TRANSPORTATION CO.

3rd Street (South)

Santa Rosa

(JEF

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

North Coast Regional Water Quality Control Board

August 10, 2012

Mr. Jim Diel
Union Pacific Railroad Company
9451 Atkinson Street, Suite 100
Roseville, CA 95747
JEDiel@up.com

Dear Mr. Diel:

Subject: Project Update and Request for Report/Workplan

File: Southern Pacific Transportation Company
3rd Street Property, Santa Rosa, California
Case No 1NSR196

On July 11, 2012, I inspected the excavation at the former Union Pacific 3rd Street property with the Santa Rosa Fire Department. Prior to the inspection, I reviewed the Site Assessment Work Plan dated February 29, 2012, prepared by Anteagroup. The Work Plan states that soil and groundwater samples will be collected, but not analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

Review of the analytical data generated for the site indicates VOCs and SVOCs are present in soil and groundwater at the site. Future soil and groundwater sampling shall include these constituents of concern in the sampling program.

The Work Plan also stated on Page 5, Section 2.3.3 Monitoring Well Installations, that four groundwater monitoring wells will be installed. However, the timing for installation is stated as contingent upon site redevelopment activities. The schedule for well installation is considered vague, and a workplan proposing the locations of the monitoring wells and schedule for installation is needed.

This site has soil and groundwater contamination from underground storage tanks release(s), and from other spills and discharges not associated with underground storage tanks. The majority of the site contamination is related to spills and discharges.

Therefore, reports generated as part of the site investigation and cleanup should be uploaded to Geotracker under the Case No. 1NSR196.

Accordingly, pursuant to Section 13267(b) of the California Water Code, the report of the excavation and boring program, including the monitoring well installation workplan and schedule is requested by September 7, 2012.

If you have any questions, please contact me at (707) 576-2676 or via e-mail at Janice.Goebel@waterboards.ca.gov.

Sincerely,

for

Janice M. Goebel
Sanitary Engineering Associate

120810_JMG_UP3rdstreetupdate

cc: Marita Petersen, SRFD, mpetersen@srcity.org
John Nemeth, SMART, 750 Landro Street, Suite 200, San Rafael, CA 94901
jnemeth@sonomamarintrain.org
Lia Holden, Anteagroup, lia.holden@anteagroup.com

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

North Coast Regional Water Quality Control Board

August 10, 2012

Mr. Jim Diel
Union Pacific Railroad Company
9451 Atkinson Street, Suite 100
Roseville, CA 95747
JEDiel@up.com

Dear Mr. Diel:

Subject: **Request for Cost Reimbursement**

File: Southern Pacific Transportation Company
3rd Street Property
Santa Rosa, California
Case No 1NSR196

The California Water Code (Porter-Cologne Water Quality Control Act), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing cleanup of unpermitted discharges, contaminated properties, and other unregulated releases adversely affecting the water of the State. Historic property uses have resulted in soil and groundwater contamination. Discharges from the above-referenced site threaten to affect the State's water, specifically site groundwater. The beneficial uses of areal groundwater include domestic water supply, agricultural supply, and industrial supply.

Further monitoring, investigation, and cleanup are required, and it is our intent to recover costs for the regulatory oversight. The oversight work includes site inspections, coordination with other agencies, sampling, meetings, case discussions and review of technical reports, workplans, and other related materials. Also, in compliance with AB2507, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;

3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED:

Regional Water Board staff estimate that the following work will be performed during fiscal year 2012/2013 on the Southern Pacific Transportation Company, 3rd Street site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review monitoring reports;
- Review interim remedial action implementation plan;
- Review of reports, and any needed plans to complete investigation of the vertical and horizontal extent of groundwater contamination;
- Meet with and provide written correspondence and telephone communication with representatives of the Union Pacific Railroad Company, Sonoma Marin Area Rail Transit, Santa Rosa Fire Department, and other responsible third parties;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project;
- Encourage public involvement in remediation issues at critical points; and
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and reports;
- Comply with public participation and other needs of the California Environmental Quality Act (CEQA);
- Identify and fill data gaps as needed to develop a final remedial action plan;
- Ensure compliance with the California Environmental Quality Act;
- Ensure consistency with the California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans; and
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress.

BILLING RATES

Enclosure 1 is a description of the billing process and Enclosure 2 is a summary of the billing rates for employees expected to perform the work. The names and

classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $150 per hour.

ESTIMATION OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 60 hours of work related to this site during fiscal year 2012/2013 (July 1, 2012 through June 30, 2013). Based on the average billing rate of $150 per hour, the estimate billing charge for this site during fiscal year 2012/2013 is about $9,000.

Please sign and return to our agency the enclosed acknowledgement form (Enclosure 3) to our Agency by August 15, 2012.

If you have any questions, please contact me at (707) 576-2676 or by e-mail at jgoebel@waterboards.ca.gov.

Sincerely,

for

Janice M. Goebel
Sanitary Engineering Associate

120810_JMG_UP3rd Street_CRLetter

Enclosures:

1. Billing Rate Process
2. Billing Rate Summary
3. Acknowledgement of Receipt

cc: Mr. Toru Okamoto, Cost Recovery Program Manager,
Division of Financial Assistance, SWRCB toru.okamoto@waterboards.ca.gov
Kasey Ashley, RWQCB

REIMBURSEMENT PROCESS FOR REGULATORY OVERSIGHT

We have identified your facility or property as requiring regulatory cleanup oversight. Pursuant to the Porter-Cologne Water Quality Control Act, reasonable costs for such oversight can be recovered by the Regional Water Quality Control Board (RWQCB) from the responsible party. The purpose of the enclosure is to explain the oversight billing process structure.

INTRODUCTION

The Porter-Cologne Water Quality Control Act authorizes the State Water Resources Control Board (SWRCB) to set up Cost Recovery Programs. The Budget Act of 1993 authorized the SWRCB to establish a Cost Recovery Program for Spills, Leaks, Investigations, and Cleanups (SLIC). The program is set up so that reasonable expenses incurred by the SWRCB and RWQCBs in overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely impacting the State's waters can be reimbursed by the responsible party. Reasonable expenses will be billed to responsible parties and collected by the Fee Coordinator at the SWRCB in the Division of Clean Water Programs (DCWP).

THE BILLING SYSTEM

Each cost recovery account has a unique charge number assigned to it. Whenever any oversight work is done, the hours are billed to the account number on the employee's time sheet. The cost of the staff hours is calculated by the State Accounting System based on the employee's salary and benefit rate and the SWRCB overhead rate.

SWRCB and RWQCB Administrative charges for work such as accounting, billing preparation, general program meetings and program specific training cannot be charged directly to an account. This work will be charged to Administrative accounting codes. The Accounting Office totals these administrative charges for the billing period and distributes them back to all of the accounts based on the number of hours charged to each account during that billing period. These charges show as SWRCB Program Administrative Charges and RWQCB Program Administrative Charges on the Invoice.

The Overhead Charges are based on the number of labor hours charged to the account. The overhead charges consist of rent, utilities, travel, supplies, training, and personnel services. If there is no labor charged to the account during the billing period, there will be no overhead charges for that billing period with the exception of the last month of each fiscal year. This is due to the fact that the labor charges end June 30 for the current fiscal year. However, several kinds of overhead charges such as supply orders and travel expenses are paid after the fiscal year ends. The SWRCB Accounting Office keeps track of these charges and distributes them back to all of the accounts based on the number of hours charged to each account for the whole fiscal year that has just ended. Therefore, the quarterly statements for the last month of the fiscal year could show no labor hours charged for the billing period, but some overhead charges could be charged to the account.

Invoices are issued quarterly, one quarter in arrears. If a balance is owed, a check is to be remitted to the SWRCB with the invoice remittance stub within 30 days after receipt of the invoice. The Accounting Office sends a report of payments to the Fee Coordinator on a quarterly basis.

Copies of the invoices are sent to the appropriate RWQCBs so that they are aware of the oversight work invoiced. Questions regarding the work performed should be directed toward your RWQCB case worker. If the responsible party becomes delinquent in their quarterly payments, oversight work will cease immediately. Work will not begin again unless the payments are brought up-to-date.

DISPUTE RESOLUTION

If a dispute regarding oversight charges cannot be resolved with the RWQCB, Section 13320 of the California Water Code provides a process whereby persons may petition the SWRCB for review of RWQCB decisions. Regulations implementing Water Code Section 13320 are found in Title 23 of the California Code of Regulations, Section 2050.

DAILY LOGS

A detailed description (daily log) of the actual work being done at each specific site is kept by each employee in the RWQCB who works on the cleanup oversight at the property. This information is provided on the quarterly invoice using standardized work activity codes to describe the work performed. *Upon request, a more detailed description of the work performed is available from the RWQCB staff.*

REMOVAL FROM THE BILLING SYSTEM

After the cleanup is complete the RWQCB will submit a closure form to the SWRCB to close the account. If a balance is due, the Fee Coordinator will send a final billing for the balance owed. The responsible party should then submit a check to the SWRCB to close the account.

AGREEMENT

No cleanup oversight will be performed unless the responsible party of the property has agreed in writing to reimburse the State for appropriate cleanup oversight costs. You may wish to consult an attorney in this matter. As soon as the letter is received, the account will be added to the active SLIC Cost Recovery billing list and oversight work will begin.

Enclosure 2

SITE CLEANUP PROGRAM (SCP)
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification [1]	**ABR**	**SALARY SCALE**
5396 - Associate Governmental Program Analyst (Statewide)	AGPA	6,116 – 7,434
3756 - Engineering Geologist (SWRCB)	EG	6,405 – 11,707
0760 - Environmental Program Manager I (Managerial) (SWRCB)	EPMIM	9,645 – 10,634
0756 - Environmental Program Manager I (Supervisory) (SWRCB)	EPMIS	8,722 – 10,529
0769 - Environmental Program Manager II (SWRCB)	EPMII	11,128 – 12,274
0762 - Environmental Scientist (SWRCB)	ES	4,277 – 7,938
1441 - Office Assistant (General) (Statewide)	OA	2,883 – 3,850
1441 - Office Assistant (Typing) (Statewide)	OA	2,979 – 3,928
1138 - Office Technician (General) (Statewide)	OT	3,667 – 4,461
1138 - Office Technician (Typing) (Statewide)	OT	3,734 – 4,537
3255 - Principal Water Resources Control Engineer (SWRCB)	PWRCE	13,680 – 15,086
3826 - Sanitary Engineering Associate (Statewide)	SEA	6,894 – 8,378
3782 - Sanitary Engineering Technician (Statewide)	SET	4,748 – 6,625
3261 - Senior Engineering, Water Resources (DWR)	SWRE	10,254 – 13,680
3751 - Senior Engineering Geologist (Statewide)	SEG	11,290 – 13,719
0764 - Senior Environmental Scientist (SWRCB)	SRES	7,576 – 9,143
3844 - Senior Water Resources Control Engineer (SWRCB)	SWRCE	11,290 – 13,719
5778 - Staff Counsel (Statewide)	STCOUN	6,497 – 10,881
5795 - Staff Counsel III (Statewide)	STCOUNIII	10,678 – 13,174
5780 - Staff Counsel IV (Statewide)	STCOUNIV	11,796 – 14,563
0765 - Staff Environmental Scientist (SWRCB)	SES	7,569 – 9,139
4870 - Student Assistant (Statewide)	SA	2,027 – 2,698
4871 - Student Assistant Engineer (Statewide)	SAE	2,783 – 4,164
3748 - Supervising Engineering Geologist (Statewide)	SUEG	11,255 – 13,680
3849 - Supervising Water Resources Control Engineer (SWRCB)	SUWRCE	11,255 – 13,680
3846 - Water Resources Control Engineer (SWRCB)	WRCE	6,405 – 11,647

Operating Expenses and Equipment [2] (both Headquarters and Regional Board offices)

Indirect Costs (Overhead – cost of doing business) 120%

Billing Example

Water Resources Control Engineer		
Salary:	$	11,647
Overhead (indirect costs):	$	13,976
Total Cost per month	$	25,623

Divided by 176 hours per month equals per hour: $ 145.59
(Due to the various classifications that expend SCP resources, an average of $ 150 per hour can be used for projection purposes.)

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

Revised 08-09-11

ACKNOWLEDGEMENT OF RECEIPT OF
CLEANUP AND ABATEMENT COST RECOVERY LETTER

I, _____, acknowledge that I have received and read a copy of the enclosed REIMBURSEMENT PROCESS FOR REGULATORY OVERSIGHT and the cover letter dated **August 10, 2012** concerning cost reimbursement for Regional Water Board staff costs involved with oversight of cleanup and abatement efforts at **Southern Pacific, 3rd Street Property** located at 2 Fourth Street and 34 Sixth Street in Santa Rosa, Sonoma County, California.

I understand the reimbursement process and billing procedures as explained in the letter. I am willing to participate in the cost recovery program and pay all subsequent billings in accordance with the terms in your letter and its enclosures. I also understand that signing this form does not constitute any admission of liability, but rather only an intent to pay for costs associated with regulatory oversight activities. Billings for payment of oversight costs should be mailed to the following:

BILLING CONTACT _____

BILLING ADDRESS _____

_____

_____

TELEPHONE NO. _____

FAX NO. _____

SIGNATURE OF FACILITY CONTACT

_____
(Signature)

_____
(Title)

_____
(Date)

Staff: JMG
Case No. 1NSR196
120810_JMG_UP3rdstreet_CR

Southern Pacific Trans. Company

Ashley, Kasey@Waterboards

From: Lia Holden <Lia.Holden@anteagroup.com>
Sent: Thursday, July 05, 2012 6:14 AM
To: Ashley, Kasey@Waterboards; Anthony Gossner
Cc: Renee Ransom; Sara Sichley; matt.villaber@sonoma-county.org; abe@unitedpumping.com; bobrico@unitedpumping.com; dan_p (dan_p@unitedpumping.com)
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Hi Tony and Kasey,
It appears that Monday will mainly be set-up as the new fence has limited mobility onsite, and it will take a bit longer to set up. There may be time to break ground on Monday afternoon, but Tuesday morning at 8 am is more likely.

Thank you, and please call me if you have any questions. I'll be in all day today, but out tomorrow and back in on Monday.

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose, California 95138

anteagroup

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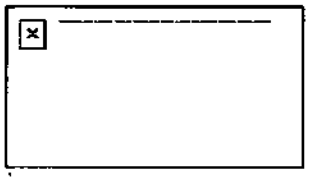
From: Lia Holden
Sent: Thursday, June 14, 2012 4:16 PM
To: 'Gossner, Anthony'
Cc: Renee Ransom; Sara Sichley; dan_p (dan_p@unitedpumping.com); bobrico@unitedpumping.com; abe@unitedpumping.com; 'matt.villaber@sonoma-county.org'
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Hello Tony,
Per our conversation, we've scheduled our excavation (work as proposed in our February 29th work plan) to commence on July 9th, 2012. United Pumping Services will conduct the excavation while Antea Group personnel will conduct sampling activities. Please confirm that Santa Rosa Fire Department will be able to be onsite to oversee sampling activities. We estimate the excavation will take two days to complete removal, followed by backfill activities. We will be using shoring boxes to secure our excavation and, as such, will need to conduct any necessary sidewall sampling as the excavation progresses. I called Marita, but she is out until the 19th, so I appreciate your assistance with getting this notification to the required personnel. Please contact me if you need additional information.

Thanks again for your time,

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose, California 95138



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From: Petersen, Marita [mailto:MPetersen@srcity.org]
Sent: Monday, April 23, 2012 8:02 AM
To: Lia Holden
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Great, thanks Lia.

Marita

Marita Petersen
Fire Inspector I
Santa Rosa Fire Department
2373 Circadian Way
Santa Rosa, CA 95407
Tel. (707) 543-3548 Fax (707) 543-3520
mpetersen@srcity.org www.santarosafd.org

City of Santa Rosa

From: Lia Holden [mailto:Lia.Holden@anteagroup.com]
Sent: Friday, April 20, 2012 8:53 AM
To: Petersen, Marita
Cc: Renee Ransom
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Hello Marita,
We will be out at this site next week conducting assessment work through soil borings under permit obtained from Sonoma County Env. Heath. This portion of the work was detailed in the recently submitted work plan for site assessment. This is not related to the proposed excavation portion (for which Union Pacific's contractor is now working to obtain a permit), but I just wanted to keep you in the loop regarding the current schedule. The excavation work will be scheduled with SRFD once the excavation permit is received.

Thanks Marita,

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose California 95138

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Southern Pacific Transportation Co

Ashley, Kasey@Waterboards

From: Lia Holden <Lia.Holden@anteagroup.com>
Sent: Tuesday, June 26, 2012 3:08 PM
To: Ashley, Kasey@Waterboards
Subject: FW: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street: Scheduled Excavation; Case Nos. 1TSR196 and 1NSR196

Hi Kasey,
It was a pleasure to speak with you. Please find the email trail below regarding our planned excavation activities at the subject site. I'll keep you posted as the schedule progresses.

Thanks again for your time,

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose, California 95138

anteagroup

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From: Moon, Scott [mailto:SMoon@srcity.org]
Sent: Thursday, June 14, 2012 4:22 PM
To: Gossner, Anthony; Pedroia, Mark; Petersen, Marita; Rey, Toby
Cc: Lia Holden
Subject: Re: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Will do.

Sent from my Verizon Wireless 4GLTE smartphone
----- Reply message -----
From: "Gossner, Anthony" <AGossner@srcity.org>
To: "Pedroia, Mark" <MPedroia@srcity.org>, "Moon, Scott" <SMoon@srcity.org>, "Petersen, Marita" <MPetersen@srcity.org>, "Rey, Toby" <TRey@srcity.org>
Cc: "'Lia.Holden@anteagroup.com'" <Lia.Holden@anteagroup.com>
Subject: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street
Date: Thu, Jun 14, 2012 4:20 pm

Excavation begins at the SMART site on July 9th. Scott, please make sure we have someone there to oversee

the process.

Thanks,

Tony Gossner | Deputy Chief
Santa Rosa Fire Department |2373 Circadian Way | Santa Rosa, CA 95407
Tel. (707) 543-3531 | Fax (707) 543-3520 | Cell (707) 484-4351
agossner@srcity.org

City of Santa Rosa

From: Lia Holden [mailto:Lia.Holden@anteagroup.com]
Sent: Thursday, June 14, 2012 4:16 PM
To: Gossner, Anthony
Cc: Renee Ransom; Sara Sichley; dan_p (dan_p@unitedpumping.com); bobrico@unitedpumping.com; abe@unitedpumping.com; matt.villaber@sonoma-county.org
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Hello Tony,
Per our conversation, we've scheduled our excavation (work as proposed in our February 29th work plan) to commence on July 9th, 2012. United Pumping Services will conduct the excavation while Antea Group personnel will conduct sampling activities. Please confirm that Santa Rosa Fire Department will be able to be onsite to oversee sampling activities. We estimate the excavation will take two days to complete removal, followed by backfill activities. We will be using shoring boxes to secure our excavation and, as such, will need to conduct any necessary sidewall sampling as the excavation progresses. I called Marita, but she is out until the 19th, so I appreciate your assistance with getting this notification to the required personnel. Please contact me if you need additional information.

Thanks again for your time,

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose, California 95138

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From: Petersen, Marita [mailto:Mpetersen@srcity.org]
Sent: Monday, April 23, 2012 8:02 AM
To: Lia Holden
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Great, thanks Lia.

Marita

Marita Petersen
Fire Inspector I
Santa Rosa Fire Department
2373 Circadian Way
Santa Rosa, CA 95407
Tel. (707) 543-3548 Fax (707) 543-3520
mpetersen@srcity.org www.santarosafd.org

City of
Santa Rosa

From: Lia Holden [mailto:Lia.Holden@anteagroup.com]
Sent: Friday, April 20, 2012 8:53 AM
To: Petersen, Marita
Cc: Renee Ransom
Subject: RE: Santa Rosa, ca - 2 Fourth Street & 34 Sixth Street

Hello Marita,
We will be out at this site next week conducting assessment work through soil borings under permit obtained from Sonoma County Env. Heath. This portion of the work was detailed in the recently submitted work plan for site assessment. This is not related to the proposed excavation portion (for which Union Pacific's contractor is now working to obtain a permit), but I just wanted to keep you in the loop regarding the current schedule. The excavation work will be scheduled with SRFD once the excavation permit is received.

Thanks Marita,

Lia

Lia Holden, PG | Geologist - Project Manager | USA
Antea™Group
Direct: +1 408 826 1863| Mobile: +1 408 410 9781| Fax: +1 408 225 8506
312 Piercy Road, San Jose California 95138

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California Regional Water Quality Control Board
North Coast Region
Daniel F. Crowley, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

July 9, 2001

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: ANNUAL ESTIMATION LETTER

File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa
Case No. 1TSR196 (201-62)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Board staff estimate that the following work will be performed during fiscal year 2001/2002 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Review reports, and any needed plan to complete investigation of the vertical and horizontal extent of groundwater contamination;
- Review draft remedial corrective action plan;
- Draft and implement public participation plan;
- Begin public participation process on final remedial action plan;
- Review risk assessment report(s);
- Coordinate with Office of Environmental Health Hazard Assessment (OEHHA) on site risk assessment reports and risk evaluation;
- Initiate public participation on risk assessment findings and draft remedial action plan;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific and other responsible third parities;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and report;
- Complete initial public participation documents;
- Identify and fill data gaps needed to develop draft and final remedial action plan;
- Implement preferred remedial alternative;
- Ensure compliance with California Environmental Quality Act;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and
- Address final corrective action plan.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $80.00 per hour.

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: www.swrcb.ca.gov."

California Environmental Protection Agency

Recycled Paper

ESTIMATE OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 60 hours of work related to this site during fiscal year 2001/2002 (July 1, 2001 through June 30, 2002). Based on the average billing rate of $80 per hour, the estimated billing charge for this site during fiscal year 2001/2002 is about $4800.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JEF:tmk\sptransco201-62.doc

Enclosure:
Billing Rates Description

cc: Mike Harper, SWRCB, Division of Clean Water Programs 201-62

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: www.swrcb.ca.gov."

California Environmental Protection Agency

Recycled Paper

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUP PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification[1]	ABR.	SALARY SCALE
Student Assistant	SA	1594 - 2123
Student Assistant Engrng.	SAE	2085 - 3120
Office Assistant	OA	2160 - 2884
Office Technician	OT	2748 - 3341
Environmental Specialist I	ESI	3204 - 3850
Sanitary Engineering Technician	SET	3557 - 4962
Engineering Geologist	EG	3830 - 5324
Water Resources Control Engineer	WRCE	3830 - 6590
Environmental Specialist II	ESII	3893 - 4690
Associate Governmental Program Analyst	AGPA	4581 - 5568
Environmental Specialist III	ESIII	4925 - 5946
Sanitary Engineering Associate	SEA	5165 - 6276
Associate Engineering Geologist	AEG	5169 - 6283
Environmental Specialist IV	ESIV	5670 - 6846
Senior Water Resources Control Engineer	SWRCE	5952 - 7232
Senior Engineering Geologist	SEG	5952 - 7232
Supervising Water Resources Control Eng.,	SUWRCE	7224 - 7968

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	10% of salaries and benefits

Billing Example

Sanitary Engineering Associate		
Salary:	$	5,165
Overhead:	$	5,165
Admin.: State Board	$	775
Regional Board	$	516
Total Cost per month	$	11,621

Divided by 176 hours per month equals per hour: $ 66.03
(Due to the various classifications that expend SLIC resources, an average of $80.00 per hour can be used for projection purposes.)

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

Carousel Carpet Mills, Inc.
One Carousel Lane
Ukiah, CA 95482
707 485-0333
707 485-5911 Fax

Laura Petrich-Whiting
Director

4876 Parktrail Drive
Santa Rosa, CA 95405
707 538-3388
E-mail: whiting@sonic.net

www.
GoSonoma
.com

5/14/01

Joan,

Thank you for your help in understanding the water issues related to the "Optic" property.

#9 Fourth St., Santa Rosa, CA 95401

Enclosed are the articles I mentioned. I apologize for the delay in getting them off to you. Thank you for listening to me! I really appreciated it. Laura

(P.S. Jim & I worked on this article)

9/5

Giants' Russ Ortiz delivers a pitch in the fifth.

Giants, A's win with shutouts C1

Rams beat Broncos, 41-

2 killed on Hwy. 101; man drowns in Bodega Bay

B1

THE Pre DEMOCRA

Santa Rosa, California, Tuesday, September 5, 2000 143rd Year, No. 320c

Quake damage now at 2,500 structures, cost up to $1

Napa to ask for emergency funds

By LORI A. CARTER
Staff Writer

NAPA — Unable to go back into her red-tagged house, Etta Crocker toted her indispensable belongings around with her in an oversized black purse.

"As it is, my life is in the bag," she said Monday afternoon at Red Cross headquarters, an hour after learning her earthquake-damaged house had been condemned by building inspectors.

As of late Monday, Crocker's small turn-of-the-century wood-frame home on Pueblo Avenue was the only residence in Napa to be declared unsafe, although city officials estimate as many as 2,500 structures suffered some kind of damage from Sunday morning's 5.2-magnitude quake.

Geologists studying the impact of the quake differed in their interpretations of the temblor Monday and noted it will be weeks before accurate fault information is collected.

The impacts on a Kragen Auto Parts store on Trancas Street, however, were easily discernible Monday. The store was red-tagged by building officials, preventing anyone from entering. Large plywood sheets replaced about a dozen plate glass windows and signs told cus-

See Quake, Page A6

Nathan Schank was hit by pieces of his family's falling fireplace.

5-year-old quake victim

By ROBERT DIGITALE
Staff Writer

Five-year-old Nathan Schank, severely injured when his family's home fireplace collapsed during Sunday's earthquake in Napa, improved slightly Monday following five hours of surgery the day before.

"We're cautiously optimistic," Oakland Children's Hospital spokeswoman Carol Hyman said Monday evening. "He still is in critical condition, but there have been signs of

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nitude

"It would be an honest part of the community, a place for small specialty

Air tra

"It would be an honest part of the community, a place for small specialty farmers to showcase their product." **JAMES BRECHT ON PROPOSED WINE CENTER IN SR**

PHOTOS BY KENT PORTER/PRESS DEMOCRAT

In a photograph taken looking south is the wedge of land, west of Old Railroad Square, top left, that is the proposed Santa Rosa site of a county wine and food center.

SR food and wine showcase proposed

$18.5 million

public events, according to a fea-

Air tra delays to get

No easy answer for sky gridlock

By LAURENCE ZUCKERMAN and MATTHEW L. WALD
New York Times

Today ends the second straight summer travel season of chronic flight delays and cancellations across the United States, and despite billions of dollars spent and repeated warnings in the last decade of impending air traffic gridlock, there is no solution in sight.

Most experts now believe that delays, which have risen nearly 50 percent during the last five years, will become worse, not better.

The Federal Aviation Administration, which runs the air traffic system, predicts that by 2010 the number of airline passengers will rise 59 percent, to 1 billion. About 70 percent of that increase is expected to occur at the country's 28 largest airports.

"I don't think there is anything on the drawing board right now that you can say with any credibility is the answer," said Kenneth Mead, the inspector general of the Transportation Department, parent agency of the FAA.

"We wish there was a silver bullet," said Jane Garvey, the FAA administrator, "but there is not."

PHOTOS BY KENT PORTER/PRESS DEMOCRAT

In a photograph taken looking south is the wedge of land, west of Old Railroad Square, top left, that is the proposed Santa Rosa site of a county wine and food center.

SR food and wine showcase proposed

$18.5 million projected cost

By BOB NORBERG
Staff Writer

A proposed $18.5 million center to showcase Sonoma County's wine and food industry would require private donations to build, but could generate enough income to be self-sufficient, according to a new study.

The Sonoma County Food and Wine Marketplace would house a food and wine pavilion, a farmers market, culinary classrooms and kitchens, a restaurant and indoor and outdoor facilities for public events, according to a feasibility study.

The study, due to be released in two weeks, recommends the facility be built on a wedge-shaped rail yard at Santa Rosa's historic Railroad Square.

The six-month, $37,000 study was commissioned by CityVision, a citizens group formed to revitalize downtown Santa Rosa, and was a recommendation of an urban design team two years ago.

The next step is to form a nonprofit foundation and begin looking for funds.

"It would be a project that supports all of the different parts of the county," said architect James Brecht, co-chairman of the CityVision committee studying the project. "It would be an honest part of the community, a place for small specialty farmers to showcase their product."

The center would offer Sonoma County's 1,300 farmers, winemakers, cheese makers, olive oil producers and other specialty food producers a place to sell

See Center, Page A6

Architect James Brecht and Lorna Whiting are co-chairpersons on the CityVision committee proposing the food and wine center for Old Railroad Square in Santa Rosa.

Running mates a contrast in style

By DAVID BARSTOW
New York Times

■ *Labor Day campaign kickoff A3*

Last week in a steamy union hall in Chicago, some 1,300 rowdy Democrats roared the now-ritualistic chant "Go, Joe, go!" as Mayor

an aide, Lieberman began a folksy stump speech that was interrupted by applause, laughter and more

of encouragement in Hebrew.

The next morning, 400 miles away in Kansas City, Mo., fewer than 75 people waited for Dick Cheney, the Republican nominee for vice president, to speak at the

peated warnings in the last decad
of impending air traffic gridlock
there is no solution in sight.

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Transportation Department, paren
agency of the FAA.

"We wish there was a silver bul
let," said Jane Garvey, the FAA ad
ministrator, "but there is not."

The story of how the nation's ai

Continental piece linked to Concorde crash

By SUZANNE DALEY
New York Times

PARIS — A metal strip that inves
tigators believe may have led t
the fiery crash of an Air France
Concorde in July apparently came
from a Continental Airlines DC1
that had taken off from the same
runway only minutes before the
Concorde, the French agency inves
tigating the disaster said Monday.

The agency said that an identical
metal band that is believed to have
gashed a tire on the supersonic jet
causing huge chunks of rubber to
pierce the plane's fuel tanks, was
reported missing by Continental.

"The characteristics of the miss
ing piece seem identical to those of
the metal piece which was found
on the runway after the accident
on July 25, 2000," a statement is

iday weekend and the grape
ash that draws visitors.
Meanwhile, Crocker's son, Mark
who is in the construction busi-
ss and specializes in foundations
retrieved as many of his moth-
s belongings from the foundation-
s house as he could Monday.
The whole house sank to the
ht and the left in one bedroom,"
said. "The ceilings are all drop-
g, all the water pipes are bro-
. It's pretty much gone."
Ie shook his head at the dam-
.
We never got around to my
m's foundation," he said.
he earthquake occurred at 1:36
. Sunday, three miles west-
thwest of Yountville near Mt.
der, according to the U.S. Geo-
cal Survey. Geologists' opinions
ered Monday about what the un-
al Napa Valley quake means.
USGS scientist said the quake
yield clues to why shaking can
worse in one direction from a
blor than it is in another.
Probably what happened is the
hquake started at the north end
ruptured to the south, and di-
ed energy down to the Bay
a," said geologist David
vartz.
e said the impact was hardly
at St. Helena, just a little north
ountville.
he only indication of shaking
e immediate area of the epi-
er was a concentration of rock
" Schwartz said.
t Charles Watson, chief geolo-
for Seismo-Watch, a Reno-
d earthquake monitoring ser-
used by the Press Democrat,
his data more likely suggests
uake began in a fault zone that
northeast of the epicenter.
here is not a whole lot of infor-
on about those areas," he said.
nwartz said a study of Sunday's
e could yield a better under-
ing of such seismic "directivi-
Scientists will be collecting
from strong motion sensors in
region during the next few
s and comparing damage and
tructure.
quake on the fault such as the
n Napa on Sunday, or even a
r one, would not be a surprise,
artz said.
ese kinds of 5.2-magnitude
quakes can occur on very
faults."

*can reach Staff Writer Lori A.
at 521-5205 or e-mail at
@pressdemocrat.com.*

OR THE RECORD

Press Democrat uses this space to
errors that appear in the news col-
Please call the newsroom at
35 to report errors.

Center

Continued from Page A1

their products, according to the study.

Santa Rosa Junior College could have its culinary arts and wine programs there, training chefs, culinary workers and marketers.

A delicatessen could serve the 90,000 employees who work within five miles of the proposed center, and the site could be a jumping-off point for tourists to other parts of Sonoma County and a depot for a Napa Valley-style wine train.

Essentially, it would be the center of Sonoma County's agriculture, grape, wine and food industries, giving local residents and visitors what they don't have now: "Something to put their arms around," said chef John Ash, part of a citizens committee studying the facility.

"I travel all over the world and while people have heard of Sonoma County food and wine, they come here and there's no way to see it, there is no center," Ash said.

The center is projected to draw 25,000 people a week and generate annual sales of $15 million and revenues of $2 million, according to the feasibility report.

And although the $18.5 million price seems steep, such a project could have broad appeal to wineries, growers, tourism, and Railroad Square and downtown Santa Rosa merchants, said Kay Marquet, executive director of the Sonoma County Community Foundation.

With the booming telecommunications and dot-com worlds, "There's a lot more money here than ever before," Marquet said.

The feasibility study outlining what the project could contain, and how it would be built and supported, was written by Ted Spitzer, author of "Public Markets and Community Revitalization" and manager of the Portland Public Market in Portland, Maine.

The marketplace would be constructed on 7.5 acres of land owned by the Northwestern Pacific Railroad, next to the historic Railroad Square Depot.

Historically, the area was the produce center of Santa Rosa, with the Del Monte cannery, Franco-American Bakery, the Grace Brothers Brewery, Little Italy, Western Farm Supply, restaurants and small farms nearby.

The project would include a privately built, four-story parking garage with retail stores and condominiums.

PRESS DEMOCRAT

The proposal calls for a three-story hall, with 28 vendors in 12,000 square feet of permanent booths, selling such things as bread, pastries, meat, poultry, produce, seafood, specialty ethnic food, wine and beer, and plants and flowers, according to the plan.

It would be a permanent market, open six or seven days a week.

On the second floor would be demonstration kitchens and classrooms for Santa Rosa Junior College and community education in cooking and wine.

Michael Salinger, coordinator of the SRJC cooking program, said the school is interested in the hall as a location for its culinary arts program, which has 350 students and has outgrown its Santa Rosa campus location.

"It'd be an ideal location for a program like ours," said Salinger. "Our students can go out, gather up the food at the farmers market and take it upstairs and cook it."

The college could also relocate and expand its Culinary Cafe, now a once-a-week luncheon cooked by SRJC students that includes soups, entrees and desserts — a three-course, restaurant-quality meal for about $7 that draws 100 diners.

There would be demonstration kitchens, perhaps even a broadcast studio for a cooking show, and classes in cooking and wine appreciation for the general public, according to the proposal.

The third floor would be offices, according to the plan.

Next to the hall would be sheds for a covered, outdoor farmers market that could operate three to four days a week for 35 farmers.

Lawrence Jaffe, owner of Left Field Farms, one of Sonoma County's 1,300 farms, and a committee member, said it would give small specialty farmers like himself a place to sell their products without having to go out of the county.

"There are lots of farmers who need to leave the county to capture the sales volume to keep them in business," Jaffe said.

Landscaping would include a tree-lined walkway and a plaza for public events.

Ash said it would serve all aspects of the county's food and wine industry and "isn't going to be a chi chi Atherton mall."

"Having a place like this can enable us to keep alive the agricultural diversity in this county," Ash said. "People will be able to realize all the treasures."

"This will happen because it needs to happen," said Bruce Riezenman, a Sonoma County restaurant owner and caterer for 14 years and member of the CityVision committee. "I don't see it as too ambitious. It will bring in a heck of a lot more than it will cost to build."

The $18.5 million cost covers the three-story hall, sheds, plaza and landscaping, but it doesn't cover the parking garage, which Brecht said would be private, nor the land, which would be purchased or leased from the railroad.

The project relies on private donations, much like the funding that is being used for the music center at Sonoma State or the expansion of the Sonoma County Museum.

Brecht said the center's projected revenues of $2 million a year would be enough to cover operating costs, but not enough to cover construction indebtedness.

Laura Whiting, former executive director of the Santa Rosa Convention and Visitors Bureau and co-chairwoman of the committee, said it is difficult to guess who the donors may be, and from which part of Sonoma County's economy, until the project is fleshed out and the individuals figure out how they might fit in.

"If they understand the project and feel passionate about it, they will participate," Whiting said.

The report will be presented to the 100-member CityVision wine and food committee at a meeting Sept. 13 at New College of California, 99 Sixth St., Santa Rosa.

The $37,000 cost of the study was split by donations to CityVision and by the Santa Rosa Redevelopment Agency.

Brecht said the next step is to set up a nonprofit foundation, under the direction of the Sonoma County Community Foundation, to begin soliciting donations.

If all goes as planned, construction could begin in a year.

You can reach Staff Writer Bob Norberg at 521-5206 or e-mail at bnorberg@pressdemocrat.com.

12/16

Business

WWW.PRESSDEMOCRAT.COM/BUSINESS

INSIDE
Columnist Adam Lashinsky of TheStreet.com says there are no easy answers, but opportunities are still available in Silicon Valley / **E2**

ICTLY NESS

nspection n route

ad regulators will thwestern Pacific condition next uld mean the re- rains for the first an two years.
has been closed ving 1998 by the d Administration safe track condi-

general manager oast Railroad Au- olic agency which WP, said if the nspection, trains ng in about two Schellville and Pet-

he agency has al- crossing signals. tions will be Mon- y.
nillion has been rs to the tracks, idly damaged in and 1998.
is still under way etaluma to Willits, plans to eventual- line from Willits River Canyon to

—Bob Norberg

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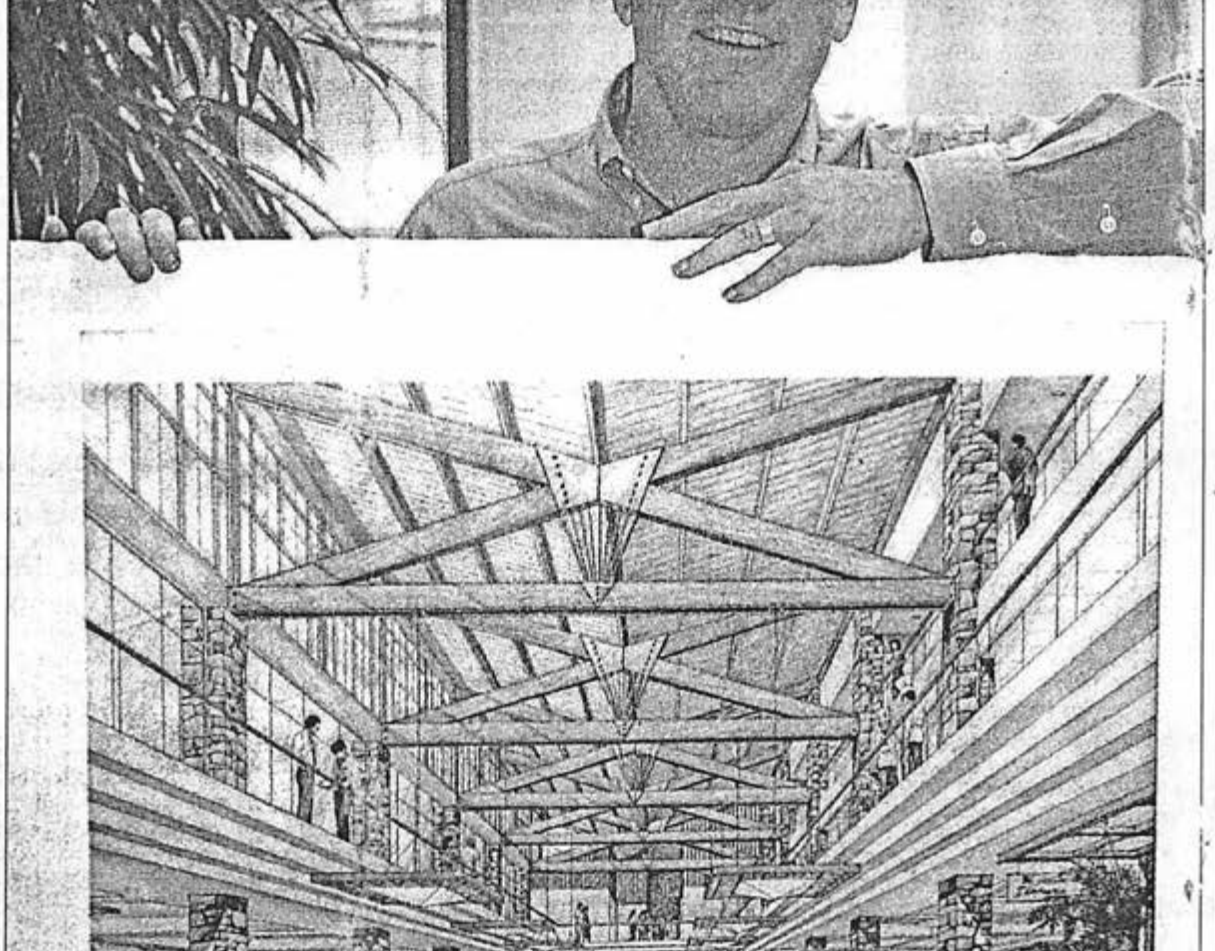
m, a private com- an Francisco, will based AtomFilms p, the companies tomFilms share- 30 percent of the new company.

ON THE DRAWING BOARD



JEFF KAN LEE / The Press Democrat

Architect James Brecht presents a drawing of the proposed Railroad Square market.

Railroad Square

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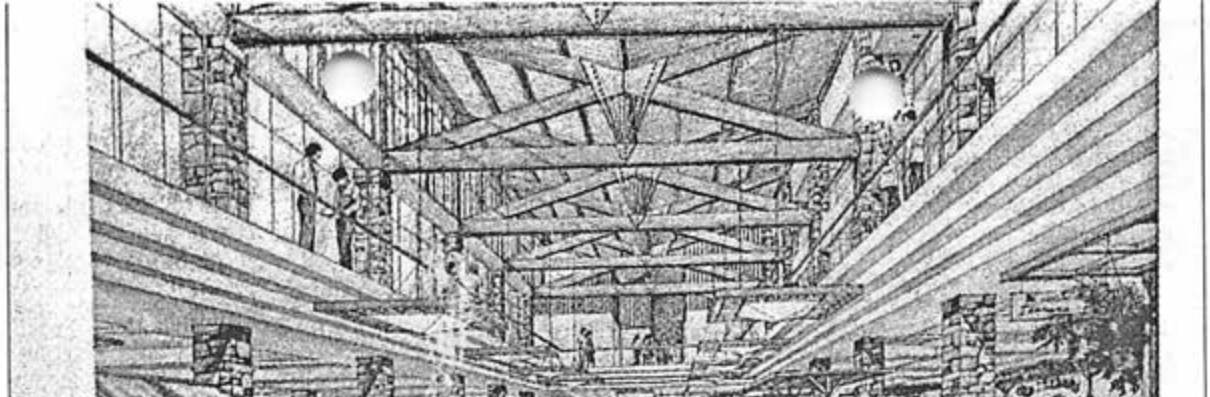

JEFF KAN LEE / The Press Democrat

Architect James Brecht presents a drawing of the proposed Railroad Square market.

Railroad Square marketplace visualized

Drawings meant to attract support for SR downtown wine and food center

By MARY FRICKER
THE PRESS DEMOCRAT

Just-released drawings of what a proposed food and wine marketplace on Railroad Square might look like show an indoor farmers market of stone and glass with a three-story atrium that is circled on the second and third floors by culinary classes, offices and meeting rooms looking down on the market.

A landscaped courtyard outside the market hall connects with outdoor farmers markets and a wine pavilion — all on 7.5 acres just west of the historic Santa Rosa railroad depot.

The Press Democrat

The drawings aren't the final word on what the popular project will look like, but they are meant to capture its essence and attract support for the marketplace by helping people visualize it.

"We needed to put something out there for people to see what it's going to look like, what it will feel like," said Santa Rosa architect James Brecht, co-chairman of the committee that is spearheading the marketplace project.

Brecht's firm, Simons and Brecht, donated the drawings. They were done by prominent Santa Rosa architect Larry Simons, whose signature projects include the Fountain Grove Inn on Old Redwood Highway, with input from many. Simons and Brecht will not be doing the actual design, Brecht said.

The drawings had their debut at

TURN TO **SQUARE,** PAGE E6

Pac Bell loses antitrust suit to competitor

By GEORGE AVALOS
CONTRA COSTA TIMES

WALNUT CREEK — A federal jury convicted Pacific Bell on Thursday of antitrust violations in a case brought by a competitor that claimed Pac Bell had stifled its efforts to compete in the local phone market.

The verdict came in the David vs. Goliath case of Caltech International Telecom Corp., which sued Pacific Bell in 1997. The eight-person jury awarded Caltech $1.4 million. Caltech had sought damages of up to $44 million.

The case ends a long odyssey for Jeff Elkins, the Caltech founder who brought the suit after claiming his company was frustrated in its competitive efforts by Pac Bell.

"It's a landmark case," Elkins said in an interview from the federal courts building in San Francisco. "We're thrilled."

Elkins said that what he described as Pacific Bell's anti-competitive stance had essentially put his Danville-based company out of business — it now exists in name only.

The guilty verdict displeased Pacific Bell, a unit of SBC Communi-

TURN TO **PAC BELL,** PAGE E6

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vmadeOHI	47	3.05	JPMrgInstITE	36	3.87
vmadaPAA p	45	3.40	JPMorganInstSv	--	--
vmadaPA Tkl	45	3.55	JPMorganTE	36	3.61
vmada TEI	43	3.69	JanusTaxEx	51	3.26
vmada TxExA	43	3.54	LIR PremTxFMM	29	3.24
ttasCA	45	2.95	LegMTE	--	--
IT InvNY	32	2.99	LibTxE MMA	--	--
IT Inv1xFr	38	3.10	LiveOakMuni	--	--
ddTxFr	38	0.25	MSDET Tax Ex	42	3.60
IPMuInst	41	3.64	MSDWCalTF	37	2.69
IPMuSv	41	3.34	MSDWTFDiv	40	3.32
IR NC	28	3.60	MSDWNYMuM	41	3.04
IRNJSv	50	3.47	MDMuniCsh	43	3.45
IROHInst	59	3.7.	ML CMANJI	39	3.23
IRPASv	32	3.23	ML CMAOH	71	3.23
IRVAInst	47	3.73	MercTxExTrll	--	--
IR PA Instl	32	3.53	MercTxExInvA	--	--
IR PA Invest	32	3.08	MercTxExTr	--	--
oisonAdvTxFrd	p44	3.07	MLCMA Cal	46	2.80
MA AdMuni	45	3.01	MLCMA CT	56	3.03
NiCATxExA p	41	2.62	ML CMA MA	64	3.23
aMuCsh	60	3.37	ML CMA NC	28	2.89
aDailyA	--	--	ML CMA NJ	55	3.15
aMuCs	60	3.12	MLCMA NY	60	3.34
alTF	42	2.65	ML CMA PA	57	3.20
alvTxFreRes p	56	3.63	MLCMA TE	36	3.26
lvTF CA	42	3.09	ML Inst TE	42	3.75
alvTxFr	56	3.83	MnyMgt	56	4.17
ashActTrst	36	3.10	MoniFedFreR	59	3.45
ashActTxEMgd	36	3.55	MontCalMonR	42	3.01
eshEq	36	3.44	MSDW Muni	37	3.40
sTrlMun	41	3.37	MundTxFrA	41	3.30
shTrMuni	43	3.17	MundTxFrK	41	3.40
entn NY	58	3.21	MuniObl A	37	3.93
entn CA	59	2.90	MuniObl K	37	3.81
entenTx	59	3.50	MuniObl SS	37	3.68
hVistaCA	37	3.02	NCMuniCsh	48	3.49
hVistaCl	--	--	NCarolOly	--	--
hVistaNJ	--	--	NYMuniCshIt	48	3.26
hVista NY	44	3.30	NYDlyTF	--	--
hVistaTF	42	3.40	NaCATERsTr	45	3.22
hVistaTF Pre	42	3.48	NaCATERsDly	42	2.72
hVista TFI	42	3.73	NaCATERsAd p	42	3.07
xFCATFR	--	--	NResCshIt	42	2.97
xFCTTFR	--	--	NatnsMRsAdv	45	3.66
xFITxFrR	--	--	NatnsMRCap	45	3.91
xFNYTFR	--	--	NatnsTEInvB	48	3.58
xFTxFrR	--	--	NatnsTEDaily	48	3.33
onnDlyA	--	--	NatlnvCshMuni	28	3.20
ortdTrAcu	--	--	NatnsMRMI	45	3.46
W FlaTF Inst	--	--	NatnsTEInvA	48	3.48
lasTxA c	--	--	NatnsTEPrA	48	3.83
ieldTaxFrA	27	2.66	NeubBMu	--	--
nyBasMA	36	3.47	NJDlyMunA	--	--
nyBaseNJ	71	3.62	NJMuniSvc	61	3.47
nreyFL Mu	45	3.52	NJ Mu Inc	61	3.54
nreyMuni	37	3.55	NorthgtCA	52	2.89
nreyCTM	54	3.2.	NorthInstTaxEx	51	3.62
nreyCalTx	62	2.8.	NorthInstMuni	49	3.78
nNJMun	51	3.25	NorthernMun	38	3.57
nNYTE	51	3.39	NuvInsTxEx	28	3.39
RPA Mun	58	3.45	NuvNYTaxEx	23	2.77
nyMuResR	43	3.55	NuvCal	28	2.31
vgmCT A	--	--	NvasITxExTrA	31	3.45
vgmFLMuA	33	3.30	OCC CashMuCA	49	2.54
vgmNJMuA	18	3.43	OCC CashGMu	41	2.97
vgmNMuni Y	16	3.73	OCC CashMuNY	46	2.82
vgmNJMuA	61	3.26	OneGrMIMA	34	3.35
vgmPA Y	47	3.63	OneGrMIMI	34	3.60
vgmPaA	47	3.48	OneGrMuniA	32	3.38
vgSelAu I	14	3.89	OneGrOH A	37	3.34
vgSelMu IS	14	3.71	OneGrOHMu	37	3.59
xtensionNY	37	3.4J	OneGrMuni	32	3.63
ptTxFrS	39	3.65	PWRMA CA	50	2.85
ptTxFrsS	39	3.39	PW RMA NJ	46	2.95
xtensionTxE	34	3.42	PWRMA NY	45	3.26
rThirdTaxExA	35	3.58	PW RMA Tx	43	3.41
MMTxExI	38	3.6.	PAMuniIS	56	3.65
MMTxExD	38	3.58	PdcrTaxExA p	72	3.09
MMTxExI	38	3.8.	PdcrTE I	72	3.33
MNYSv	48	3.44	PremierTxEx	36	3.07
MMNCsh	51	3.37	PIFMnNY	32	3.55
MOHIns	53	3.46	PIFMnCA	45	3.22
MPACsh	56	3.05	PIFMuni	38	3.76
eqMMuCsh	56	3.52	PIFMCa	45	3.96
MMASv	40	3.33	PruCA	51	3.09
MMASF	40	3.31	PruCdTx	44	3.59
MPASvc	56	3.45	PruNJ	58	3.33
MMNIn	51	3.37	PruNY	59	3.35
MCTSvc	49	3.27	PruTax	55	3.32
OHMuSg	53	3.68	PruMuniCT	58	3.13
OHBdInl	53	3.17	PruMuniMA	42	3.21
xTxF c	49	3.56	PutCA	54	2.81
dCA	37	3.05	PutNY	29	3.20
dCT	52	3.39	PutTE	72	3.39
dMA	55	3.4	ResrvCA D	58	3.28
dMI	39	3.51	ResrvFL	48	2.97
dMuMM	35	3.62	ResrvMA	--	--
dNJ	50	3.3.	ResrvNJ	55	2.77
dNY	53	3.4.	RsrvConn	44	2.78
dOH	54	3.67	ResrvInt	49	2.90
dSoCA	35	3.09	ResrvNY	54	2.87
dSoCT	55	3.3.	RshFTx	74	2.96
dSoFL	50	3.53	RussTxFreeMM	--	3.88
dSoMA	55	3.45	SEI CashONI	--	--
dSoMu	36	3.72	SEI InTFA	39	3.75
dSoNJ	52	3.72	SEIInstTxFB	58	3.50
dSoNY	59	3.53	SEITFA A	55	3.66
dSoPA	37	3.57	SEITxFrA	40	3.64
dTEDly	40	3.33	SGCoveinSTE	1	2.76
dSoAZ	31	3.49	SSgATFA	26	3.35
dWallSTxE	63	3.4	STITxExptly	--	--
nSq TEF	46	3.74	STITxExpITr	--	--
stArmTFA	33	3.26	STIVaTxFreeTr	20	3.44
stArmTxFY	33	3.55	SAFC TF	53	--
stArpTxFrD	33	3.3.	Selomon NY	13	3.51
tInvTax	49	3.22	ShwbCAValu	61	3.10
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LMuniCash	25	2.82	ShwbNYValu	30	3.45
LMuniCll	12	3.05	SchwPAMuni	30	3.45
LMuniIncA	--	--	SchwabNY	50	3.21
orum DA Mun	6	3.62	ShwbTE	45	3.39
rkCal	36	2.79	SchwabTxEx	45	3.60
rkNYTE	43	3.21	Schwb CA	61	2.80
rkTxc	46	3.10	Scout TxE	17	3.26
reedomCA	--	--	ScudTxECshInst	39	3.80
reedomTxEx	--	--	ScudTxFAARP	37	3.40
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alaxyTE Tr	48	3.45	SmBarCaMM	78	2.89
alaxyTEBkB	48	3.40	SmBarInstMA	28	3.69
alaxyTEFreep	54	2.90	SmBarMuni	64	3.39
alaxyTE R	48	3.34	SmBarNY	54	3.37
nNYMuB	--	--	StanR	--	--
nNYMuB p	56	3.01	StrgMu	56	4.01
nCalMu	54	2.90	TRowSumMu	56	3.57
nNYMu	59	3.35	TRowCA c	50	2.83
A MunCTr	47	3.79	TRowNY c	47	3.20

IN BRIEF

WASHINGTON

Hershey adopts poison-pill plan

Hershey Foods Corp. has adopted a poison-pill plan that would guard the company against a hostile takeover bid.

Under the shareholder rights plan, Hershey would issue more shares if a party acquired 15 percent or more of its stock, according to papers filed Friday with the Securities and Exchange Commission.

Issuing more shares would make it more expensive for a company to acquire Hershey. The SEC filing, however, said that adoption of the plan wasn't in response to any specific takeover efforts.

Separately, Hershey said it had completed its $135 million acquisition of Nabisco's breath freshener mints and gum businesses, whose products include Ice Breakers mints and Bubble Yum gum.

Hershey, the country's biggest candy maker, had $4 billion in sales last year. It is based in Hershey, Pa.

ROSEMONT, ILL.

Virgin Express to use Galileo system

Virgin Express Ltd. airline will use Galileo International Inc.'s computer reservation system to book flights.

Financial terms of the deal weren't disclosed.

Galileo, based in Rosemont, Ill., said Friday that the system will make Virgin's inventory available in real-time on travel agents' desktops as well as on Web sites that use the Galileo computer reservation system as their booking engine.

Virgin Express is owned by Belgium-based Virgin Express Holdings PLC. The airline offers low-fare service in continental Europe.

PARIS

Airbus clinches new order for superjumbo

Airbus Industrie has received a firm order for six of its yet-to-be-built superjumbos from Britain's Virgin Atlantic Airways, moving the $12 billion project to build the world's largest passenger plane one step closer to an official launch.

Airbus said in a statement Friday that Virgin also had taken an option on six of the giant A3XX planes and would use the superjumbos on routes from London to New York and Los Angeles.

Virgin Atlantic valued the deal at more than $3.8 billion.

With 50 firm orders for the A3XX on its books, Airbus is expected to officially launch construction of the planes in the next several days.

Press Democrat news services

JOBLESS: Unemployment jumps in Mendocino, Lake counties

CONTINUED FROM PAGE E1

work also declined in November.

Overall, the local economy continues to churn out new jobs at a rapid clip. Job growth is averaging 3.2 percent so far this year, despite a brief slowdown in job creation last spring.

The Sonoma County economy has created 6,300 jobs over the past year, according to the EDD report. High-tech companies such as the county's biggest employer, Agilent added 600 jobs over the past year. Government payrolls have added 900 jobs, largely in schools.

"These are strong numbers," Rutherford said.

Elsewhere on the North Coast, unemployment rose as the result of seasonal cutbacks by employers, mostly in agriculture.

In Mendocino County, the jobless rate rose to 6.1 percent in November, up from 4.6 percent in October. A year ago, unemployment also stood at 6.1 percent. The economy has created 360 jobs over the past

SQUARE: Design to be printed, online

CONTINUED FROM PAGE E1

a recent fund-raiser. They'll be on public display soon, at a location yet to be determined, and they'll be published in a booklet and online, Brecht said.

Coming up with the conceptual design for the marketplace is the latest step in a process begun two years ago to build a Santa Rosa center for food and wine. Supporters hope it will open in 2004.

The next steps are to create a nonprofit foundation and to secure the land, which is owned by the Northwestern Pacific Railroad. Then serious fund raising will begin.

"Is this really going to happen? It's going to be up to the community," Brecht said.

"Napa is spending $70 million for its food and wine center and a $20 million endowment for operations. Can we not raise one-third the money Napa can raise? That's really the challenge."

Brecht said some donors have already expressed interest in contributing.

The marketplace — located at the center of agriculture commerce in Santa Rosa a century ago — is envisioned as a working market, a commercial center for the county's food and wine products and a support system for the area's small farmers, wineries, chefs and food processors.

"We have vendors standing in the wings saying they want to be there," Brecht said.

Top food and wine experts and the project's Railroad Square neighbors also are lining up behind the project.

Santa Rosa Junior College has agreed to consider expanding its culinary and wine program to offer a culinary school at the marketplace, and it is deeply involved in planning the center.

"I firmly believe that this project will become a reality and be successful," SRJC culinary program coordinator Michael Salinger said in a statement last week.

The Sonoma County Wineries Association said it would

GnCalMu	54	3.90	TRowSumMu	55	3.97
GnNYMu	59	3.95	TRowCA c	50	2.83
GA MunCTr	47	3.79	TRowNY c	47	3.20
GlenTaxExempt	17	7.51	TRowTE c	51	3.48
GSITNYI	43	3.35	TaxFFlo SS	49	3.57
GSITCAI c	47	2.97	TaxExCA	30	2.66
GSITDvl c	45	3.53	TEMony	49	3.63
GreatHallIntTxF	53	3.54	TaxFIntstSS	50	3.46
GrHallTF	50	3.38	TaxFJnstIv	50	3.31
HSBCInv NYTFA	43	3.31	TouchstoneCal TF54		2.90
HSBC NY	40	3.36	TouchstoneFlaTF R661		3.39
HSBCNYMM D	43	3.45	TouchstoneOhTF Inst64		3.68
HanisTE N	50	3.39	TouchstoneOhTFIt664		3.43
HanisT FC	50	3.74	TouchstoneTFMon66		3.61
HrbCshMunA	26	3.32	TSR FQ TE	35	3.41
HMrkCalFid	42	3.03	USAA Cal	41	3.11
HMrkCATxFS p	42	2.48	USAA FlTxF	21	3.46
HMrkCalFld p	42	2.78	USAA NY	38	3.47
HoughTaTF	64	3.67	USAATxEx	31	3.67
HuntgtnFLTr	45	3.34	USAA VA	27	3.51
HuntgtnOhM	45	3.26	VAMunCshSS	44	3.54
HuntgtnOhInv	50	3.00	ValLinTaE		
IMCT NewYork p	39	3.00	VanKmpTF	55	3.25
IndOnMMn	26	3.33	VangNJ	72	3.61
InvTaxFree	47	3.32	VangCA	51	3.26
InvescoTTE	38	4.02	VangOH	63	3.82

high-tech companies such as the county's biggest employer, Agilent Technologies, driving much of the growth. Other high-tech sector, instrument manufacturing, has produced 2,200 jobs over the past 12 months and expanded its work force by 24 percent.

The service sector, which supports 1 out of 4 jobs in the county, also continues to expand. The service sector has created 1,300 jobs over the past year, primarily in business services.

Construction companies have created 900 jobs and retailers have

stood at 6.1 percent. The economy has created 360 jobs over the past year, boosting employment to 33,330.

In Lake County, the jobless rate jumped to 7.5 percent in November, up from 6.2 percent in October. A year ago, unemployment stood at 6.8 percent. The economy has created 110 jobs over the past year, raising employment to 14,710.

You can reach Staff Writer Ted Appel at 521-5288 or e-mail at tappel@pressdemocrat.com.

ment last week.

The Sonoma County Winegrowers Association said it would consider leasing office space in the market hall along with its marketing partners such as Farm Trails, Select Sonoma and the Sonoma County Grape Growers. It said it would use the marketplace "as a starting point for all inbound wine-related trade, media and consumer promotions."

A number of other supporters have sent written endorsements for the plans.

"It's a great idea that has caught hold of the imagination of the community," said Tom Peterson, general manager of Chateau Souverain, a Geyserville winery. "I look ahead to the day the marketplace is a bustling center, featuring our local produce and showcasing an important element in the quality of life in Sonoma County."

The Santa Rosa marketplace proposal grew out of the visit to Santa Rosa in November 1998 of an urban design team from the American Institute of Architects.

The team published a blueprint for revitalizing downtown Santa Rosa and recommended the creation of a wine and culinary market and a farmers market.

Under the umbrella of CityVision, a group that works to improve downtown Santa Rosa, more than 100 citizens formed a committee to pursue the idea.

The committee announced its marketplace ideas in February, and in September it released a feasibility study that said the idea is financially viable.

According to the study, the market can expect profits of $300,000 its first year and $600,000 by the third year. That assumes payments of $50,000 a year for the land and a $322,000 annual marketing budget.

Brecht said the marketplace committee is moving forward slowly, taking the time to develop community support and incorporate the ideas of as many people as possible. It has raised $60,000 thus far to keep the project moving forward.

At the same time, merchants and property owners in Railroad Square have commissioned the Santa Rosa engineering firm of Carlile-Macy to study the area's growing parking needs.

You can reach Staff Writer Mary Fricker at 521-5241 or e-mail at mfricker@pressdemocrat.com

AC BELL: Jury awards Caltech $1.4 million

CONTINUED FROM PAGE E1

ons Inc., the Texas-based Baby

The decision is disappointing does not reflect the operation-ealities associated with the ear-tages of telecommunications de-ulation," Pacific Bell spokes-n John Britton said in a state-nt. "We believe the size of the rd by the jury — a fraction of at was sought by plaintiffs — ws that the jury rejected many nents of the case."

lkins, however, believes the dict could serve as the basis for er court proceedings against

the regional phone giants that emerged from the breakup of the old AT&T phone monopoly. Elkins said he believed this was the first time a Baby Bell has been convicted on antitrust charges.

"I think you may see a lot of lawsuits brought by other carriers using this as a precedent," Elkins said.

During the trial, Caltech claimed that Pac Bell had hampered efforts to switch customers from Pacific Bell to Caltech. According to evidence presented in court, the telephone giant moved slowly to process orders placed by customers who wanted Caltech as their new phone-service provider.

During 1997 and 1998, AT&T, Sprint, MCI, Caltech and other rivals tried to battle Pacific Bell by reselling the phone giant's local phone services.

According to Caltech, Pacific Bell attempted to thwart its rivals by rejecting orders to switch service through minor technicalities, and processing orders only at a snail's pace.

Pacific Bell, however, claimed in court that it has spent hundreds of millions of dollars to assist in the birth of a competitive phone market in California.

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THIRD ST. PROPERTY
1 TSR196

RWQCB
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RLT SAM KAD
LMF

CITY OF
SANTA ROSA

FIRE DEPARTMENT
955 Sonoma Avenue
Santa Rosa, CA 95404
707-543-3500
Fax: 707-543-3520

June 1, 2000

Penny M. Tse, P.E.
Project Engineer
Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, CA 94612

Dear Ms Tse:

WORK PLAN OF APRIL 21, 2000 FOR ADDITIONAL SOIL SAMPLING, SANTA ROSA STATION/THIRD STREET PROPERTY

Thank you for the opportunity to review a copy of the Work Plan for Additional Soil Sampling for the Santa Rosa Station/Third Street Property. Our comments are as follows:

While the Work Plan addresses the concerns of elevated levels of lead at the base for the creek bank, it also makes reference to the remediation objective for the area characterized as SRB13. Geomatrix proposes that the clean up objective of 65 ppm lead was met based on the average of six sampling results representing SRB13.

The most recent sample from the west side of SRB13 shows 130 ppm lead, twice the clean up objective. Please be aware that averaging is not acceptable to the Santa Rosa Fire Department. Therefore, the Santa Rosa Fire Department requires further remediation on the south side of SRB13. Please submit a work plan that addresses further remediation (excavation) of the south side of SRB13 to achieve the clean up objective of 65 ppm lead.

Thank you in advance for your cooperation and attention to this matter.

Sincerely,

JAMES M. FRANK
Hazardous Materials Program Manager

c: Joan Fleck, NC,RWQCB, 5550 Skylane Blvd., Suite A, Santa Rosa 95403

c:\wpfiles\UPRR-THIRDST.MWR

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

July 17, 2000

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property (south), Santa Rosa, Case No. 1TSR196

I have reviewed the April 21, 2000 "Work Plan for Additional Soil Sampling" prepared by Geomatrix for the subject site. As you know, our concurrence with the plan was placed on hold pending the submittal of creek channel improvement information by the Sonoma County Water Agency (SCWA) for the area encompassing the subject site.

We requested the information from the SCWA because we learned that debris fill was used at various locations along creek during the channel improvement project. I have reviewed the SCWA submittal and it does not show that debris fill was used at the subject site. On July 6, 2000, Mr. Jasperse of SCWA indicated that no Class D debris fill was used in that area.

Therefore, you may proceed with the implementation of the work plan as proposed. I have notified Sonoma County Environmental Health Services to enable the processing of permits. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:clh/railroad

cc: Ms. Susan Gallardo, Geomatrix , 2101 Webster Street, 12th Floor, ~~San Francisco, CA 94111~~ OAKLAND 94612
Mr. Jim Frank, Santa Rosa Fire Department
Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Mr. Dave Montague, City of Santa Rosa, Department of Public Works, 69 Stony Circle, Santa Rosa, CA 95401
Mr. David Solomon Golden Gate Bridge District, P.O. Box 9000, Presidio Station, San Francisco, CA 94129

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: JUNE 16, 2000

From: JOHN

Subject: SOUTHERN PACIFIC TRANSPORTATION, 3RD. ST. SOUTH

ON THIS DAY I CALLED JAY JASPERSE WITH SCWA TO INQUIRE ON THE STATUS OF MAP SUBMITAL. HE WAS PLANNING ON SENDING IT OVER WITH THE WORK PLAN FOR JO BENZ. I EXPLAINED THE SITUATION TO HIM AND HE SAID HE WOULD EXPEDITE IT. THE MAP SHOWS THE AREA OF FILL DURING THE CREEK/FLOOD CONTROL WORK DURING THE 1960s. I AM INTERESTED IN KNOWING WHETHER THE DEBRIS AND LEAD AT THE RAILROAD BRIDGE IS RELATED TO RAILROAD OR SCWA ACTIVITIES.

Southern Pacific Trans Co.

2101 Webster Street
12th Floor
Oakland, CA 94612
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GEOMATRIX

RWQCB
NORTH COAST
REGION

April 21, 2000
Project 2770.005

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Work Plan for Additional Soil Sampling
Case No. ITSR196
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company, [SPTCo]) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is submitting the work plan for additional soil sampling. The work plan was prepared to respond to the March 21, 2000 letter from the Regional Water Quality Control Board, North Coast Region (RWQCB) requesting additional characterization of lead in soil at the subject site in Santa Rosa, California (Figure 1). The following plan describes the background, objectives, proposed sample locations, and methods to be used for this program.

BACKGROUND

During soil investigation activities[1] performed at the site, lead was detected in some shallow soil samples at concentrations that are elevated relative to other soil samples collected at the site (Figure 1). Two soil samples collected from 1.5 feet below ground surface (bgs) at sampling locations SRB-13 and SRB-14 contained lead at concentrations of 170 and 590 milligrams per kilogram (mg/kg), respectively. The analytical results suggested that elevated concentrations of lead were vertically limited to the upper 2 feet. Based on these results, a "Work Plan for Excavation of Lead-Affected Soil"[2] was developed and approved by the City of Santa Rosa Fire Department (SRFD) and the California Regional Water Quality Control Board, North Coast Region (RWQCB). The objective of the work was to address the

[1] Geomatrix Consultants, Inc., 1996, Results of Soil and Groundwater Sampling, Property near Santa Rosa Station, Santa Rosa, California, October.

[2] Geomatrix Consultants, Inc., 1999, Work Plan for Excavation of Lead-Affected Soil, Santa Rosa Station/Third Street Property, Southern Section, Santa Rosa, California, August 31.

RWQCB's concern of potential threat from surface run-off over soil containing lead to the adjacent Santa Rosa Creek.

At the request of the RWQCB and SRFD, the excavation work plans set a cleanup goal of 65 mg/kg ; this objective was developed from "background" lead concentrations at the site. The remediation objective was achieved for average soil concentrations within the two excavations. Specifically, in the excavation surrounding SRB13, side wall and bottom confirmation samples contained lead at concentrations of 48, 4.6, 15, 130, 17, and 71 mg/kg (Figure 2); the average concentration of lead in this excavation is 48 mg/kg. In the excavation surrounding SRB14, side wall and bottom confirmation samples contained lead at concentrations of 64, 74, 53, 48, 24 and 30 mg/kg (Figure 2); the average concentration of lead in this excavation is 49 mg/kg. As documented in the excavation implementation report[3], clean import soil was placed in the excavations and regulatory closure was requested. It should be noted that miscellaneous debris consisting of concrete, wood, and metal was encountered within the SRB14 excavation and that concrete debris was encountered in part of the SRB13 excavation, concentrated in shallow (0.5 to 1.5 feet below ground surface [bgs]) soil in both excavations.

According to documentation provided by the RWQCB, the City of Santa Rosa performed soil and groundwater sampling along the base of the north bank of Santa Rosa Creek. This work was conducted in preparation for the planning and construction of a bicycle/pedestrian path as part of the Prince Memorial Greenway, Creek Restoration Project (PMGP). One soil sample was collected and analyzed for lead near the base of the creek bed, approximately 50 feet laterally from the site and approximately 22 feet below the creek bank. This sample contained a maximum lead concentration of 389 mg/kg. Based on the result from this one sample, the RWQCB has requested that UPRR and the NWPRA explore the possibility of a correlation between the presence of lead at the site and in the creek.

WORK PLAN

To evaluate the potential presence of lead in deeper soil in the vicinity of the excavation for the PMGP[4], we propose performing four soil borings (SSR30 through SSR33) along the southern boundary of the site (Figure 3).

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[3] Geomatrix Consultants, Inc., 1999, Implementation Report, Excavation of Lead-Affected Soil, 4 West Third Street, Santa Rosa Station/Third Street Property – Southern Section, Santa Rosa, California, December 15.

[4] Based on our telephone conversations with Mr. Dave Montague of the City of Santa Rosa, the PMGP will involve removal of the gunnite wall currently providing slope stability along the creek. At this time, Mr. Montague explained that preliminary plans for the PMGP in the vicinity of the site will include cutting the bank of the creek and re-grading the area to provide for the bicycle/pedestrial path and providing slope stability measures between the top of the bank (street-level) to the path and from the path to the creek bed. The anticipated maximum cut depth to accommodate the construction of these improvements is 15 feet below the top bank level.

Field Methods

Prior to the start of field activities, we will obtain a drilling permit from the Sonoma County Environmental Health Department. In addition, Geomatrix will contact Underground Service Alert and contract with a private utility locator to clear sampling locations for underground utilities. Field procedures will be conducted in general accordance with Geomatrix protocols.

Borings will be advanced using direct-push (DP) technology. Borings will be continuously sampled using a core barrel that is advanced within a drive casing. The soil core will be logged according to procedures described in American Society for Testing and Materials (ASTM) D 2488; "Standard Practice for Description and Identification of Soils." Additionally, the logs will note the possible presence of debris. Soil samples will be collected at each location at approximate two foot intervals to a maximum depth of 25 feet bgs. Soil samples will be collected in either butyl acetate or brass liners. Immediately after sample collection, the ends of the sample will be sealed with Teflon sheeting and plastic end caps. The caps will be sealed to the sample tube with silicon tape or equivalent. The samples will be stored in a chilled ice chest for transportation to the analytical laboratory.

Soil samples will be collected in accordance with Geomatrix protocols and transported under Geomatrix chain-of-custody procedure to a California state-certified analytical laboratory for chemical analysis. Drill cuttings, and equipment wash water will be stored on-site in labeled drums pending appropriate disposal. Borings will be backfilled to the ground surface with cement grout.

Analytical Program

The laboratory analysis of soil samples will be performed in a staged manner. Initially, the soil samples collected from depths of 1, 3, 5, and 10 feet bgs will be analyzed for lead using EPA Method 6010.

Depending on the concentrations of lead detected in the initial samples, the other samples at that location will be analyzed to evaluate the potential vertical extent of lead-affected soil. For the purposes of this project, analyses of additional soil samples will be performed if lead concentrations are detected at concentrations at or above 65 milligrams per kilogram (mg/kg).

SCHEDULE

Implementation of this work plan could occur within two weeks of the RWQCB's review, depending on subcontractor availability. As requested, we will provide RWQCB staff with minimum 48-hour notice of the field activity start date. Samples will be analyzed according to laboratory's standard turnaround time. A summary report documenting the findings of this

additional sampling will be submitted to the RWQCB approximately four weeks following our receipt of final analytical results.

Thank you for your attention to this project. We look forward to working with you to achieve case closure for this site. Please contact either of the undersigned, John Moe of UPRR at (415) 541-7020, or David Solomon of the NWPRA at (415) 257-4564 if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

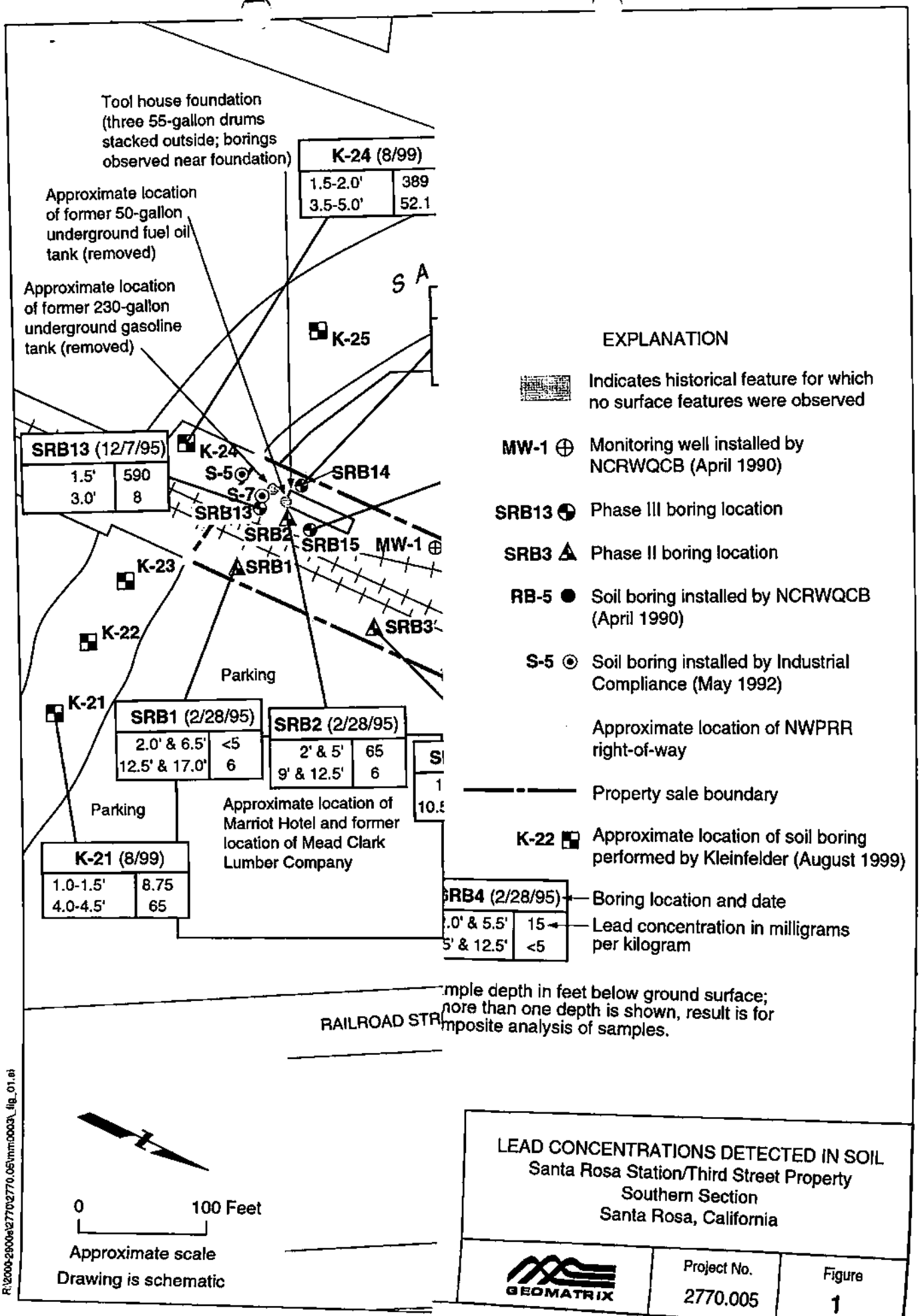
Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

Attachments: Figures 1, 2, and 3

cc: John Moe, UPRR
Leah Goldberg, HMBVR
David Solomon, NWPRA
Jim Frank, SRFD



LEAD CONCENTRATIONS DETECTED IN SOIL
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

GEOMATRIX | Project No. 2770.005 | Figure 1

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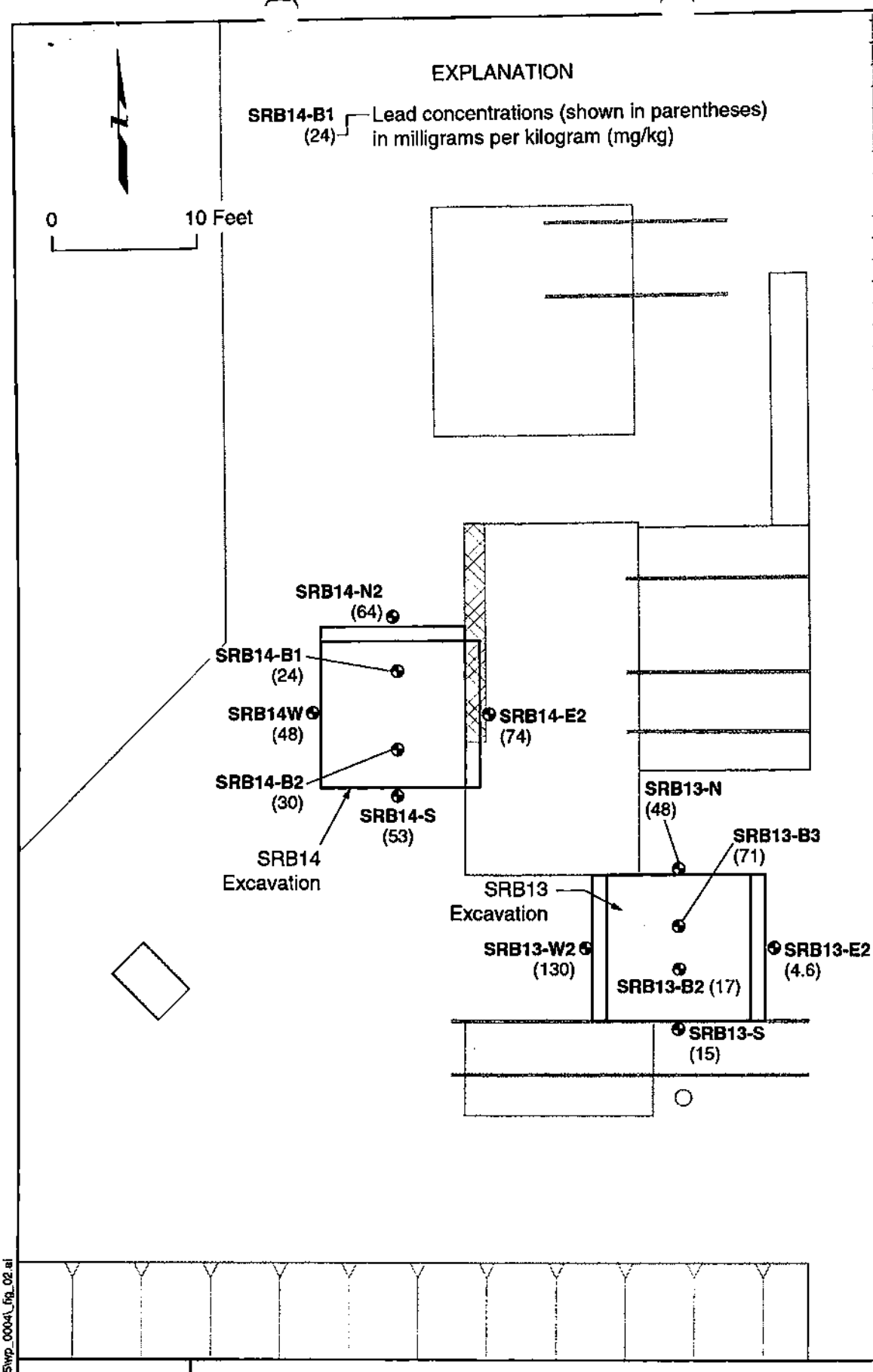

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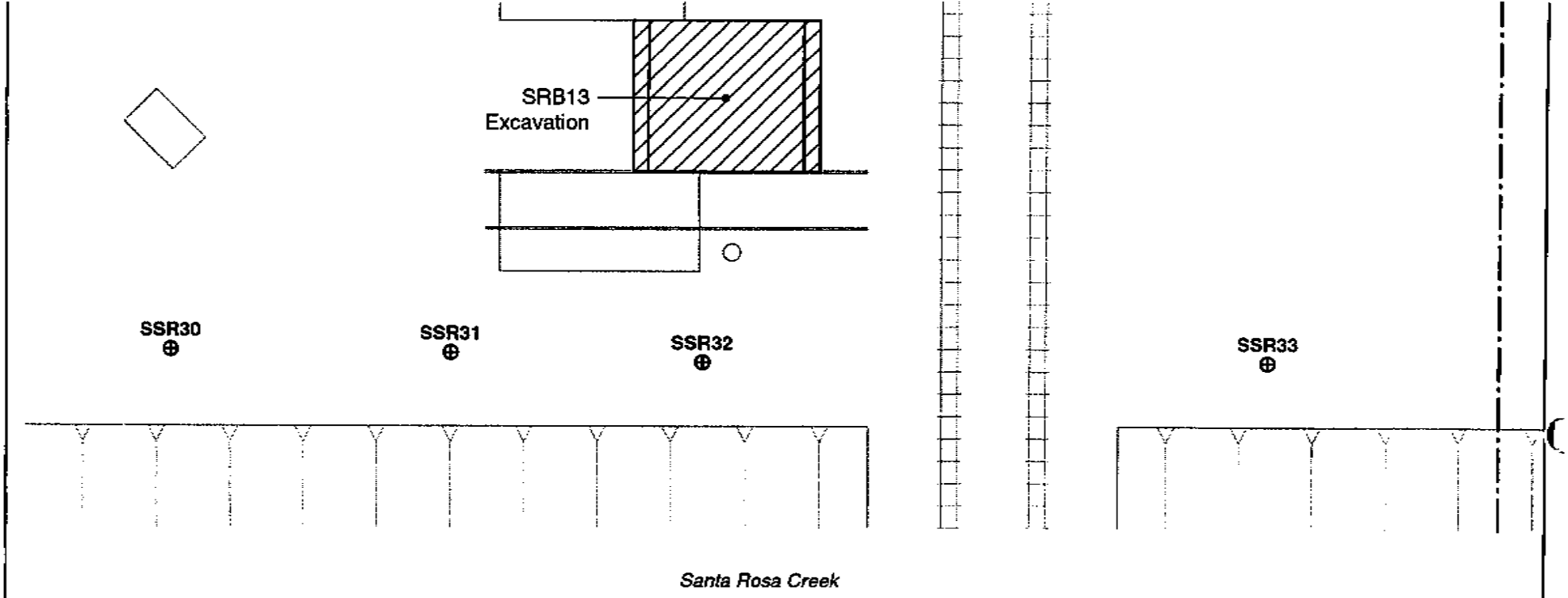
GEOMATRIX

EXCAVATION SAMPLING RESULTS - 9/21/99 and 10/14/99
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
2



EXPLANATION

⊕ Proposed soil sampling location

Property boundary

0 10 Feet

PROPOSED SAMPLING LOCATIONS
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

GEOMATRIX

Project No.	Figure
2770.005	3

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SRB14
Excavation

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: TBD & File Date: April 10, 2000

From: JEF

Subject: Southern Pacific Railroad, Third Street (South)

On March 30, 2000, the persons on the attached list met concerning the subject site. The meeting was requested by Geomatrix on behalf of Union Pacific Railroad to discuss our March 21, 2000 request for a work plan to investigate the relationship of "above background" lead levels in soil and debris with the high lead concentrations found at the base of Santa Rosa Creek.

I began the meeting by providing a summary of work conducted in the area of the former tool sheds including soil borings, shallow excavations and the City of Santa Rosa soil boring work at the base of the Creek. I explained that I observed debris (concrete, wood, metal, utility pole hardware) in the area of the most northern excavation and concrete chunks and wood in the southern excavation.

John Moe with Union Pacific was resistant to conduct further work.

Susan Warner explained the need to conduct additional work. She and Tom provided John with examples of similar situations where lead has been found in fill material along the Creek. In one situation, the extent of lead has been defined. In the case of Grace Brothers, the City has conducted excavation of lead and petroleum hydrocarbon impacted soil.

Susan explained that Santa Rosa Creek being restored including the construction of a bike path in the area of the subject site.

At the end of the meeting, Union Pacific agreed to submit a work plan.

Since the meeting, Penny Tse with Geomatrix has called to request the name and phone number of the City contact regarding the bicycle path. I gave her Dave Montague's name and phone number. She is preparing a work plan.

NORTH COA[illegible] REGIONAL WATER QUALITY CONTR[illegible] BOARD

Meeting Participation Record

SUBJECT: SPTCo, THIRD ST., S. ROSA

DATE & TIME: 3-30-00 1300 HRS

PLACE: NCRWQCB OFFICE

Name	Representing	Telephone Number
TOM DUNBAR	NCRWQCB	576-2701
Susan Warner	"	576-2697
JOAN FLECK	"	576-2675
JOHN MOE	UPRR	415 541-7020
DAVID SOLOMON	GGBHTD (NWPRA)	(415) 257-4564
Penny Tse	Geomatrix	(510) 663-4164
Susan Gallardo	"	(510) 663-4137

E-MAIL dsolomon@goldengate.org
WEB SITE www.goldengate.org
(415) 257-4564
FAX (415) 257-4516

DAVID M. SOLOMON
SENIOR PLANNER
CALIFORNIA LICENSED ARCHITECT C22706

GOLDEN GATE BRIDGE, HIGHWAY AND TRANSPORTATION DISTRICT
BOX 9000, PRESIDIO STATION • SAN FRANCISCO, CALIFORNIA 94129-0601
1011 ANDERSEN DRIVE • SAN RAFAEL, CALIFORNIA 94901-5381

UNION PACIFIC RAILROAD

J. C. (JOHN) MOE

MANAGER
ENVIRONMENTAL SITE
REMEDIATION

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JOHN_C._MOE@NOTES.UP.COM

Geomatrix Consultants
Engineers, Geologists and Environmental Scientists

Susan M. Gallardo, P.E.
Principal Engineer

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SPTRANS CO.
3RD ST. SOUTH

From: Susan Warner
To: Dunbar, Tom
Date: 3/22/00 12:51PM
Subject: Call From John Moe

To: Joan and Tom, w/ Copy to File

I received a telephone call today from John Moe of Union Pacific regarding a site in Santa Rosa near 3rd Street. His call was to ask questions about a cleanup requirement for lead removal to background levels. Moe indicated the requirement came from the City of Santa Rosa Fire Department, with our concurrence. He explained facts regarding the case, including the following:

1. Initial lead levels in soil were greater than background (set at 65 ppm), in the top 18 inches of soil, and ranged up to 170 ppm.

2. Although UP did not concur with cleanup to background, they agreed to excavate soil, expecting to be removing a small amount in a precise area.

3. After the first removal, similar levels (180 ppm) were encountered, and a second removal action occurred.

4. Residual levels after the second excavation reach a high of 130 ppm, with a mean of under 65 ppm.

5. UP does not wish to excavate more soil, and suggests they have characterized the site soils sufficiently to leave the amount on the site.

6. UP indicates the City has data that include a Santa Rosa Creek side bank sample showing lead present in soils at levels higher than upstream of the site, and Moe indicates the City is using this sample as a basis for requiring more work.

I indicated the agencies need to protect surface waters and future land uses, and said typically lead is not a groundwater issue, but we need to be assured of water quality protection. I recommended that we meet with UP and the City in a frank discussion of the facts, and attempt to reach consensus on a sound course of action. Moe agreed that a meeting was a good idea, and I said I would ask staff to work with the City and arrange such a meeting.

Please call the City and Moe and arrange a meeting. Tom, both you and Joan are proxied to my calendar.

Susan

CC: Fleck, Joan

UNION PACIFIC RAILROAD

J. C. (JOHN) MOE

MANAGER
ENVIRONMENTAL SITE
REMEDIATION

JOHN_C._MOE@NOTES.UP.COM

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Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

North Coast Region

William A. Hoy, Chairman

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 FAX (707) 523-0135

March 21, 2000

Mr. John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, 3rd Street (south), Santa Rosa, Case No. 1TSR196

The purpose of this letter is to bring us up to date regarding the status of the subject site. Our records show that we currently are working with you regarding petroleum hydrocarbons in soil and groundwater and lead in soil.

Petroleum Hydrocarbons

Our records show that total petroleum hydrocarbons as diesel (TPHd) were detected in groundwater at up to 14,500 parts per billion (ppb) during the Industrial Compliance phase of work in 1992. Total Petroleum Hydrocarbons as gasoline (TPHg) were not detected. At a later time, TPHg was detected during the Geomatrix phase of work. TPHd was not detected.

We discussed this discrepancy and on March 13, 1998, we concurred with your proposal to conduct a coordinated sampling event with Mr. Destruel's consultant (for the Mead Clark Lumber Company site) for the purposes of collecting duplicate samples. Since that time, some work has been conducted regarding access agreements and locating some of the wells proposed for sampling. However, a sampling event has not been conducted. Therefore, the issue of site characterization (gasoline, diesel or both) has not been completed.

Lead

During the course of site characterization work, lead was reported above background levels in soil in the vicinity of the former tool sheds. In September 1997, we requested that the lead-impacted soil issue be addressed. Geomatrix submitted a work plan and proposed to remove the lead-impacted soil to 400 mg/kg, which is the Environmental Protection Agency, Region 9, Preliminary Remediation Goal (PRG). We did not concur with the proposal because PRGs may not be protective of water quality. Regional Water Board and Geomatrix staff agreed that soil removal would be conducted to background levels (65 mg/kg).

Two phases of shallow excavation have been completed. Lead concentrations for the SRB14 area (that initially contained 170 ppm) were detected at up to 74 ppm. Lead concentrations for the SRB13 area (that initially contained 590 ppm) were detected at up to 130 ppm. Therefore, soil containing lead concentrations above background levels remain in place.

Rather than conduct additional excavation at this time, it appears more appropriate to provide additional information because:

- During the excavation work, it was discovered that the former tool shed area contained chunks of concrete, wood, metal and what appeared to be utility pole debris. We do not know if the higher-than-background lead concentrations are related to the debris (waste) disposal area. The extent of the debris disposal area is unknown.

- The City of Santa Rosa has provided us with analytical results for soil and groundwater samples collected at the base of the north creek bank. The work was conducted in preparation of planning and construction of a bicycle/pedestrian path that will connect with the Prince Memorial Greenway, Creek Restoration Project (PMGP). Lead was detected at 389 mg/kg in soil at the base of the creek bank below the subject site. Lead was not detected above "background" levels in soil at other sampling locations along the creek.

We request that the site be adequately characterized to determine the extent of lead concentrations in soil above background. Therefore, a work plan must be submitted to investigate the extent of lead-impacted soil and the relationship between the subject site and elevated levels found at the base of Santa Rosa Creek.

For your information, investigative and remedial work conducted along Santa Rosa Creek, in preparation of the PMGP, has shown that waste (ranging from inert to hazardous levels) disposal along the creek bank was common. The concrete lining, which generally has held waste in place, is proposed for removal.

We look forward to receipt of a work plan by April 24, 2000. If you have any questions please call Joan Fleck of my staff at (707) 576-2675.

Sincerely,

Thomas B Dunbar

Thomas B. Dunbar
Senior Water Resource Control Engineer

TBD:clh/rrlead

cc: Santa Rosa Fire Department
Geomatrix Consultants, Inc. 2101 Webster Street, 12th Floor Oakland, California 94612

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NORTH COAST
REGION

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☐JK ☐SW ☐TB ☐KB
☐JS ☐

Calif. Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

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California Regional Water Quality Control Board
North Coast Region

Winston H. Hickox
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Gray Davis
Governor

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FAX COVER

To: JIM FRANK

Fax: (707) 543-3520

Pages: [Including this Cover Sheet]

5

From: JOAN FLECK

Phone: (707) 576-2675

Date: JANUARY 11, 2000

Comments:

FAXED PAGES FROM DECEMBER 1999 "IMPLEMENTATION REPORT EXCAVATION OF LEAD-AFFECTED SOIL" PREPARED BY GEOMATRIX

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TABLE 1

SOIL ANALYTICAL RESULTS

Santa Rosa Station / Third Street Property - Southern Section
4 West Third Street
Santa Rosa, California

Concentrations in milligrams per kilogram (mg/kg)

Sample I.D.	Sample Location	Approximate Sample Depth (feet bgs[1])	Date Sampled	Lead
SRB14-N	North Sidewall SRB14	1	9/21/99	110
SRB14-E	East Sidewall SRB14	1	9/21/99	180
SRB14-S	South Sidewall SRB14	1	9/21/99	53
SRB14-W	West Sidewall SRB14	1	9/21/99	48
SRB14-B1	North Bottom SRB14	2.5	9/21/99	24
SRB14-B2	South Bottom SRB14	2.5	9/21/99	30
SRB13-N	North Sidewall SRB13	1	9/21/99	48
SRB13-E	East Sidewall SRB13	1	9/21/99	100
SRB13-S	South Sidewall SRB13	1	9/21/99	15
SRB13-W	West Sidewall SRB13	1	9/21/99	150
SRB13-B1	West Bottom SRB13	2.5	9/21/99	170
SRB13-B2	East Bottom SRB13	2.5	9/21/99	17
SRB14-N2	North Sidewall SRB14	1.5	10/14/99	64
SRB14-E2	East Sidewall SRB14	1.5	10/14/99	74
SRB13-W2	West Sidewall SRB13	1.5	10/14/99	130
SRB13-E2	East Sidewall SRB13	1.5	10/14/99	4.6
SRB13-B3	Bottom SRB13	4	10/14/99	71

[1] bgs = below ground surface

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TABLE 2

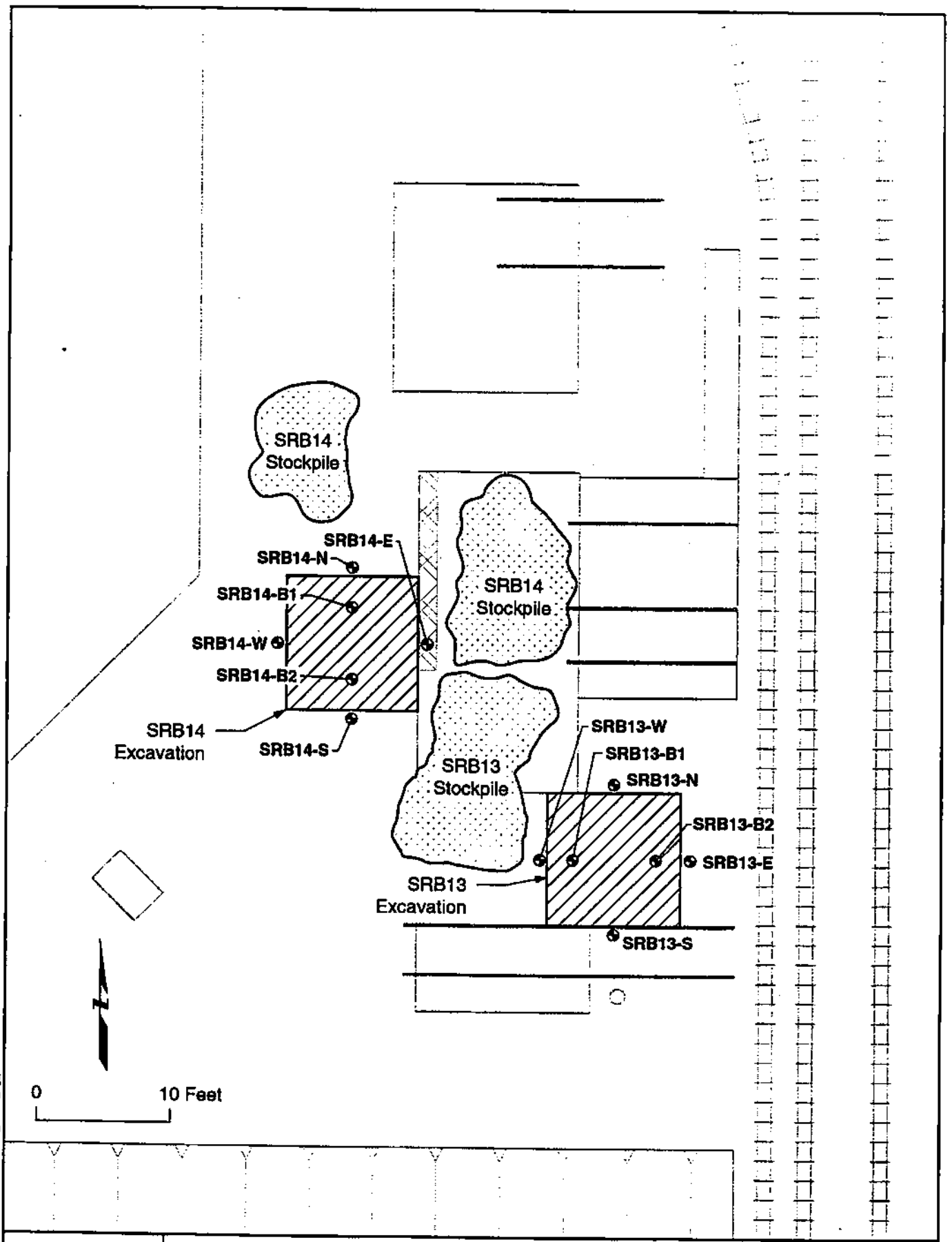
STOCKPILE ANALYTICAL RESULTS
Santa Rosa Station / Third Street Property - Southern Section
4 West Third Street
Santa Rosa, California

Concentrations in milligrams per kilogram (mg/kg)

Sample I.D.[1]	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury
SRB13	9/21/99	<3.0	8.0	160	0.38	1.1	72	14	73	140	1.2
SRB14	9/21/99	<2.9	7.2	340	0.36	1.4	68	13	44	560	0.36

Sample I.D.	Sample Date	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
SRB13	9/21/99	<1.0	120	<0.25	<0.50	<0.25	37	130
SRB14	9/21/99	<0.98	94	<0.24	<0.49	<0.24	35	420

[1] Sample SRB13 is a composite of 4 samples collected from soil stockpile SRB13, labeled SRB13-SP1 through SRB13-SP4 and composited by the analytical laboratory.



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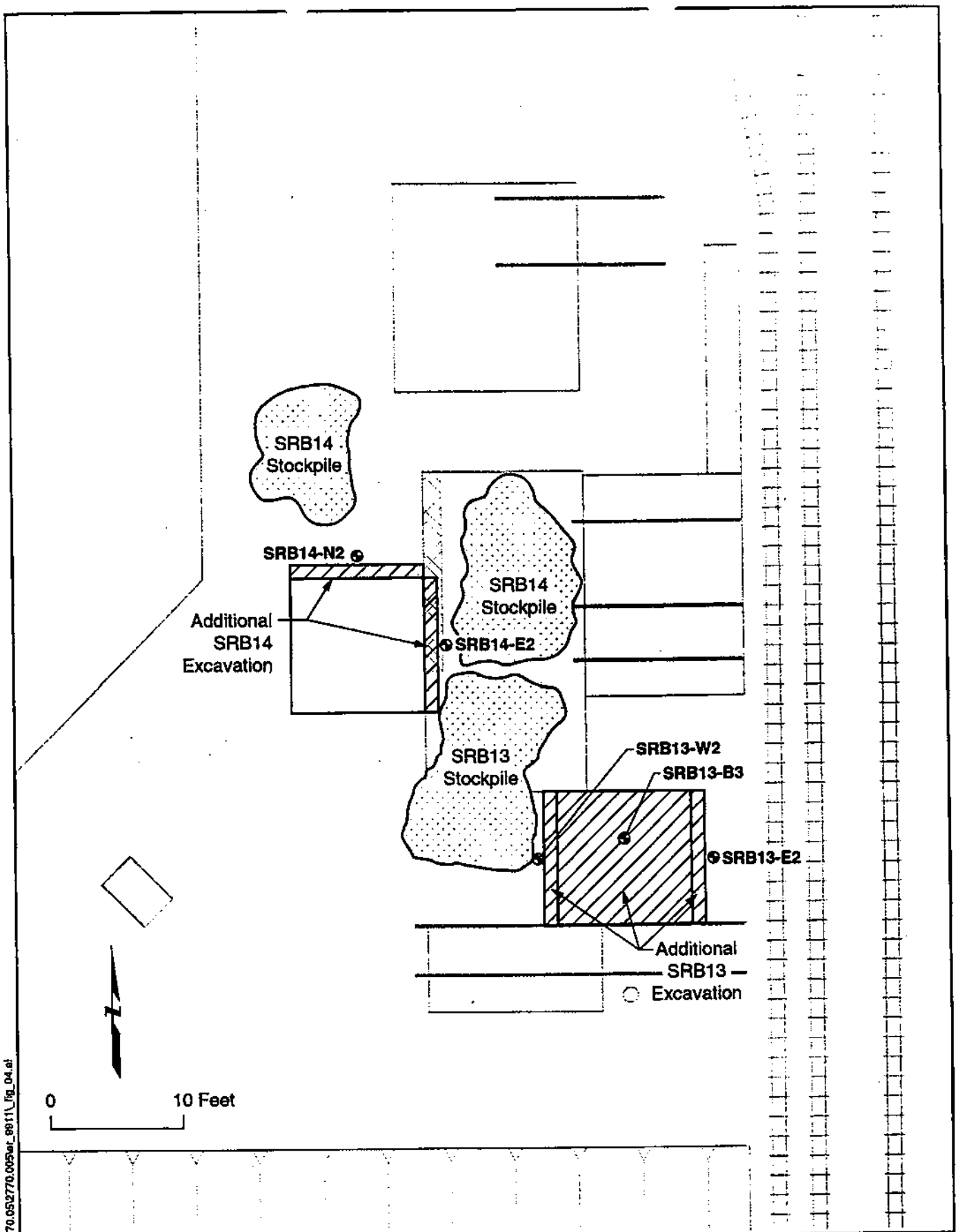
EXCAVATION AND SAMPLING PERFORMED ON 9/21/99
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
3



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GEOMATRIX

EXCAVATION AND SAMPLING PERFORMED ON 10/14/99
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
4

Southern Pacific Trans Co.

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December 13, 1999
Project 002770.005.0

Mr. Jeff Woods
City of Santa Rosa
Department of Community Development
100 Santa Rosa Avenue
P.O. Box 1678
Santa Rosa, California 95402

Subject: Earthwork Observations and Testing
Lead-Affected Soil Excavation
4 West Third Street Property
Santa Rosa, California
Building Permit #B99-0504

Dear Mr. Woods:

This letter report contains a summary of our observations and results of field tests performed during excavation of lead-affected soil at 4 West Third Street in Santa Rosa, California (Figures 1 and 2). The purpose of this letter is to provide information necessary for final approval of the project building permit (#B99-0504).

Geomatrix Consultants, Inc. (Geomatrix) was retained by Union Pacific Railroad (UPRR) and the Northwestern Pacific Railroad Authority (NWPRA) to oversee the excavation and backfilling of lead-affected soil at the subject site. The work was performed by Clearwater Environmental, Inc. (Clearwater) of Union City, California. This letter summarizes activities performed, and includes the results of compaction testing, as required for final approval of the project building permit.

The upper 2.5 feet of soil in the immediate area surrounding borings SRB-13 and SRB-14 were excavated on September 21, 1999 with a rubber-tire backhoe over an area of approximately 100 square feet (10 feet by 10 feet) at each boring location (Figure 3). On October 14, 1999, additional excavation was performed at each excavation, extending the excavation surrounding boring SRB-14 one foot to the north and one foot to the east, and the excavation surrounding boring SRB-13 one foot to the east, one foot to the west, and one foot deeper (Figure 4).

On October 14 and 21, 1999, the excavations were backfilled with imported fill from La Vista Quarry in Hayward, California to match grade with the surrounding ground surface. The backfill was placed in the excavation in maximum 8-inch lifts using a rubber-tire backhoe. Soil compaction was performed in 8-inch (loose) lifts, with a gas-powered whacker. The backfill was compacted to a minimum of 90 percent relative compacted density as determined by ASTM Method D1557. The top 4-inch lift was graded to match adjacent grades.

Recent laboratory testing results performed on the backfill material at the quarry were provided verbally to Clearwater by La Vista Quarry. Quarry personnel indicated that maximum dry density of the material ranges from 135 to 138 pounds per cubic foot (pcf) and that the optimum moisture content ranges from 8 to 10%. A conservative value of 138 pcf was used as the maximum dry density for field testing.

Geomatrix performed all field testing at the site. The field density tests were performed in general accordance with ASTM Test Designation D 2922 (Density of Soil and Aggregate by Nuclear Methods). A total of six density tests were performed. Table 1 summarizes the results of the density tests performed during backfilling activities. All density tests indicated that the relative compaction was 90 percent or greater. Density tests SRB13-1 and SRB13-2 showed that water had to be added to the fill as delivered to increase moisture content.

Based on the observations of our field representative and the results of the above referenced tests, the fill placed in the excavations has been compacted in general accordance with the work plan and the requirements of the building permit.

Please call Renaud Visage or the undersigned if you have any questions about this report.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu
I:\Doc_Safe\2000s\2770.05\Earthwork_ltr.doc

Enclosures: Table 1: Summary of Field Density Test Results
Figure 1: Site Location Map
Figure 2: Site Plan
Figure 3: Excavation Limits 9/14/99
Figure 4: Excavation Limits 10/14/99

cc: John Moe, UPRR
Leah Goldberg, HMBVR
David Solomon, NWPRA
Joan Fleck, RWQCB

GEOMATRIX

TABLE 1

SUMMARY OF FIELD DENSITY TEST RESULTS

Santa Rosa Station / Third Street Property - Southern Section
4 West Third Street
Santa Rosa, California

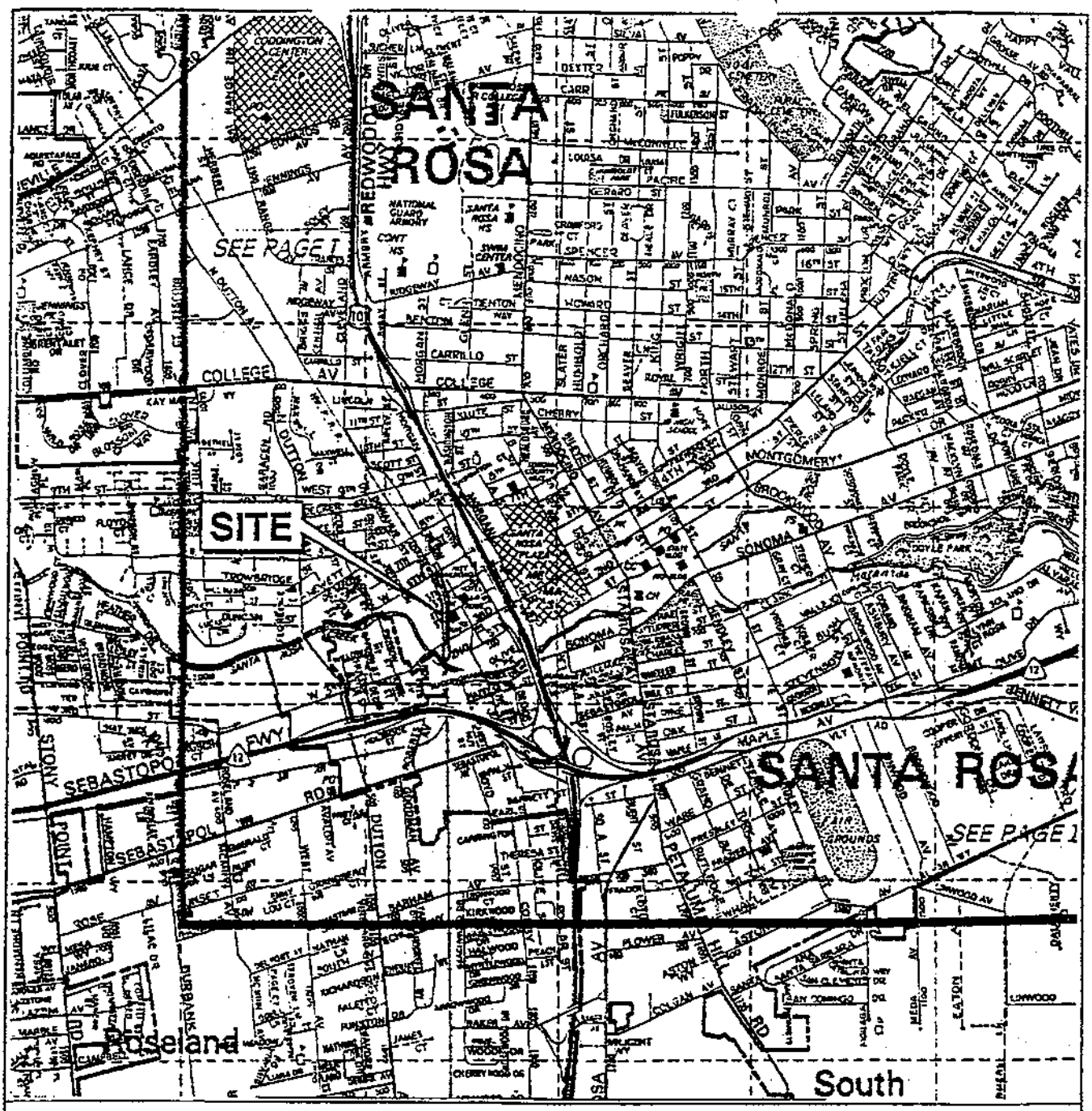
Test No.	Date	Test Location	Depth (feet bgs[1])	Probe Depth (Inches)	Recorded Moisture (% dry weight)	Recorded Dry Density (pcf[2])	Maximum Dry Density (pcf)	Percent Compaction	Specified Minimum Percent Compaction	See for Retest
SRB13-1	10/14/99	Center of SRB13 excavation	2	8	7.6	122.0	138	88.4	90	Note 3
SRB13-2	10/14/99	Retest of SRB13-1	2	8	8.5	124.4	138	90.1	90	
SRB13-3	10/14/99	Center of SRB13 excavation	0.75	8	9.1	126.3	138	91.5	90	
SRB13-4	10/21/99	Center of SRB13 excavation	0	8	9.1	125.6	138	91.0	90	
SRB14-1	10/21/99	Center of SRB14 excavation	1	8	8.7	124.7	138	90.4	90	
SRB14-2	10/21/99	Center of SRB14 excavation	0	8	8.9	124.8	138	90.4	90	

Notes:

1 bgs = below ground surface

2 pcf = pounds per cubic foot

3 Water was added to the fill material and fill material was recompacted.



Base map from *The Thomas Guide, 1992 Sonoma/Marin Counties Street Guide and Directory.* Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

N

0 2000 Feet

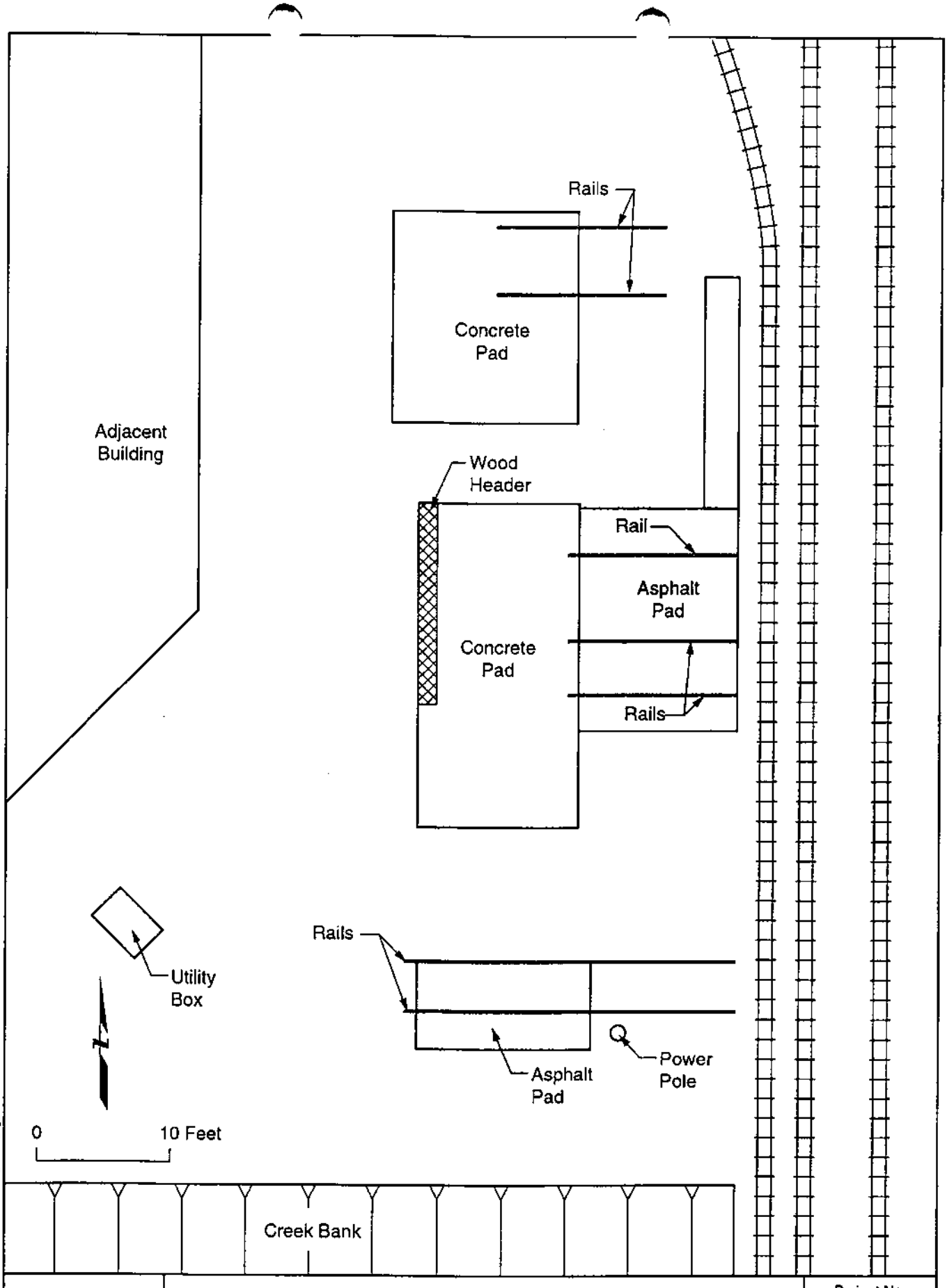
GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018



GEOMATRIX

SITE PLAN
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
2

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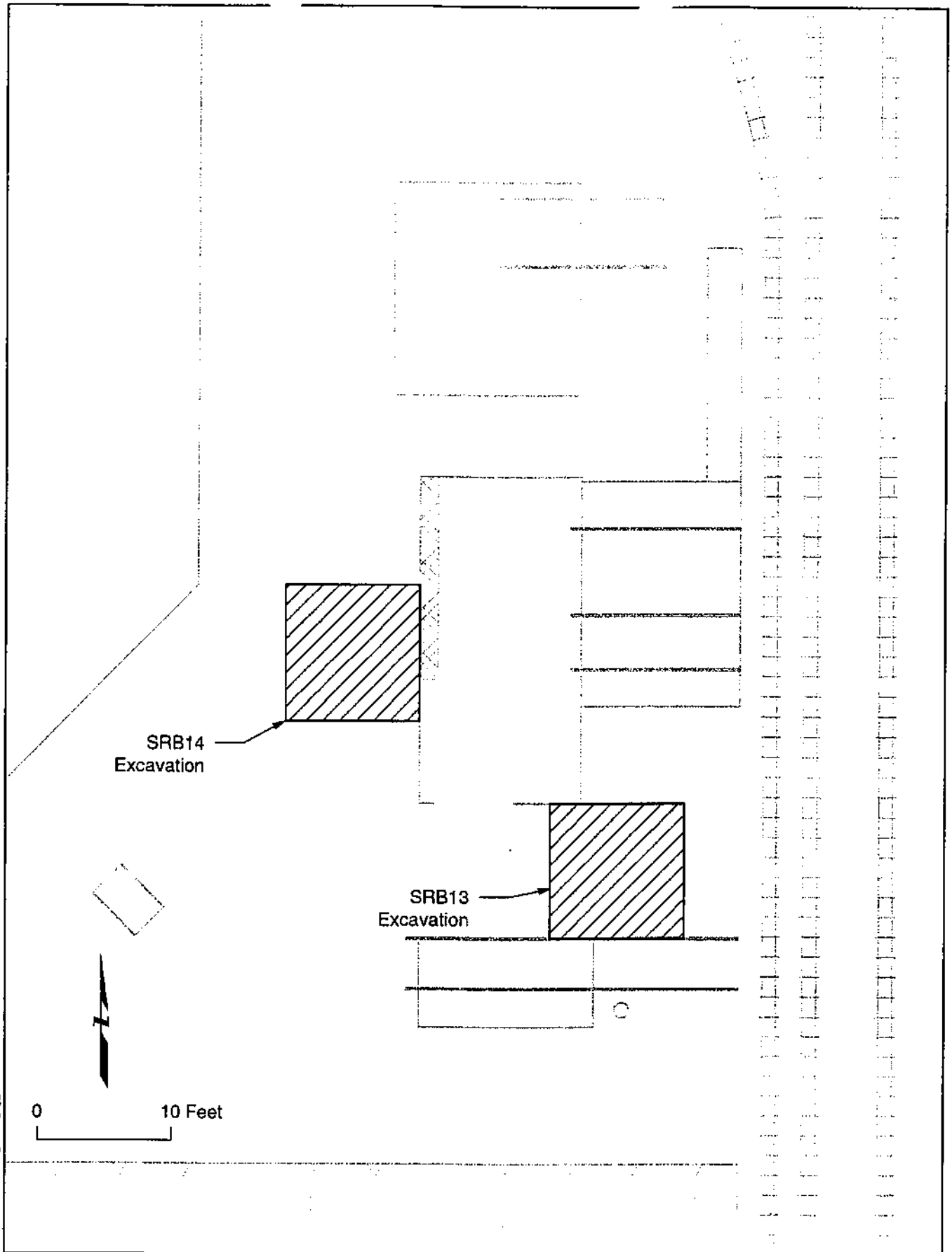

GEOMATRIX

EXCAVATION LIMITS 9/21/99
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
3

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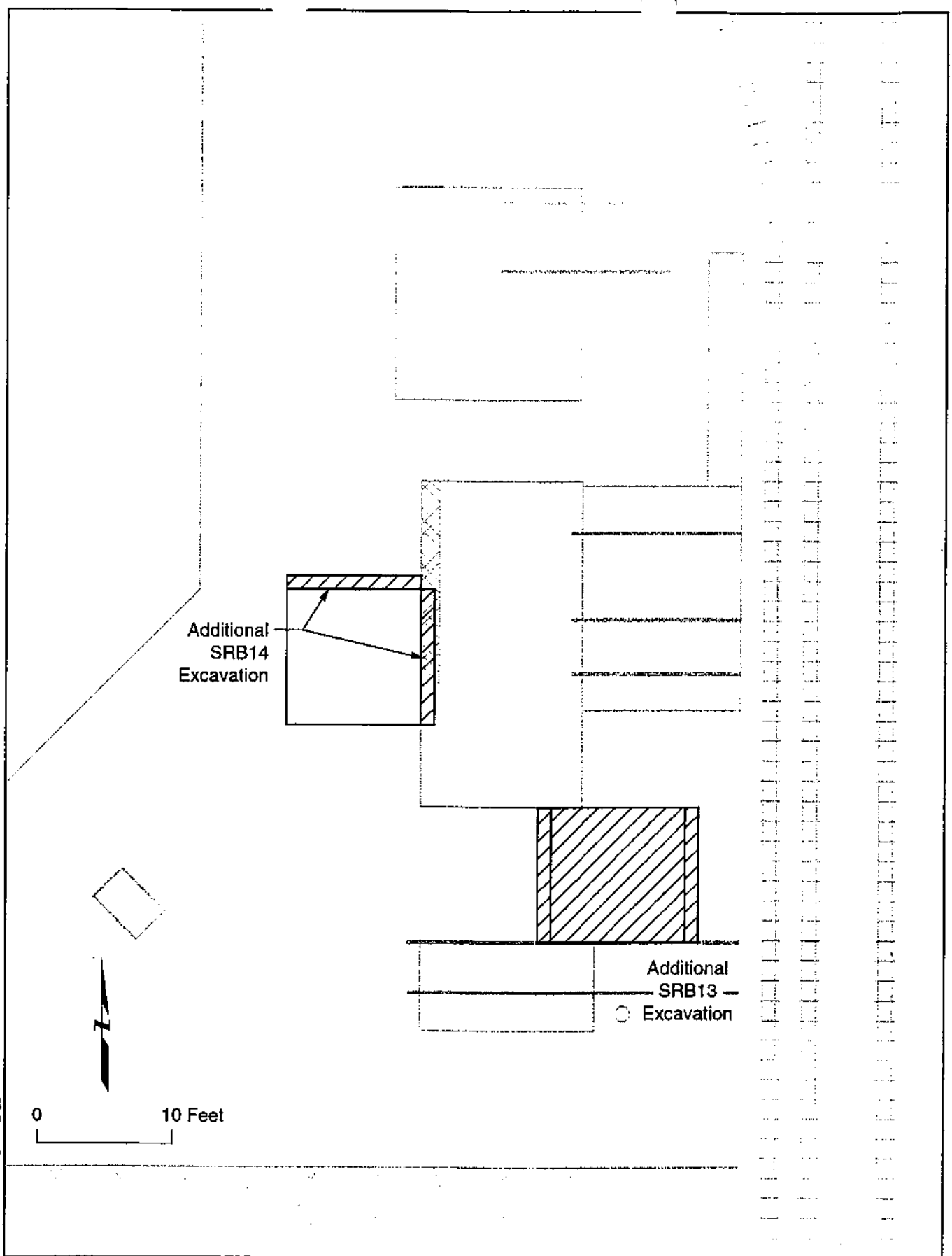

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GEOMATRIX

EXCAVATION LIMITS 10/14/99
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.005

Figure
4

SP TRANS CO. THIRD ST. SOUTH

FAX

from Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor, Oakland, CA 94612
www.geomatrix.com

GEOMATRIX

Date: 9/28/99

Number of pages including cover sheet: 2

The information in this telecopy is intended for the named recipient(s) only. It may contain privileged and confidential matter. If you have received this telecopy in error, please notify the sender immediately. Thank you.

To:

Ms. Joan Fleck, RWQCB (707) ~~576~~ 523-0135

Mr. Jim Frank, Santa Rosa Fire Department

(707) 543-3520

Fax Phone:

Phone:

cc:

From: PTse

Penny Tse & Susan Gallardo

Fax Phone: **510-663-4141**

Phone: **510-663-4100**

Direct dial:

Email:

Project No.: 2770.005

Project Name: Santa Rosa Station

REMARKS:

☐ Hard copy to follow ☒ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Joan,

Attached is a DRAFT figure showing the preliminary results for the soil sampling performed at 4 West Third Street - Santa Rosa Station, Southern Section, Excavation of Lead-Affected Soil Permit #4160 (CUP99-045-15). We would like to discuss these results with regard to meeting our remediation goal in a practicable manner.

Jim – We will continue to work with Joan unless otherwise directed.

Please contact us if you have any questions. We would like to complete this project as soon as possible.

L:\Project\2000s\2770.05\rwqcb&fire dept fax doc

Project No. 2790.05

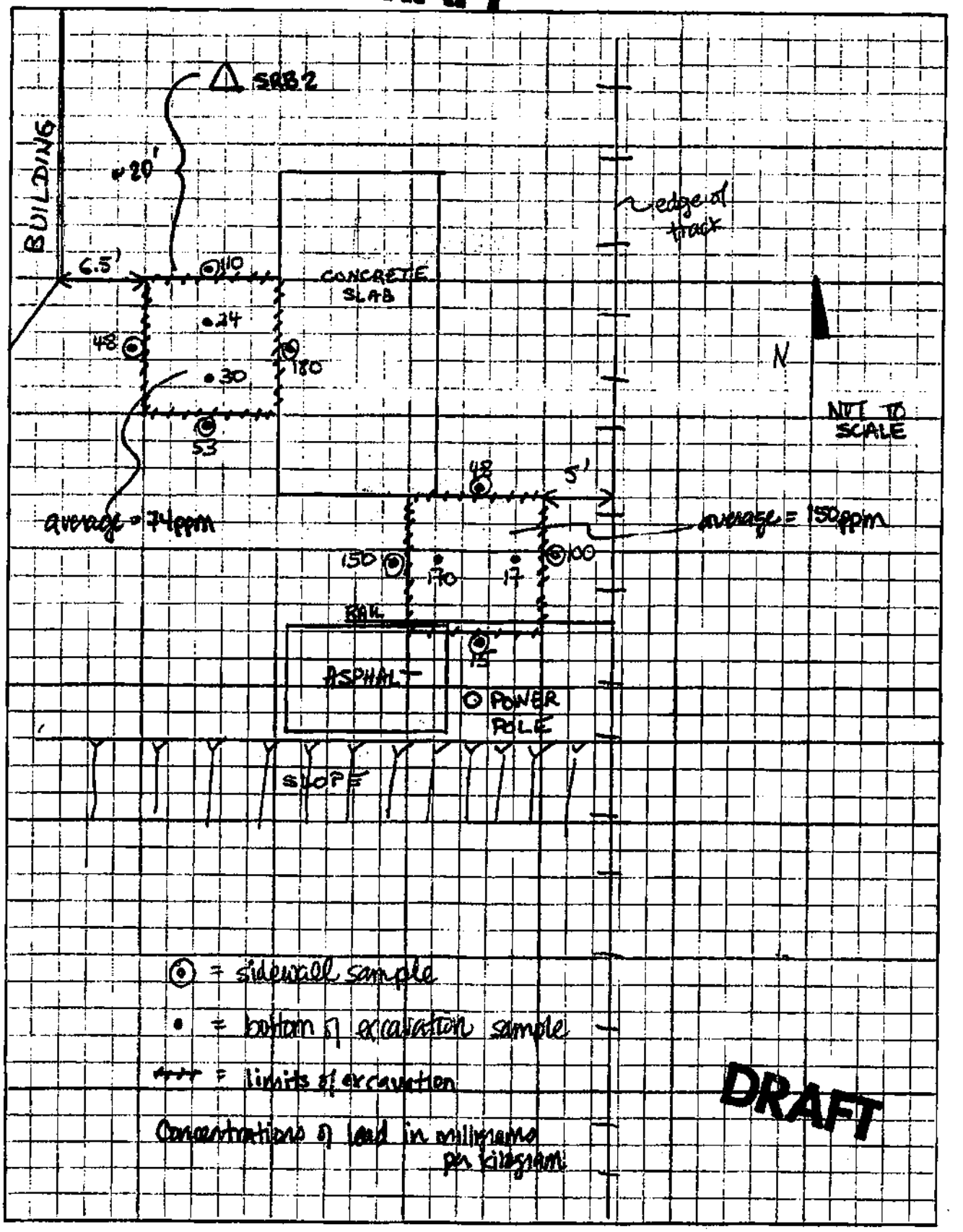
By RAV Checked By

Task No.

Date 9/27/99 Date **DRAFT**

File No.

Sheet 1 of 1



GEOMATRIX CONSULTANTS

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: SEPTEMBER 21, 1999

From: JEF

Subject: SPTRANS COMPANY 3RD. STREET SOUTH S.R.

ON THIS DAY I VISITED THE SITE TO INSPECT THE LEAD EXCAVATION WORK. TWO AREAS OF LEAD IMPACTED SOIL WAS REMOVED, RENAUD VISAGE WITH GEOMATRIX WAS ON-SITE. BOB MACINTYRE WITH SANTA ROSA FIRE DEPARTMENT WAS THERE TO OBSERVE SAMPLING.

RENAUD COLLECTED A SOIL SAMPLE FROM EACH SIDEWALL AND TWO SAMPLES FROM THE FLOOR. THE NORTHWESTERN EXCAVATION CONTAINED WOOD AND METAL DEBRIS. THE METAL DEBRIS CONSISTED OF TIN ROOF, PIPES, AND POWER LINE HARDWARE.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: AUGUST 13, 1999

From: JOHN FLECK

Subject: SOUTHERN PACIFIC TRANSPORTATION COMPANY
THIRD ST. SOUTH

ON THIS DAY I CALLED PENNY TSE AND TOLD HER THAT THE PRG GOAL OF 400 PPM MAY NOT BE PROTECTIVE OF WATER QUALITY. WE ARE CONCERNED WITH LEACHING AND RUN OFF INTO S.R. CREEK. IF THEY WANT TO LEAVE IT IN PLACE WE WOULD NEED TO KNOW IF THEY ARE GOING TO CAP IT AND DOES IT LEACH.

SHE SAID SHE WOULD HAVE SOMEONE CALL ME NEXT WEEK.

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☐ U.S. Mail ☒ Overnight Mail

Date: August 10, 1999

To: Mr. Jim Frank
City of Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404
Tel: 707-543-3526

From: Susan M. Gallardo
Geomatrix Consultants

cc:

RWQCB
NORTH COAST
REGION
AUG 12 '99

Project Number: 2770.05

Project Name: 4 West Third Street - Santa Rosa Station, Southern Section
Excavation of Lead-Affected Soil
Permit #4160 (CUP99-045-15)

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ TD ___ ☐ BOARD
☐ _____

Item	Description
1	Revised Work Plan

Remarks

Please find attached a revised version of the work plan for the subject site.

In response to your comments dated 8/5/99 and as per your conversation with Renaud Visage on 8/10/99, the following three additions have been made to the work plan: (1) a sample will be collected from each sidewall of each excavation, (2) the Preliminary Remediation Goal for the site is 400 mg/kg (U.S. EPA Region 9 Residential PRG), and (3) the City of Santa Rosa Fire Department will be contacted at least 48 hours in advance for sampling witnessing.

For your information, the grading permit application for this project was approved by the Department of Community Development (Building Permit #: B99-0504).

Please contact Renaud Visage (510-663-4196) for additional information.

SP TRANS COMPANY
THIRD ST. SOUTH

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

RWQCB
NORTH COAST
REGION

JUL 28 '99

☐ LM ☐ RK
☐ CJ ☐
☐ FR ☐ KD
☐ RT ☐ PG
☐ JH ☐ JS
☐ SW ☐ ALL STAFF
☐ ☐ BOARD
☐

July 27, 1999
Project 2770.05

Mr. Jean E. Destruel
P.O. Box 529
Santa Rosa, California 95402

Subject: Request for Authorization to Perform Field Activities
Former Mead Clark Lumber Company
Third and Railroad Streets
Santa Rosa, California

Dear Mr. Destruel:

On behalf of Union Pacific Railroad Company (UPRR) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) requests your authorization to perform field sampling activities on the former Mead Clark Lumber Company (Mead Clark) site located at Third and Railroad Streets in Santa Rosa, California. As described in our June 2, 199 letter, Geomatrix intends to conduct a coordinated groundwater sampling event with your consultant, EnviroNet, during the upcoming quarterly sampling event for the Mead Clark site.

As approved by the California Regional Quality Control Board, North Coast Region (RWQCB), the Geomatrix sampling plan will include the collection of duplicate samples from the Mead Clark wells which are located on NWPRA property (GW-29 and GW-22), from Mead Clark wells located east of the UPRR/NWPRA site (GW-7, GW-13A, GW-30, GW-31, and GW-39), and from well MW-1 (installed by the RWQCB). Additionally, based on the recent determination that Mead Clark wells GW-26A and GW-35 are located on NWPRA property and the field location of Mead Clark wells GW-24 and GW-27 on UPRR property; duplicate samples will be collected from these wells. Groundwater samples will be analyzed for the constituents described on our June 2, 1999 letter.

Based on our telephone conversations with Gary Johnson of EnviroNet, it is our understanding that Mead Clark agrees to use a third-party company (such as Blaine Tech Services, Inc. of San Jose, California [Blaine Tech]) to perform the actual sampling activities under the supervision of Geomatrix and EnviroNet staff. Costs associated with well purging and sample collection by Blaine Tech will be shared on a per well basis by Mead Clark and UPRR for the above listed wells. EnviroNet, on behalf of Mead Clark, will arrange for the appropriate disposal of purge and equipment wash water generated during the sampling program. Based on the estimated purge and equipment wash water volume to be generated from and associated with these wells (approximately 200 gallons), and an estimated cost of $2.00 per gallon

transportation and disposal fee[1], UPRR will pay Mead Clark a lump sum amount of $200 to compensate for the proper characterization and disposal of purge and equipment wash water.

As stated in NWPRA's letter of August 11, 1998 to EnviroNet (copy enclosed), it is required that EnviroNet provide a survey showing the exact locations of all wells (MW-1, GW-22, GW-24, GW-26A, GW-27, GW-29 and GW-35). Following location receipt of the complete survey, a license agreement between you and NWPRA will be drafted and submitted to you for your signature. Once you return the signed license agreement, NWPRA will issue a Right of Entry Permit to EnviroNet for access onto the railroad.

If you agree to the terms specified in this letter and authorize access for the proposed sampling activities, please sign the attached authorization. A duplicate of this letter and authorization page has been provided; one for your files and one to be returned to Geomatrix. We will schedule the sampling effort as soon as possible after EnviroNet obtains the Right of Entry Permit.

Please call John Moe of UPRR at (415) 541-7020, David Solomon of NWPRA at (415) 257-4564, or either of the undersigned if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

cc: (letter only):
John Moe, UPRR
Leah Goldberg, Esq., HBMVR
David Solomon, NWPRA
Gary Johnson, EnviroNet
Joan Fleck, RWQCB

[1] Clearwater Environmental Management, Inc.

Winston H. Hickox
Secretary for Environmental Protection

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 • FAX (707) 523-0135

August 26, 1999

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Property at Southern Pacific Transportation Co., 3rd Street (South), Santa Rosa, Sonoma County, 1TSR196; New Law Requiring Notification of All Current Record Owners of Fee Title of Proposed Cleanup or Closure

Effective January 1, 1999, recently passed Assembly bill 681 (now section 25297.15 & 25299.37.2 of the Health and Safety Code and Section 13307.1 of the Water Code) requires that corrective action proposals, site closure proposals, closure letters, or no further corrective action determinations shall not be considered unless all current record owners of fee title to the site of the proposed action have been notified of the proposed action. AB 681 also requires the Regional Board to take all reasonable steps necessary to accommodate responsible landowner participation in the cleanup or site closure process and to consider all input and recommendations from any responsible landowner wishing to participate. Therefore, we request that you, as the identified primary or active responsible party, provide a complete mailing list and telephone numbers of all current record fee owners of the subject property. Also, please notify us of any changes in ownership during the remainder of cleanup activities at this site. If necessary, you should obtain this information through title search.

Should you have any questions pertaining to this matter, please contact me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:clh/moe

GEOMATRIX

WORK PLAN FOR EXCAVATION OF LEAD-AFFECTED SOIL

Santa Rosa Station/Third Street Property

Southern Section

Santa Rosa, California

RWQCB
NORTH COAST
REGION

JUN 30 '99

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ TD ___ ☐ BOARD
☐ _____

Prepared by:

Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor
Oakland, California 94612

June 1999

Project No. 2770.05

GEOMATRIX

WORK PLAN FOR EXCAVATION OF LEAD-AFFECTED SOIL

Santa Rosa Station / Third Street Property
Southern Section
Santa Rosa, California

TABLE OF CONTENTS

	Page
BACKGROUND	1
PERMITTING	1
SITE PREPARATION	2
EXCAVATION OF LEAD-AFFECTED MATERIAL	2
BACKFILLING AND SOIL EXCAVATION	2
TRANSPORTATION AND DISPOSAL OF EXCAVATED SOIL	3
DOCUMENTATION AND REPORTING	3

FIGURES

Figure 1	Site Location Map and Sampling Location Map
Figure 2	Excavation Plan
Figure 3	Excavation Plan View and Cross Section (Typical)

GEOMATRIX

WORK PLAN FOR EXCAVATION OF LEAD-AFFECTED SOIL

Santa Rosa Station / Third Street Property
Southern Section
Santa Rosa, California

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) has prepared this work plan to conduct soil excavation of approximately 20 cubic yards of lead-affected soil at the southern section of the Santa Rosa Station/Third Street Property (site).

BACKGROUND

During soil investigation activities[1] performed at the site (Figure 1), lead was detected in shallow soil samples at concentrations that are elevated relative to other soil samples collected at the site. Two soil samples collected from 1.5 feet below ground surface (bgs) at sampling locations SRB-13 and SRB-14 contained lead at concentrations of 170 and 590 milligrams per kilogram (mg/kg), respectively. Table 1 summarizes the results of the analytical results for lead in soil samples collected at the site. The analytical results suggest that elevated concentrations of lead are vertically limited to the upper 2 feet. Based on these results, and as approved by the California Regional Water Quality Control Board, North Coast Region (RWQCB) in a March 13, 1998 letter[2], Geomatrix will remove the upper 2 feet of soil in the immediate area surrounding borings SRB-13 and SRB-14 to address the RWQCB's concern of potential threat from surface run-off over soil containing lead to the adjacent Santa Rosa Creek. This work plan describes the preparations, work sequence, and general procedures to remove and dispose the lead-affected soil.

PERMITTING

Prior to mobilizing on site, Geomatrix will obtain a hazardous materials permit from the Department of Community Development of the City of Santa Rosa, and a grading permit from the Santa Rosa Fire Department.

---

[1] Geomatrix Consultants, Inc., 1996, Results of Soil and Groundwater Sampling, Property near Santa Rosa Station, Santa Rosa, California, October.
[2] California Regional Water Quality Control Board, North Coast Region, 1998, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196, March 13.

SITE PREPARATION

Underground Services Alert, a regional utility notification center, will be notified at least two working days prior to beginning of work. The railroad fiber optic utility locating service will also be notified prior to beginning of work. Underground utilities will be cleared with a private utility locator.

EXCAVATION OF LEAD-AFFECTED MATERIAL

The upper 2 feet of soil in the immediate area surrounding borings SRB-13 and SRB-14 will be excavated with a rubber-tire backhoe over an area of approximately 100 square feet (10 feet by 10 feet) at each boring location (Figure 2). Excavation side slopes will be maintained to 2:1 (horizontal to vertical) during excavation activities. A typical plan view and cross-section are shown on Figure 3.

All heavy equipment used at the site will be equipped with audible backup warning devices. In addition, because the work will take place in close proximity to the tracks (distance to the tracks will be less than 20 feet), a Rail Ways, Inc. (the current operator of the rail line) flagman will be present during excavation activities.

Soil will be stockpiled on and covered with plastic, adjacent to each excavation. Geomatrix will collect two samples from the bottom of each excavation and a 5-point composite sample from each of the two stockpiles. The soil samples will be stored in an ice-cooled chest until delivery to a California-certified analytical laboratory under Geomatrix chain-of-custody procedures. The stockpile sample will be analyzed for CAM17 metals using U.S. Environmental Protection Agency (EPA) Method 6010.

The excavations will be surrounded by temporary fencing or barricades to minimize safety hazards while laboratory analysis is performed.

BACKFILLING AND SOIL EXCAVATION

Following laboratory confirmation that lead levels in the excavated area are at or below Preliminary Remediation Goals[3] for residential soil. The excavations will be backfilled with imported fill to match grade with the surrounding ground surface. The backfill will be placed in the excavation in maximum 8-inch lifts using a rubber-tire backhoe. Soil compaction will be

[3] U.S. Environmental Protection Agency, Region 9, Preliminary Remediation Goals (PRGs) 1998.

performed in 8-inch (loose) lifts, with a vibratory plate backhoe attachment. The backfill will be compacted to a minimum of 90 percent relative compacted density as determined by ASTM Method D1557. The top 4-inch lift will be graded to match adjacent grades and minimally compacted.

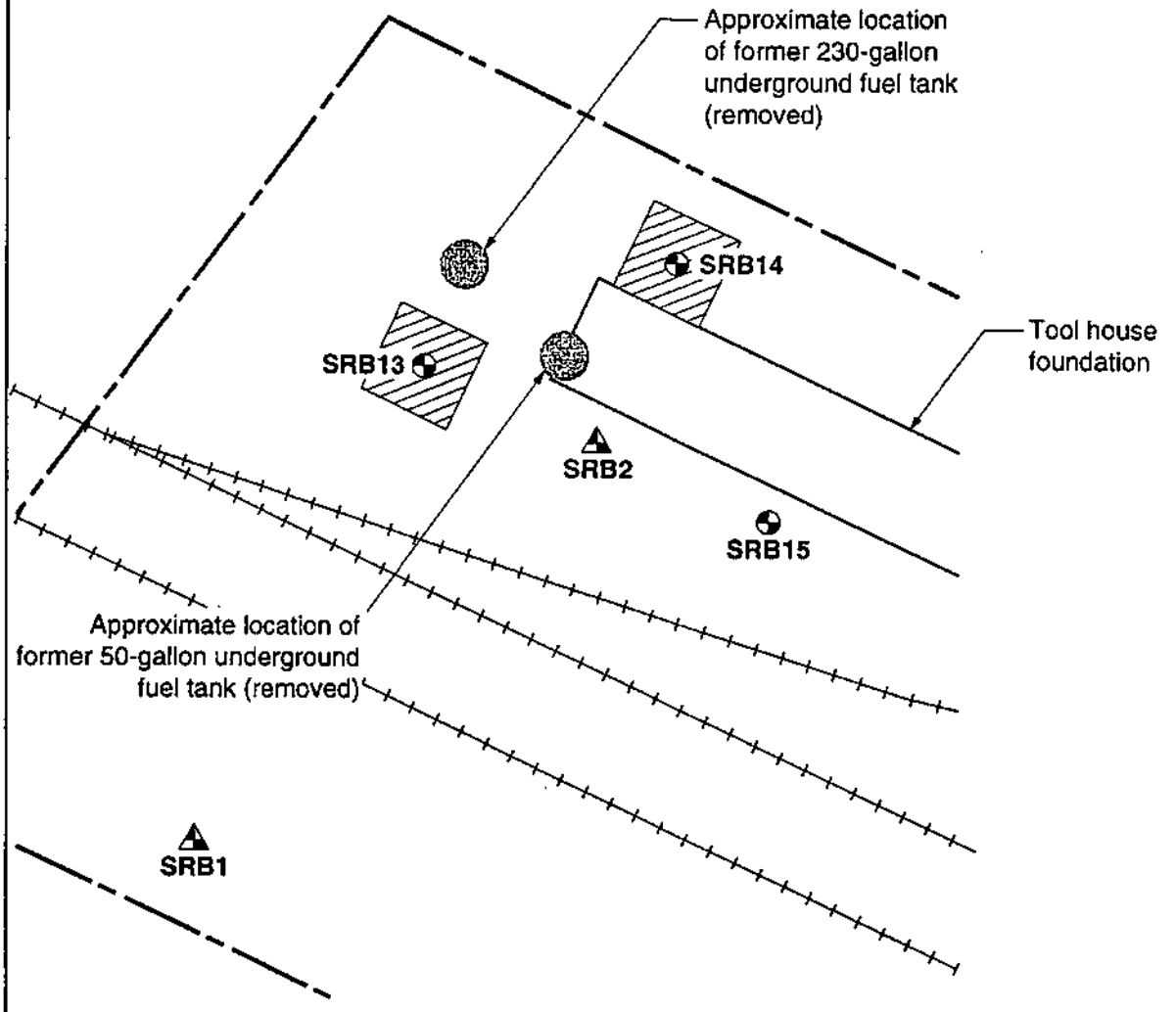
TRANSPORTATION AND DISPOSAL OF EXCAVATED SOIL

Based on the analytical results of the stockpile soil samples, a disposal facility will be selected and disposal will be coordinated with this facility. The stockpiles will be loaded onto haul trucks for off-site disposal at the approved disposal facility.

DOCUMENTATION AND REPORTING

Documentation of the field activities will include a photo log, record of approximate excavation dimensions and location (relative to a fixed on-site point), and record of appropriate soil disposal (analytical results and bill of lading or manifest). This information will be submitted to the RWQCB and permitting agencies, as required, at the completion of the excavation activities.

FIGURES



EXPLANATION

SRB13 Phase III boring location

SRB3 Phase II boring location

Proposed excavation area

Property sale boundary

0 20 Feet

Approximate scale
Drawing is schematic

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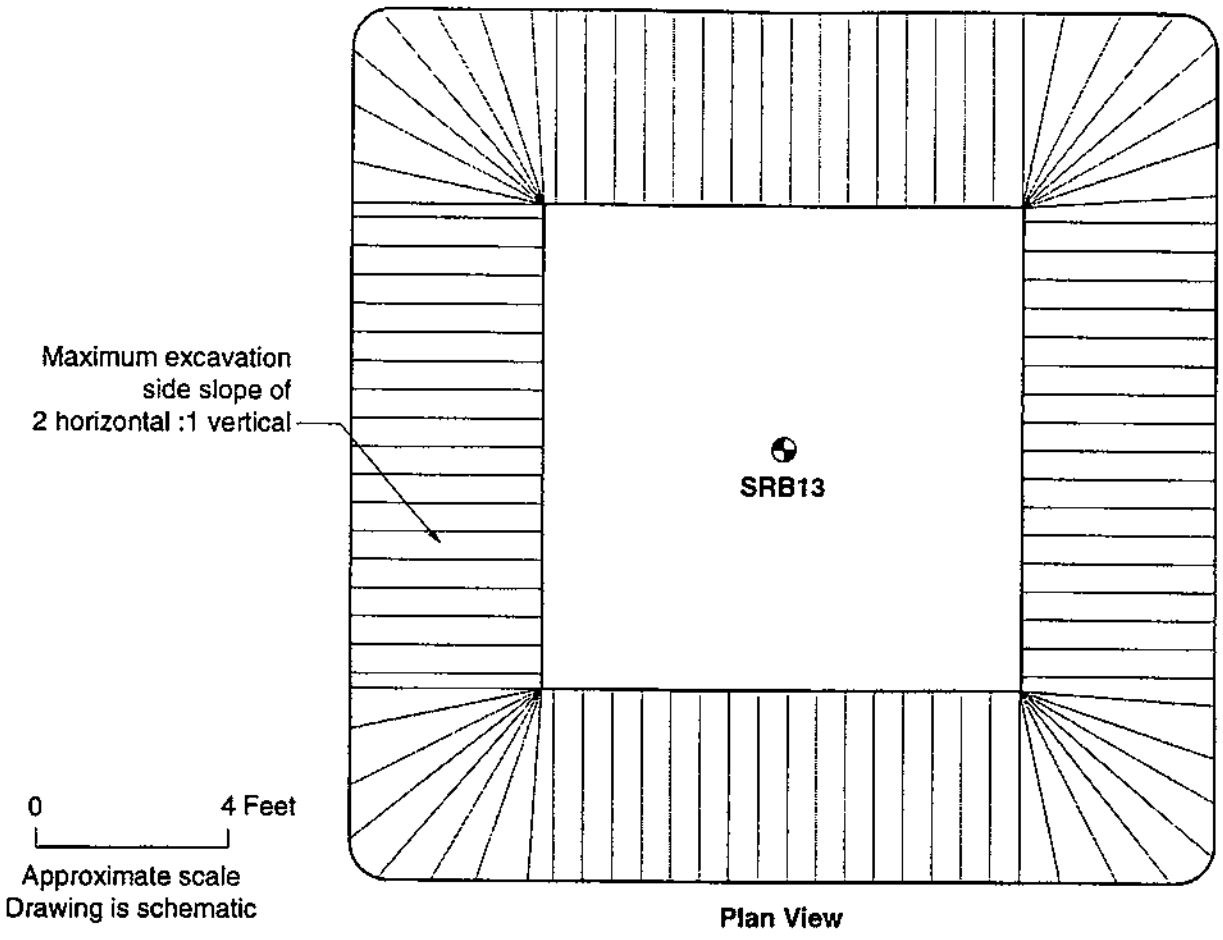
GEOMATRIX

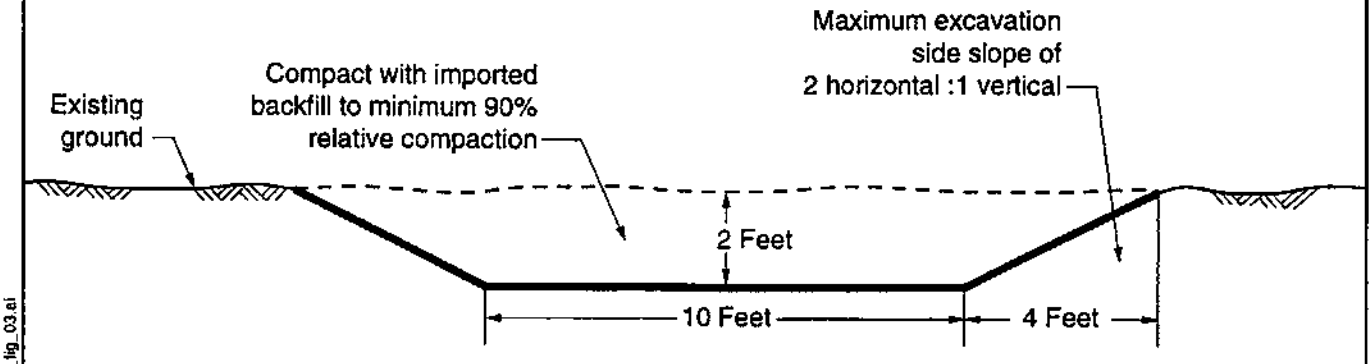
EXCAVATION PLAN
Santa Rosa Station / Third Street Property
Southern Section
Santa Rosa, California

Project No. 2770.05

Figure 2



Plan View



Cross Section

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GEOMATRIX

EXCAVATION PLAN VIEW AND CROSS SECTION (TYPICAL)
Santa Rosa Station / Third Street Property
Southern Section
Santa Rosa, California

Project No.
2770.05

Figure
3

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☐ U.S. Mail ☒ Overnight Mail

Date: June 28, 1999

To: Mr. Jeff Woods
City of Santa Rosa
Department of Community Dev.
100 Santa Rosa Avenue
P.O. Box 1678
Santa Rosa, CA 95402

From: Susan M. Gallardo
Geomatrix Consultants

cc: Ms. Joan Fleck
RWQCB – North Coast Region

Project Number: 2770.05

Project Name: Santa Rosa Station, Southern Section – Excavation of Lead-Affected Soil

Item	Description
1	Completed Grading Permit Application
2	Work Plan
3	Authorization to Conduct Business
4	Check for $40 (plan check fee based on $3,000 job value)
5	Worker's Compensation Insurance Certificate
6	City of Santa Rosa Business Tax Certificate
7	Contractors State License

Remarks

Please contact Renaud Visage (510-663-4196) or Penny Tse (510-663-4164) for additional information.

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☐ U.S. Mail ☒ Overnight Mail

Date: June 28, 1999

To: Mr. Jim Frank
City of Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404
Tel: 707-524-5311

From: Susan M. Gallardo
Geomatrix Consultants

cc: Ms. Joan Fleck
RWQCB – North Coast Region

Project Number: 2770.05

Project Name: Santa Rosa Station, Southern Section – Excavation of Lead-Affected Soil

Item	Description
1	Completed Hazardous Material Permit Application
2	Completed Plan Review Application
3	Work Plan
4	Health and Safety Plan
5	Authorization to Conduct Business
6	Worker's Compensation Insurance Certificate
7	City of Santa Rosa Business Tax Certificate
8	Contractors State License
9	Check for $230

Remarks

Please contact Renaud Visage (510-663-4196) or Penny Tse (510-663-4164) for additional information.

SPTRANS CO
3RD ST. (SOUTH)

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☒ U.S. Mail ☐ Overnight Mail

Date: June 28, 1999

To: Ms. Joan Fleck
RWQCB
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

From: Susan Gallardo
Geomatrix Consultants, Inc.

RWQCB
NORTH COAST
REGION
JUN 30 '99

Project Number: 2770.05

Project Name: Santa Rosa Station/Third Street Property

Item	Description
1.	Work Plan for Excvation of Lead-Affected Soil
2.	City of Santa Rosa Permit Application (Transmittal only)
3.	Fire Department Permit Application (Transmittal only)

Remarks

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☒ TD ___ ☐ BOARD
☐ ___

7/7/99

SP TRANS COMPANY
THIRD ST. (SOUTH)

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

RWQCB
NORTH COAST
REGION

GEOMATRIX

4 '99

☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ ☐ BOARD
☐

JSF 6/7/99

June 2, 1999
Project 2770.05

Mr. Jean E. Destruel
P.O. Box 529
Santa Rosa, California 95402

Subject: Request for Access
Former Mead Clark Lumber Company
Third and Railroad Streets
Santa Rosa, California

Dear Mr. Destruel:

On behalf of Union Pacific Railroad Company (UPRR) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) requests access for field activities to be performed on the former Mead Clark Lumber Company (Mead Clark) site located at Third and Railroad Streets in Santa Rosa, California. This work is being conducted as part of an on-going environmental investigation at the Third Street/Santa Rosa Station property located west and northwest of the Mead Clark site. Geomatrix intends to conduct a coordinated groundwater sampling event with EnviroNet during the upcoming quarterly sampling event for the Mead Clark site.

As approved by the California Regional Quality Control Board, North Coast Region (RWQCB), the Geomatrix sampling plan will include the collection of duplicate samples from the Mead Clark wells which are located on NWPRA property (GW-29 and GW-22), from Mead Clark wells located east of the UPRR/NWPRA site (GW-7, GW-13A, GW-30, GW-31, and GW-39), and from well MW-1 (installed by the RWQCB). It is our understanding that the location and condition of Mead Clark well GW-22 has not been determined to date[1].

Groundwater samples will be analyzed for the following constituents:

- purgeable total petroleum hydrocarbons (TPH) quantified as gasoline (TPHg) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- extractable TPH quantified as diesel (TPHd) according to modified EPA Method 8015; sample sets will be analyzed prior to and following silica gel cleanup procedures by EPA Method 3630;
- volatile organic compounds including methyl tertiary butyl ether (MtBE) according to EPA Method 8260; and

[1] Letter from NWPRA dated June 23, 1998 stated that NWPRA and EnviroNet personnel could not find GW-22 and that this well could be buried under a new signal cabinet pad installed by the North Coast Railroad Authority.

- polynuclear aromatic compounds according to EPA Method 8270.

Additionally, we plan to run fingerprint analysis of selected samples to further evaluate the composition and type of petroleum mixtures that have been detected at the UPRR/NWPRA site.

Based on a telephone conversation with Robert Nelson of EnviroNet, it is our understanding that Mead Clark may be amenable to using a third-party company (such as Blaine Tech Services, Inc. of San Jose, California) to perform the actual sampling activities under the supervision of Geomatrix and EnviroNet staff. Costs associated with well purging, sample collection, and purge/equipment rinse water disposal on a per well basis could be shared by Mead Clark and UPRR.

We appreciate your consideration of our access request to perform this coordinated sampling effort and look forward to your prompt reply. After Mead Clark obtains right-of-entry and access to NWPRA property, we would like to schedule the sampling effort as soon as possible.

Please call John Moe of UPRR at (415) 541-7020 or either of the undersigned if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

cc: John Moe, UPRR
Leah Goldberg, Esq., HBMVR
David Solomon, NWPRA
Robert Nelson, EnviroNet
Joan Fleck, RWQCB

SP TRANS CO.
SOUTHERN PROPERTY

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

RWQCB
NORTH COAST
REGION

APR 19 '99

April 16, 1999
Project 2770.05

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

☐ LM ☐ RK
☐ CJ ☐
☐ FR ☐ KD
☐ RT ☐ PG
☐ JH ☐ JS
☐ SW ☐ ALL STAFF
☑ TD ☐ BOARD
☐

Subject: Proposed Schedule of Activities
Case No. ITSR196
Santa Rosa Station/Third Street Property
Southern Section
Santa Rosa, California

5/3/99 Spoke to Penny Tse. She will coordinate with EnviroNet. EnviroNet needs to renew access permit.

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is providing a schedule for field activities to be performed at the subject site in Santa Rosa, California. The field work consist of two activities: removal of lead-impacted soil and a groundwater sampling event; these activities were proposed in our letter dated November 14, 1997 and approved by the Regional Quality Control Board, North Coast Region (RWQCB) in its letter dated March 10, 1999.

As proposed, Geomatrix will remove the upper two feet of soil in the immediate area surrounding borings SRB-13 and SRB-14. This area (approximately 200 square feet) will be covered with clean fill and compacted. The work will be performed following receipt of appropriate permits and approvals from the City of Santa Rosa and pending subcontractor availability. Based on the anticipated pre-field level of effort, we plan to perform the removal and fill activities in July 1999.

Geomatrix intends to conduct a coordinated groundwater sampling event with the former Mead Clark Lumber Company site consultant (EnviroNet) during their next scheduled quarterly sampling event. In the event that Mead Clark obtains a right of entry from the NWPRA for sample collection of their wells located on the site (GW-22 and GW-29), the Geomatrix sampling plan will include the collection of duplicate samples from the on site Mead Clark wells, from Mead Clark wells located east of the site (GW-7, GW-13A, GW-30, GW-31, and GW-39), and from well MW-1 (property of the RWQCB). However, it should be noted that the location and condition of Mead Clark well GW-22 has not been determined to date[1].

[1] Letter from NWPRA dated June 23, 1998 stated that NWPRA and EnviroNet personnel could not find GW-22 and that this well could be buried under a new signal cabinet pad installed by the North Coast Railroad Authority.

We have communicated with EnviroNet and understand that the next quarterly monitoring and sampling program is not yet scheduled nor has EnviroNet proceeded to obtain a right of entry for sampling. We will orally communicate the sampling schedule to you as it develops.

Groundwater samples will be analyzed for the following constituents:

- purgeable total petroleum hydrocarbons (TPH) quantified as gasoline (TPHg) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- extractable TPH quantified as diesel (TPHd) according to modified EPA Method 8015; sample sets will be analyzed prior to and following silica gel cleanup procedures by EPA Method 3630;
- volatile organic compounds including methyl tertiary butyl ether (MtBE) according to EPA Method 8260; and
- polynuclear aromatic compounds according to EPA Method 8270.

Additionally, we plan to run fingerprint analysis of selected samples to further evaluate the composition and type of petroleum mixtures that have been detected at the site. Groundwater sampling procedures including purging techniques will follow standard Geomatrix protocol (attached).

We appreciate you authorizing an extension for submittal of this proposed schedule of activities. Please call either of the undersigned if you have any questions.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

for

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu

Enclosure

cc: John Moe, UPRR
Leah Goldberg, Esq., HBMVR
David Solomon, NWPRA

RWQCB
NORTH COAST
REGION
APR 19 '99
GEOMATRIX
☐ LM ___ ☐ RK ___
☐ CJ ___ ☐ ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ALL STAFF
☐ TO ___ ☐ BOARD
☐ _____

PROTOCOL

SAMPLING OF GROUNDWATER MONITORING WELLS AND WATER SUPPLY WELLS

1.0 INTRODUCTION

This protocol describes the procedures to be followed during sampling of groundwater monitoring wells and water supply wells for laboratory chemical analysis. The laboratory must be certified by the appropriate regulating agency for the analyses to be performed.

The procedures presented herein are intended to be of general use and may be supplemented by a work plan and/or health and safety plan. As the work progresses and if warranted, appropriate revisions may be made by the project manager. Detailed procedures in this protocol may be superseded by applicable regulatory requirements.

2.0 SAMPLING

2.1 SAMPLE COLLECTION

A. Monitoring Wells

Methods for purging and sampling monitoring wells with dedicated and non-dedicated equipment are described in this Section. When practical, the purging and sampling technique adopted for a given site will remain consistent from one sampling event to the next.

A.1 Purging Monitoring Wells

A submersible pump, diaphragm pump, positive displacement pump, which may contain a bladder, or a bailer will be used for evacuating (purging) the monitoring well casing. If the well is to be sampled using equipment that must be separately introduced into the well, the purge intake will be located near the top of the water column for removal of at least one casing volume to remove stagnant water above the screened interval in the well

casing; the pump may then be moved to the midscreen interval to complete the purging progress, if required. If a bailer is used to purge the monitoring well, it will be gently lowered into the well to reduce the potential for aeration of water. Purging will progress at a rate intended to minimize differential drawdown between the interior of the well screen and the filter material to limit cascading water along the inside of the well casing. Procedures for purging slowly recharging wells are discussed in Section A.3.

A minimum of four well casing volumes or one saturated borehole volume, whichever is greater, will be removed to purge the well prior to collection of groundwater samples if the well will be purged with non-dedicated equipment. If a low-flow capacity pump is dedicated in the well, the micropurge method described in Section A.4 may be used to reduce the purge volume. If the well goes dry before four casing volumes are removed, the procedure discussed in Section A.3 will be followed. The saturated borehole volume is the volume of water in the well casing plus the volume of water in the filter pack. For a well with a dedicated pump and packer, a casing volume is defined as the volume of water in the well casing below the inflated packer.

Periodic observations of turbidity and measurements of temperature, pH, and specific electrical conductance (SEC) will be made with field equipment during purging to evaluate whether the water samples are representative of the target zone. Samples will be collected when: (1) a minimum of four sets of parameter readings have been taken; and (2) the temperature, pH, and SEC reach relatively constant values, and the turbidity has stabilized.

A.2 Sampling Monitoring Wells

The sampler will wear clean gloves appropriate for the chemicals of concern while collecting the sample. Samples will be collected directly in laboratory-prepared bottles from the sampling device.

Each sampling episode or day should generally begin with the well having the least suspected concentrations of target compounds. Successive wells should generally be sampled in sequence of increasing suspected concentration.

A Teflon® bailer, new disposable bailer, stainless steel positive displacement Teflon® bladder pump with Teflon® tubing, or a clean electric submersible pump with low-flow sampling capacity will be used to collect the water samples for laboratory chemical analysis.

If a bailer is being used to collect the sample, it will be gently lowered into the well below the point where the purge device was located. Samples will collected in the following order: (1) volatile organic compounds; (2) semi-volatile organic compounds; (3) metals; (4) other analytes.

If a bladder pump or electric submersible pump is being used to sample the well for volatile compounds, the flow rate will be adjusted to either 1) approximately 100 milliliters per minute; 2) a rate specifically selected for the well based on groundwater flow rates and well hydraulic conditions; or 3) as low as possible. This rate will be maintained until the discharge line has been purged and the sample collected.

A.3 Purging and Sampling Wells With Slow Recharge

Wells that recharge very slowly may be purged dry once, allowed to recharge, and then sampled as soon as sufficient water is available. In this case, at least two sets of parameter readings of field water quality should be taken, one initially and one after recharge.

A.4 Purging and Sampling Wells Using "Micropurge" Sampling Method

Based on current research, a low-flow-rate, reduced purge method may be used to purge and sample a well with a dedicated pump (Barcelona et al., 1994; Kearl et al., 1994). This method may be used if acceptable to applicable agencies. This method assumes the water within the screened interval is not stagnant, and a small change to the natural flow rate in the screened interval will result in samples with particulates and colloidal material representative of groundwater. The pump should be preset in the screen interval at least 24 hours before the sampling event. A minimum of two pump plus riser pipe volumes should be purged at a flow rate of approximately 100 milliliters per minute or as low as possible based on groundwater flow and well hydraulic conditions. Purging should progress until water quality parameters (pH, SEC, temperature) have reached relatively constant values. Dissolved oxygen readings are recommended, if practical.

B. Water Supply Wells

Water supply wells will be sampled by purging the wells for a period of time adequate to purge the pump riser pipe. Alternatively, if the volume of the riser pipe is unknown, the pressure tank will be drained until the pump cycles on, or the well may be purged until three successive field measurements performed 5 to 10

minutes apart have stabilized. If the well is currently pumping, the sample can be taken without purging the well. Water samples will then be collected from the discharge point nearest the well head. Samples will be collected directly into laboratory-prepared bottles.

C. Extraction Wells

Extraction wells will be sampled while extraction is occurring. Samples will be collected from an in-line sampling port after purging the sampling line. Samples will be collected directly into laboratory-prepared bottles.

A WELL SAMPLING AND/OR DEVELOPMENT RECORD will be used to record the following information:

- Sample I.D.
- Duplicate I.D., if applicable
- Date and time sampled
- Name of sample collector
- Well designation (State well numbering system for water supply wells, and unique sequential number for other wells)
- Owner's name, or other common designation for water supply wells
- Well diameter
- Depth to water on day sampled
- Casing volume on day sampled
- Method of purging (bailing, pumping, etc.)
- Amount of water purged
- Extraordinary circumstances (if any)
- Results of instrument calibration/standardization and field measurements (temperature, pH, specific electrical conductance) and observed relative turbidity
- Depth from which sample was obtained
- Number and type of sample container(s)
- Purging pump intake depth
- Times and volumes corresponding to water quality measurement
- Purge rate

2.2 SAMPLE CONTAINERS AND PRESERVATION

Appropriate pre-cleaned sample containers and preservatives for the analyses to be performed will be obtained from the subcontracted analytical laboratory. Frequently requested analyses and sample handling requirements are listed in Table 1.

2.3 SAMPLE LABELING

Sample containers will be labeled before or immediately after sampling with self-adhesive tags having the following information written in waterproof ink:

- Geomatrix
- Project number
- Sample I.D. number
- Date and time sample was collected
- Initials of sample collector

2.4 QUALITY CONTROL SAMPLES

In order to evaluate the precision and accuracy of analytical data, quality control samples, such as duplicates and blanks, will be periodically prepared. These samples will be collected or prepared and analyzed by the laboratory, as specified in the project Quality Assurance Project Plan (QAPP) or by the project manager.

2.5 HANDLING, STORAGE, AND TRANSPORTATION

Efforts will be made to handle, store, and transport supplies and samples safely. Exposure to dust, direct sunlight, high temperature, adverse weather conditions, and possible contamination will be avoided. Immediately following collection, samples will be placed in a clean chest that contains ice or blue ice (if cooling is required), and will be transported to the subcontracted laboratory as soon as practical, or in accordance with the project QAPP.

3.0 FIELD MEASUREMENTS

Field measurements of temperature, pH, and SEC will be performed on aliquots of groundwater that will not be submitted for laboratory analysis. Field water quality measurements and instrument calibration details will be recorded on the WELL SAMPLING AND/OR DEVELOPMENT RECORD.

3.1 TEMPERATURE MEASUREMENTS

Temperature measurements will be made with a mercury-filled thermometer or an electronic thermistor, and all measurements will be recorded in degrees Celsius.

3.2 pH MEASUREMENT

The pH measurement will be made as soon as possible after collection of the sample, generally within a few minutes. The pH will be measured by immersing the pH probe into an aliquot of groundwater.

The pH meter will be calibrated at the beginning of and once during each sampling day and whenever appropriate, in accordance with the equipment manufacturer's specifications, as outlined in the instruction manual for the specific pH meter used. Two buffers (either pH-4 and pH-7, or pH-7 and pH-10, whichever most closely bracket the anticipated range of groundwater conditions) will be used for instrument calibration.

3.3 SPECIFIC ELECTRICAL CONDUCTANCE MEASUREMENT

SEC will be measured by immersing the conductivity probe into an aliquot of groundwater. The probes used should automatically compensate for the temperature of the sample. Measurements will be reported in units of micro-Siemens (μS) per square centimeter (equivalent to micromhos or μmhos) at 25 degrees Celsius.

The SEC meter will be calibrated at the beginning and once during each sampling day in

accordance with the equipment manufacturer's specifications, as outlined in the instruction manual for the SEC meter used. The SEC meter will be calibrated with the available standardized potassium chloride (KCl) solution that is closest to the SEC expected in groundwater below the site.

4.0 DOCUMENTATION

4.1 FIELD DATA SHEETS

A DAILY FIELD RECORD will be completed for each day of fieldwork. A WELL SAMPLING AND/OR DEVELOPMENT RECORD will be used for each well to record the information collected during water quality sampling. Samples may also be recorded on a SAMPLE CONTROL LOG SHEET or in the DAILY FIELD RECORD as a means of identifying and tracking the samples. Following review by the project manager, the original records will be kept in the project file.

4.2 CHAIN-OF-CUSTODY PROCEDURES

After samples have been collected and labeled, they will be maintained under chain-of-custody procedures. These procedures document the transfer of custody of samples from the field to the laboratory. Each sample sent to the laboratory for analysis will be recorded on a CHAIN-OF-CUSTODY RECORD, which will include instructions to the laboratory for analytical services.

Information contained on the triplicate CHAIN-OF-CUSTODY RECORD will include:

- Project number
- Signature of sampler(s)
- Date and time sampled
- Sample I.D.
- Number of sample containers
- Sample matrix (water)
- Analyses required

- Remarks, including preservatives, special conditions, or specific quality control measures
- Turnaround time and person to receive laboratory report
- Method of shipment to the laboratory
- Release signature of sampler(s), and signatures of all people assuming custody.
- Condition of samples when received by laboratory

Blank spaces on the CHAIN-OF-CUSTODY RECORD will be crossed out between the last sample listed and the signatures at the bottom of the sheet.

The field sampler will sign the CHAIN-OF-CUSTODY RECORD and will record the time and date at the time of transfer to the laboratory or to an intermediate person. A set of signatures is required for each relinquished/reserved transfer, including transfer within Geomatrix. The original imprint of the chain-of-custody record will accompany the sample containers. A duplicate copy will be placed in the project file.

If the samples are to be shipped to the laboratory, the original CHAIN-OF-CUSTODY will be sealed inside a plastic bag within the ice chest, and the chest will be sealed with custody tape which has been signed and dated by the last person listed on the chain-of-custody. U.S. Department of Transportation shipping requirements will be followed and the sample shipping receipt will be retained in the project files as part of the permanent chain-of-custody document. The shipping company (e.g., Federal Express, UPS, DHL) will not sign the chain-of-custody forms as a receivor; instead the laboratory will sign as a receivor when the samples are received.

5.0 EQUIPMENT CLEANING

Bailers, sampling pumps, purge pumps, and other non-dedicated purging or sampling apparatus will be cleaned before and after sampling each well. Factory new and sealed disposable bailers may be used for sampling, but may not be reused. Thermometers, pH

electrodes, and SEC probes that will be used repeatedly will be cleaned before and after sampling each well and at any time during sampling if the object comes in contact with foreign matter.

Purged waters and solutions resulting from cleaning of purging or sampling equipment will be collected and stored properly for future disposal by the client, unless other arrangements have been made.

Cleaning of reusable equipment that is not dedicated to a particular well will consist of the following:

- Bailers - the inside and outside of bailers will be cleaned in a solution of laboratory-grade detergent and potable water, followed by a rinse with deionized (DI) water. They may also be steam-cleaned, followed by a DI water rinse. If samples are to be collected for metals analysis, the Teflon® bailer may be rinsed with a pH2 nitric acid solution followed by a double DI rinse.

- Purge Pumps - All downhole, reusable portions of purge pumps will be steam-cleaned on the outside. If the pump does not have a backflow check valve, the inside of the pump and tubing also should be steam-cleaned. For a purge pump with a backflow check valve, the interior of the pump and tubing may be cleaned by pumping a laboratory-grade detergent and potable water solution through the system followed by a potable water rinse, or by steam-cleaning.

- Water Quality Meters - All meters will be cleaned by rinsing the probe portions in DI water, and allowing to air dry.

- Bailer Tripod - The tripod cable will be steam-cleaned or rinsed with DI water.

Sample bottles and bottle caps will be cleaned by the subcontracted laboratory using standard EPA-approved protocols. Sample bottles and bottle caps will be protected from contact with solvents, dust, or other contamination. Sample bottles will not be reused.

6.0 REFERENCES

Barcelona, M.J., et al., 1994, Reproducible Well-Purging Procedures and VOC Stabilization Criteria for Ground-Water Sampling: *Groundwater*, January-February.

Kearl, P.M., et al., 1994, Field Comparison of Micropurging vs. Traditional Ground Water Sampling: *Ground Water Monitoring Review*, Fall.

Attachments:
Water and Soil Analytical Methods and Sample Handling
Well Sampling and/or Development Record
Daily Field Record
Chain-of-Custody Record
Sample Control Log Sheet

GEOMATRIX

TABLE 1

WATER AND SOIL ANALYTICAL METHODS AND SAMPLE HANDLING

Parameter	Method	Water Containers[1]	Preservation[1]	Maximum Holding Time[1]
Total Petroleum Hydrocarbons: • as diesel • as gasoline	 GCFID (3550)[2] GCFID (5030)[2]	 2 - 1 liter amber glass 2 - 40 ml VOA glass	 cool on ice HCL to pH 2 in water samples: cool on ice	 14 days (unacidified water, 7 days) 14 days (unacidified water, 7 days)
Benzene, Toluene, Xylene, and Ethylbenzene	EPA 8020	2 - 40 ml VOA glass	HCL to pH 2 in water samples: cool on ice	14 days (unacidified water, 7 days)
Oil and Grease	5520 E & F (soil)[3] 5520 C & F (water)[3]	2 - 1 liter amber glass	H_2SO_4 to pH <2 in water samples: cool on ice	28 days
Volatile Organics	EPA 8010 EPA 8240[5]	2 - 40 ml VOA glass 2 - 40 ml VOA glass	cool on ice[4] HCL to pH 2 in water samples: cool on ice	14 days (unacidified water, 7 days) 14 days (unacidified water, 7 days)
Semi-volatile Organics	EPA 8270	2 - 1 liter amber glass	cool on ice	7 days for extraction, water 14 days for extraction, soil 40 days for analysis
Polynuclear Aromatic Hydrocarbons	EPA 8310	2 - 40 ml VOA glass	cool on ice	7 days, water 14 days, soil
Metals (dissolved)	EPA 7000 series for specific metal	1 - 500 ml plastic	Water Samples: field filtration (0.45 micron filter) and field acidify to pH 2 with HNO_3 except: Cr^{+6} - cool on ice	6 months, except: Hg - 28 days Cr^{+6} - 24 hours, water; 24 hours after prep, soil

Notes:

1 All soil samples should be collected in full, clean brass liners, capped with aluminum foil or Teflon and plastic caps, and sealed with tape. If soil samples are to be analyzed for metals, they may be placed in laboratory-prepared clean glass jars. Soil should be cooled as indicated under "preservation" and maximum holding times apply to both soil and water unless otherwise noted.

2 For analysis in California, use California DHS recommended procedure as presented in LUFT manual using gas chromatography with a flame ionization detector. In other states, local requirements should be followed.

3 Method to be used in California Regional Water Quality Control Board North Coast and Central Valley Regions. In other areas, local requirements should be followed.

4 If EPA Methods 8010 and 8020 are to be run in sequence, HCL may be added. Check with the project manager before adding acid.

5 Chloroethylvinylether may be detected at concentrations below 50 parts per billion due to degradation of HCL.

References:

U.S. EPA, 1986, Test Methods for Evaluating Solid Waste - Physical/Chemical Methods - SW-846, Third Edition, July, and final amendments.

California State Water Resources Control Board, 1989, Leaking Underground Fuel Tank (LUFT) Field Manual, Tables 3-3 and 3-4, October.

California Regional Water Quality Control Boards, North Coast, San Francisco Bay, and Central Valley Regions, 1990, Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks, 10 August.

GEOMATRIX

WELL SAMPLING AND/OR DEVELOPMENT RECORD

Well ID: _____

Sample ID: _____ Duplicate ID: _____

Sample Depth: _____

Project and Task No.: _____

Project Name: _____

Date: _____

Sampled By: _____

Method of Purging: _____

Method of Sampling: _____

Initial Depth to Water: _____

Depth to Water after Sampling: _____

Total Depth of Well: _____

Well Diameter: _____

1 Casing/Borehole Volume = _____
(Circle one)

4 Casing/Borehole Volumes = _____
(Circle one)

Total Casing/Borehole Volumes Removed: _____

Time	Intake Depth	Rate (gpm)	Cum. Vol. (gal.)	Temp. (°C)	pH (units)	Specific Electrical Conductance (µS/cm)	Remarks (color, turbidity, and sediment)

pH CALIBRATION (choose two)				
Buffer Solution	pH 4.0	pH 7.0	pH 10.0	
Temperature °C				
Instrument Reading				

Model or Unit No.:

SPECIFIC ELECTRICAL CONDUCTANCE – CALIBRATION			
KCL Solution (µS/cm = µmhos/cm)			
Temperature °C			
Instrument Reading			

Model or Unit No.:

Notes: _____

DAILY FIELD RECORD

GEOMATRIX

Project and Task Number:	Date:
Project Name:	Field Activity:
Location:	Weather:
Time of OVM Calibration:	

PERSONNEL: Name	Company	Time In	Time Out

PERSONAL SAFETY CHECKLIST

	Steel-toed Boots		Hard Hat		Tyvek Coveralls
	Rubber Gloves		Safety Goggles		1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED

DAILY FIELD RECORD (continued)

GEOMATRIX

Page _____ of _____

Project and Task Number: _____ Date: _____

Time	Description of Work Performed

CHAIN-OF-CUSTODY RECORD

Nº

Date:

Page of

Project No.:

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8020 (BTEX only)	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel												Cooled	Soil (S), Water (W), or Vapor (V)	Acidified	Number of containers	Additional Comments

ANALYSES

REMARKS

Turnaround time:

Results to:

Total No. of containers:

Relinquished by (signature):	Date:	Relinquished by (signature):	Date:	Relinquished by (signature):	Date:	Method of Shipment:
Printed Name:	Time:	Printed Name:	Time:	Printed Name:	Time:	Laboratory Comments and Log No.:
Company:		Company:		Company:		
Received by (signature):	Date:	Received by (signature):	Date:	Received by (signature):	Date:	GEOMATRIX
Printed Name:	Time:	Printed Name:	Time:	Printed Name:	Time:	
Company:		Company:		Company:		

Forms(PF).012b (Revised 12/95)

SAMPLE CONTROL LOG

GEOMATRIX

Project Name: _____ Laboratory: _____

Project and Task No.: _____ Page _____ of _____

Sampling Date	Sampling Time	Sample Number (ID)	C.O.C. Number	Analyses Requested	Turnaround Time, Sample Location, Handling Notes, Chain-of-Custody Remarks, et. (Duplicate, blank info, etc.)	Date Sent to Lab	Date Results Due

Forms(PF).006 (Revised 12/95)

California Regional Water Quality Control Board

North Coast Region

Ross R. Liscum, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone (707) 576-2220 • FAX (707) 523-0135

Gray Davis
Governor

March 10, 1999

Mr. Richard A. Moshier
Deputy Director-Engineering
City of Santa Rosa
Department of Public Works
69 Stony Circle
Santa Rosa, CA 95401

Dear Mr. Moshier:

Subjects: Santa Rosa Department of Public Works, Third Street, Santa Rosa, Case No. 1TSR198
Cobb, Ray, 2 Third Street, Santa Rosa, Case No. 1TSR199
Franchetti, Peter, 3 Third Street, Santa Rosa, Case No. 1NSR197
Southern Pacific Transportation Company, Third Street Property, Case No. 1TSR196
Mead Clark Lumber Company, 3rd & Wilson, Santa Rosa, Case No. 1TSR016

Your December 7, 1998 letter has been reviewed. City comments are highlighted below followed by Regional Water Board staff comments.

On or around July 24, 1991, the RWQCB also contacted other potentially responsible parties with similar requests for work plans. To our knowledge the City is the only potentially responsible party that has participated in the RWQCB efforts to mitigate this threat to water quality.

In July 1991, Regional Water Board staff sent letters to David Sierra (15 Third Street), Ray Cobb (2 Third Street), Peter Franchetti (3 Third Street), Southern Pacific Transportation Company and the City of Santa Rosa (Third Street).

1. Mr. Sierra was contacted because a gasoline tank was located (or formerly located) at the southwest corner of the 15 Third Street building. An investigation was conducted; soil and groundwater samples were collected surrounding the tank location and no evidence of a release was reported. The case was closed in October 1996.

2. Mr. Franchetti was contacted because the "Third Street Culvert" discharge pipe extends from the east creek bank beneath the No. 3 Third Street property. However, the results of subsurface investigative work conducted on the Franchetti and railroad properties indicate that the source of the creek discharge originates from the area of Third Street. The Franchettis have not been directed to conduct further work associated with the discharge.

3. Mr. Cobb was contacted because: 1) a 1951 Fire Insurance Map shows a fuel dispenser located immediately south of Third Street, and 2) a monitoring well located in Third Street in the vicinity of the fuel dispenser location contains floating product. The location of the tank, or former tank, was suspected to be beneath the building. Since the issuance of our letter, an employee of the former owner (Poultry Producers) identified the location of a gasoline tank (that he pumped gasoline from) at the north side of the property immediately adjacent to the Third Street sidewalk. This portion of the property was purchased from Mr. Cobb by the City in 1965 for a road widening project. Therefore, it appears that the tank location, or former location, is beneath the City street rather than beneath the building. Mr. Cobb has not been directed to conduct further work.

4. Southern Pacific Transportation Company was contacted because two underground storage tanks were formerly located south of Third Street, west of the railroad tracks and east of the Cobb building. We are currently working with Union Pacific Railroad regarding soil and groundwater contamination in the vicinity of two former underground storage tanks.

5. The City was notified because of the same reasons Mr. Cobb was notified. Currently, the available information indicates that the underground tank, or former tank, location is beneath Third Street. Please see comment No. 3.

6. We are working also with Mr. Jean Destruel regarding the former Mead Clark Lumber Company gasoline tank.

To date, all work has been in the public street and no tank has been found. In addition, the isometric map presented in our December 15, 1997 report indicates that the contaminate levels in the street increase with distance away from the suspected tank location. For these reasons, the City believes that if a tank does exist it is probably on private property.

Based on the existing information, the tank, or former tank, location is beneath Third Street. The tank may have already been removed. We have no other evidence that a tank exists on private property. The isoconcentration map (rather than isometric map) did not acknowledge the presence of floating product in MW-23, which is in close proximity to a source of contamination. And, isoconcentration maps constructed using grab groundwater sample results, rather than repeatable data over time, may not be accurate.

We acknowledge the potential for upgradient sources of contamination, including the railroad and Mead Clark Lumber Company former tanks. However, the release from the existing, or former, tank beneath Third Street has not been adequately been addressed and is considered the primary source of the Third Street Culvert discharge.

The City wants to continue to work with the RWQCB to stop the direct impact on the creek by stopping the culvert discharge and by identifying other sources of contamination, and asks that the RWQCB involve adjacent property owners in the next phase of the project. The next phase of this project should begin with a meeting arranged by the RWQCB, including all responsible parties to plan an overall strategy.

We appreciate the City's willingness to help. Our records show that the City began researching an allegation in February 1998 that another gasoline UST existed inside the Cobb building. In April 1998, we were informed that a private investigator was hired to conduct the research work; however, by June 1998 no new information was provided.

Therefore, at this time, the City is the only potential responsible party regarding the tank, or former tank, location beneath Third Street. We welcome another meeting with the City as soon as possible to plan an overall strategy. I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JEF:tab/culvert.doc

cc: Mr. Jim Frank, Santa Rosa Fire Department

Mr. Ray Cobb, T.M. Cobb, 2372 Morse Avenue, Irvine, CA 92714-6292

Mr. Peter Franchetti, P.O. Box 408, Santa Rosa, CA 95402

Mr. Jean Destruel, P.O. Box 529, Santa Rosa, CA 95402

Mr. John Moe, Union Pacific Railroad, One Market Plaza, San Francisco, CA 94105

Cal/EPA

North Coast Regional Water Quality Control Board

5550 Skylane Blvd
Suite A
Santa Rosa, CA
95403
(707) 576-2220
FAX (707) 523-0135

Pete Wilson
Governor

March 13, 1998

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

The November 1997 "Response to 30 September 1997 Letter" prepared by Geomatrix for the subject site has been reviewed. Regional Water Board staff comments are:

Southern Property

We concur with the proposal to conduct the coordinated sampling event with the consultant doing work for Jean Destruel (former Mead Clark Lumber Company) for the purpose of collecting duplicate samples. As mentioned in our September 30, 1997 letter, the well located on the Northwestern Pacific Railroad Authority (NWPRA) property in the vicinity of the former underground storage tanks is an extraction well screened across two water bearing zones. Therefore, please provide us in advance of field work with a description of your purge methods, if any. Please provide us with your proposed analytes and analytical methods.

We understand that EnviroNet, on behalf of Mr. Destruel, is in the process of pursuing a site access agreement from the NWPRA to conduct work on the southern property.

We acknowledge the likelihood for on-site migration of gasoline from the east. However, inconclusive and insufficient information has been provided for Regional Water Board staff to conclude that the former Mead Clark Lumber Company tank is the sole source of groundwater impact beneath the railroad property. Please refer to our February 20, 1997 letter regarding diesel contamination in the vadose zone which may be indicative of surface spillage.

Please contact Jim Frank with the Santa Rosa Fire Department at (707) 543-3526 concerning the proposal to remove soil in the vicinity of SRB-13 and SRB-14. An excavation and backfilling permit may be required.

Option Property

In our September 30, 1997 letter, we indicated that we were interested in sufficient characterization of the property to evaluate the threat or impact to water quality. Geomatrix, on your behalf, proposes to drill soil borings SRB32 through SRB34 along the western edge of the property for the collection of grab groundwater samples for PNA and diesel analyses. We do not concur that the proposed work will adequately characterize the option property which was a former water and fueling yard.

Additional comments include:

* It was stated on page 3 that "depth to water is indicated on page 6 of the text and on the corresponding lithologic logs in Appendix C of the February 1997 report (approximately 10 to 12 feet)."

  We are aware of the general depth to groundwater beneath the site. We are interested in knowing the depth to groundwater in the individual borings and the depth where the groundwater samples were collected. The depth to groundwater was not identified on the boring logs unless a symbol, other than that shown on the "Boring Log Explanation" was used.

* We also requested additional information concerning the turn table, and piping associated with the 3000-barrel above-ground tank, oil traps and oil column. Geomatrix reports on page 4 that, "No additional information is available pertaining to the exact location, use, or condition of former piping or other features within the Option Property." We suggest exploratory field work to supplement where historical information is lacking. These issues will need to be addressed.

* Geomatrix reports on page 4 that, "There were no documented water supply wells on the property". We can agree that documentation is often lacking concerning the presence of water supply wells on properties. However, the response did not answer the question which was an inquiry concerning the use of the former pump houses.

* We requested a copy of the Phase I which has not been provided. Attachment A has yet to be provided.

This case has been transferred to the Site Mitigation Unit of our office for regulatory oversight since the majority of issues appear to be non-underground storage tank related. If you have any questions I can be reached at (707) 576-2675. We look forward to a receipt of a workplan that will adequately characterize the property.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JF:das/unionpac

cc: Santa Rosa Fire Department
Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111
Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173

Southern Pacific Trans Co.
Third Street Property
Santa Rosa

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(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

14 November 1997
Project 2770.05

WATER QUALITY
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Geomatrix
Faxed
Copy
on 11/14/9
at 15:
JS

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Subject: Response to 30 September 1997 Letter
Case No. ITSR196
Santa Rosa Station/Third Street Property
Southern Section and Option Property
Santa Rosa, California

Dear Ms. Fleck:

On behalf of Union Pacific Railroad Company (UPRR, formerly Southern Pacific Transportation Company) and the Northwestern Pacific Railroad Authority (NWPRA), Geomatrix Consultants, Inc. (Geomatrix) is responding to the 30 September 1997 letter from the Regional Water Quality Control Board, North Coast Region (RWQCB) regarding the subject site in Santa Rosa, California (Figure 1). The subject site was divided into three general areas of investigation (Figure 2): The Southern Section which is located south of Third Street, the Northern Section which is located north of Third Street, and the Option Property which is located north of Third Street and west of the Northern Section.

As indicated in the RWQCB letter, no further work is required in the Northern Section. The following sections of this letter address your comments regarding the previous work performed in the Southern Section and the Option property, as documented in Geomatrix's 31 October 1996[1] and 21 February 1997 reports[2].

SOUTHERN SECTION

Petroleum Hydrocarbon Characterization

In its October 1996 report, Geomatrix concluded petroleum hydrocarbons quantified as gasoline that were detected in groundwater migrated onto the property from an upgradient (interpreted groundwater flow direction is to the southwest and west), off-site source; no diesel

[1] Geomatrix Consultants, Inc., 1996, "Results of Soil and Groundwater Sampling, Northwestern Pacific Railroad, Property Near Santa Rosa Station, Santa Rosa, California," 31 October.

[2] Geomatrix Consultants, Inc., 1997, "Results of Soil and Groundwater Sampling, Northwestern Pacific Railroad, Santa Rosa Station Option Property, Santa Rosa, California," 21 February.

or petroleum products that may have been associated with former site operations had impacted soil or groundwater at the site. This conclusion was supported by the following information:

- No petroleum hydrocarbons quantified as diesel (TPHd) or motor oil (TPHm) were detected in vadose zone soil samples collected at the site by either Industrial Compliance[3] (near the former underground storage tanks[USTs]) or Geomatrix (near the former USTs and other locations at the site). These results indicate that there is no on-site source for the constituents detected in groundwater beneath the site.

- As reported by Geomatrix in its October 1996 report, the magnitude of the concentrations of TPHd reported by Industrial Compliance in grab groundwater samples collected in the Southern Section (14 and 6.4 milligrams per liter [mg/l]) may suggest the presence of dissolved, lighter-end petroleum hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel due to the laboratory analytical method used (EPA Method 8260).

- The absence of TPHd in groundwater at the site was confirmed with analysis of grab groundwater samples collected by Geomatrix in March 1995. At this time, significant concentrations of gasoline in the groundwater were confirmed.

- Data from monitoring wells at the adjacent, upgradient Mead Clark Lumber Company site indicate significant concentrations of gasoline (product and dissolved constituents). Grab groundwater samples collected along the eastern boundary of the Southern Section, which is upgradient of the former UST location, contained significantly elevated concentrations of gasoline and related constituents, indicating that gasoline from the Mead Clark Lumber Company site is migrating onto the Southern Section.

We disagree that the Southern Section is a potential source of diesel to groundwater. However, to address the RWQCB's concern, we propose to collect duplicate samples from wells located upgradient and on the Southern Section during the next Mead Clark Lumber Company sampling event that we understand will be occurring in the near future; we also will collect a groundwater sample from well MW-1 that is located on the Southern Section at this time. The purpose of this sampling will be to determine whether the petroleum hydrocarbons detected on the Southern Section are of similar composition to the petroleum hydrocarbons detected at the Mead Clark Lumber Company site. As requested by the RWQCB, we also will analyze the samples for polynuclear aromatic compounds (PNAs).

---

[3]Industrial Compliance, 1992, "Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California," 30 July.

Lead Detections in Soil

As indicated in the Geomatrix report, lead was detected at elevated concentrations relative to background for the site in the shallow soil sample collected from each of the two borings. These concentrations (590 and 170 milligrams per kilogram) are well below hazardous waste concentrations and below the Preliminary Remediation Goals[4] for industrial soil. However, to address the RWQCB's concern of the potential threat for surface run-off of lead to the Santa Rosa Creek, we propose removing the upper two feet of soil in the immediate area surrounding borings SRB-13 and SRB-14. This area (approximately 200 square feet) will be covered with clean fill and nominally compacted.

OPTION PROPERTY

Report Clarifications

Depth to groundwater: grab groundwater samples were collected from between approximately 10 to 12 feet below ground surface (bgs) in all borings (SRB20 through SRB31). For borings SRB20 through SRB28, depth to water is indicated on page 6 of the text and on the corresponding lithologic logs in Appendix C of the February 1997 report (approximately 10 to 12 feet bgs). Borings SRB29, SRB30, and SRB31 (grab groundwater samples only) were advanced to groundwater based on previous borings in the area; specific depth to groundwater measurements were not collected for these borings.

Field screening results and field observations used to analyze discrete samples: with respect to analysis of discrete soil samples, field screening procedures did not include the use of a quantitative measuring device such as a photoionization detector. The decisions to analyze discrete samples in lieu of composite samples (borings SRB21, SRB22, and SRB27) were based on qualitative field observations during sample collection. The soil samples collected between approximately 6 to 11 feet bgs and 12.5 to 13.5 feet bgs for borings SRB21 and SRB22, respectively, exhibited unusual odors relative to the soil from other borings collected in the area in the opinion of Geomatrix field personnel. Discrete shallow soil samples were analyzed for boring location SRB27 because this boring was located approximately where stockpiled drums with associated surface staining was observed. Only low to non-detectable petroleum concentrations were reported by the laboratory in these samples.

Information Pertaining to Historical Features

The locations of current and historical features on the Option Property (turn tables, pit traps, pump house, etc.) were based on Northwestern Pacific Railroad (NWPRR) valuation maps.

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[4] United States Environmental Protection Agency (EPA), 1996, Region 9 Preliminary Remediation Goals, 1 August.

These maps indicate the approximate locations of facilities on and around railroad property for information purposes only and do not reflect surveyed locations. No additional information is available pertaining to the exact location, use, or condition of former piping or other features within the Option Property. Additionally, based on the results presented in the October 1996 and February 1997, these historical features have not impacted groundwater quality on the property.

There were no documented water supply wells on the property.

Total Petroleum Hydrocarbons Detected in Groundwater (Fuel/Heating Oil Tank Area)

As reported by Geomatrix in its February 1997 report, Industrial Compliance reported the presence of TPHd in a grab groundwater sample collected near a former fuel oil UST at a concentration of 31 mg/l (figure 3, boring IC-B6). Grab groundwater samples collected by Geomatrix near and approximately downgradient to the former fuel oil UST did not contain TPHd. Additionally, groundwater samples collected from downgradient wells MW-2 and MW-3 by the RWQCB in 1990 also do not support that a groundwater impact has occurred as a result of the former fuel oil UST. The concentration of TPHd that was detected in the Industrial Compliance sample and the irreproducibility of this data by both Geomatrix and the RWQCB, may suggest the presence of non-dissolved petroleum in the sample. It should be noted that the vadose zone soil sample from IC-B6 contained TPHd at 37 milligrams per kilogram (mg/kg) and that the drilling method used by Industrial Compliance (California-modified split spoon) is commonly known to displace soil to lower depths. Thus, the reported TPHd in the Industrial Compliance sample could be an artifact of the grab sampling method and indicate that no groundwater impact has occurred.

Additionally, with regard to heating oil tanks, leakage from such tanks and their appurtenant structures generally have had little or no impact on water quality due to the lower migration potential of this later-boiling point hydrocarbon mixture relative to organic solvents or other fuels[5]. No soil or groundwater sampling should be required when closing such a tank unless there is some independent information that a water quality problem exists.

Based on the above listed factors, we do not recommend further sampling in this area.

Sampling Adjacent to Former Site Features

Boring SRB23 was located immediately south and approximately downgradient of the former 3000-gallon barrel aboveground storage tank. The results of the composite soil sample

[5] SFRWQCB, 1994, Letter to San Francisco Bay Area Agencies Overseeing UST Cleanup, Re: Residential or Farm Heating Oil Tanks, 21 June.

analysis indicate that shallow (1.5 to 7.5 feet bgs) soil in this area contains low concentrations of petroleum and polynuclear aromatic hydrocarbons but these constituents were not detected in the deeper (10 to 14.5 feet bgs) sample. Additionally, the grab groundwater sample analysis from this boring was non-detect for TPHd, TPHm, and volatile organic compounds (VOCs). If activities pertaining to the use of this tank had affected the groundwater quality in this vicinity, the results at this source and approximately downgradient location would have been expected to detect significant concentrations of the previously mentioned analytes. Identifying the lateral extent of low levels of petroleum and polynuclear aromatic hydrocarbons in soil would not provide any additional information with respect to the groundwater quality in this area because groundwater at this potential source was not impacted.

The intent of borings SRB21 and SRB22 was to assess the possibility of significant environmental impact to soil and groundwater quality in the vicinity of the oil traps. As previously mentioned, information provided on the railroad valuation maps regarding feature locations was not surveyed by the NWPRR and as a result, the plotted locations of the former oil traps on Geomatrix figures are approximate. Due to obstructions (such as debris) present at the site at the time of sampling, boring SRB222 was placed as close to the approximate former oil trap location as possible. It is significant to note that although SRB22 does not appear to be located specifically at the former oil trap, it is directly downgradient of it. Soil sample analytical results from each of borings SRB21 and SRB22 indicate the presence of weathered, relatively immobile TPHd and TPHm. Additionally, as reported, low concentrations of PNAs were reported in some samples. Grab groundwater results for these borings were non-detect for TPHd, TPHm, and VOCs, indicating no impact to groundwater from these analytes at or downgradient of the former oil traps. Therefore, based on these results, defining the lateral extent of affected soil in the vicinity of the oil traps is not relevant since groundwater at these potential sources was not impacted.

We do not concur that additional sampling to evaluate the lateral extent of TPHm detected in shallow soil at boring location SRB20 is required. The grab groundwater sample at this location confirms that no groundwater impact has occurred in this area. Furthermore, soil samples collected at borings SRB24, SRB25, and SRB26, also located along trackage, did not contain petroleum hydrocarbons, indicating that the concentration of TPHm in shallow soil at SRB20 is not indicative of the presence of petroleum hydrocarbons beneath trackage throughout the site.

Analysis of PNAs in Groundwater

As stated in the Geomatrix report, PNAs were not detected in significant concentrations in soil at the site. Additionally, the detected PNAs are relatively insoluble. However, to satisfy the RWQCB's concern for sufficient characterization of this property with respect to water

quality, we propose collecting three additional grab groundwater samples along the downgradient, eastern edge of the property as indicated on Figure 2 (proposed borings SRB32 through SRB34). These borings are near and downgradient of the former aboveground oil tank and of SRB21 and SRB22 (oil trap) were PNAs were detected at depth. Grab groundwater samples will be collected in accordance with Geomatrix protocols (Attachment A) and transported under Geomatrix chain-of-custody procedure to a state-certified analytical laboratory for chemical analysis. Samples will be analyzed for PNAs by EPA Method 8310. Additionally, to confirm our previous results, we will analyze the samples for TPHd according to EPA Method 8015 following silica gel cleanup (EPA Method 3630B).

Drill cuttings and equipment wash water will be stored on-site in labeled drums pending appropriate disposal. Borings will be backfilled to the ground surface with cement grout.

We would appreciate discussing this response to the 30 September RWQCB letter with you as soon as possible so that we can implement the work presented herein. Please call either of the undersigned with your comments.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Penny M. Tse, P.E.
Project Engineer

Susan M. Gallardo, P.E.
Principal Engineer

PMT/SMG:ldu
I:\PROJECT\2770\14NOV97.DOC

cc: John Moe, UPRR
Leah Goldberg, HBMVR

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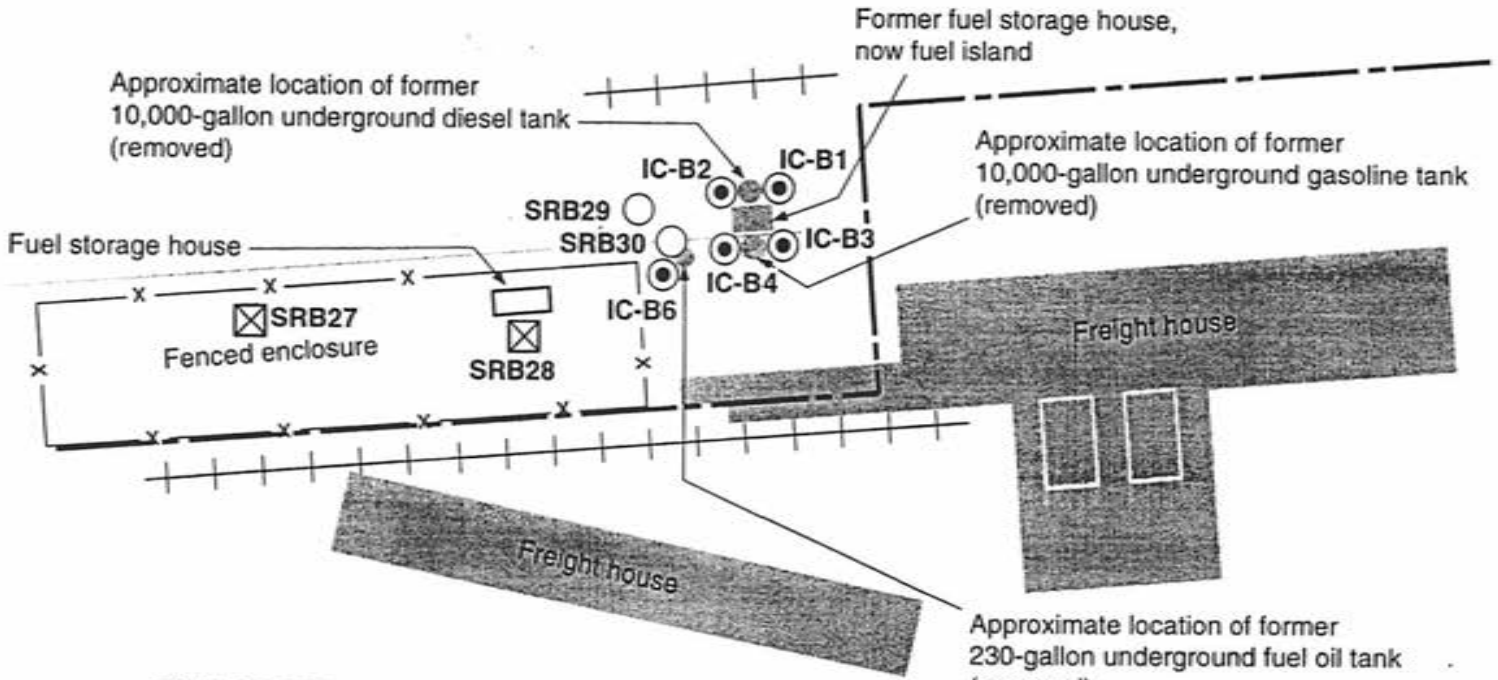
GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018



EXPLANATION

- ○ Geomatrix Phase II grab groundwater only sampling location
- ⊠ Geomatrix Phase II soil only sampling location
- IC-B2 ◉ Approximate soil sampling location performed by Industrial Compliance (May 1992)
- ▒ Indicates historical feature for which no surface features were observed
- ——·—— Option property boundary

0 80 Feet

Approximate scale

Drawing is schematic

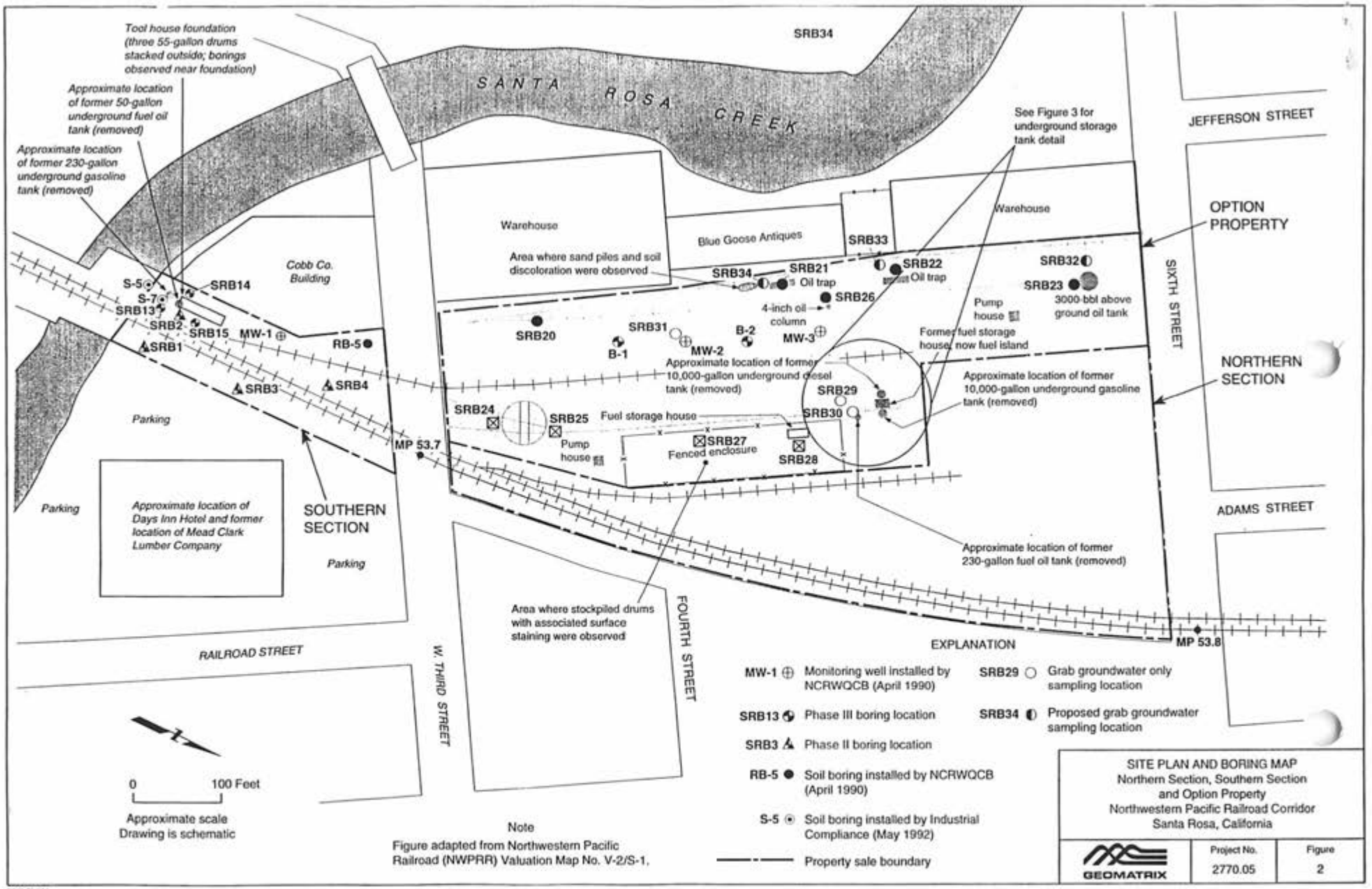
GEOMATRIX

UNDERGROUND STORAGE TANK REMOVAL-DETAIL
Northwestern Pacific Railroad Corridor
Santa Rosa Station Option Property
Santa Rosa, California

Figure 3

Project No. 2770.04

96P367.004



SITE PLAN AND BORING MAP
Northern Section, Southern Section
and Option Property
Northwestern Pacific Railroad Corridor
Santa Rosa, California

GEOMATRIX	Project No. 2770.05	Figure 2

2770 05 G34

Cal/EPA

North Coast Regional Water Quality Control Board

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Pete Wilson
Governor

September 30, 1997

John Moe
Union Pacific Railroad
One Market Plaza
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

This letter is a written follow-up of our May 9, 1997 meeting. At that time, we discussed the October 1996 "Results of Soil And Groundwater Sampling", the October 31, 1996 "Work Plan for Soil and Groundwater Sampling" and the February 1997 "Results of Soil and Groundwater Sampling" prepared by Geomatrix. The subject site is divided into three general areas of investigation; the southern section which is located south of Third Street, the northern section which is located north of Third Street and the "Option Property" which is located north of Third Street and west of the northern section. Our comments are:

General Comments:

The drilling permit for the most recent Geomatrix phase of work was issued by Sonoma County Environmental Health Services on November 4, 1996. The workplan to conduct the work was submitted for our review on November 5, 1996. The work was implemented on November 14, 1996 without workplan acceptance from our agency and without any notification or contact from Union Pacific or Geomatrix. You indicated during our May 9, 1997, meeting that future work would be coordinated with us.

In general, additional information is needed for the southern section and the option property.

Southern Section

Total Petroleum Hydrocarbons as diesel (TPHd) were reported in groundwater at 14,000 and 6,500 parts per billion (ppb) during the Industrial Compliance phase of work in 1992. Total Petroleum Hydrocarbons as gasoline (TPHg) was not reported. TPHd was not reported during the Geomatrix phase of work, however, TPHg was.

The lack of TPHd in this area is inconclusive. Please refer to our February 20, 1997 letter for additional comments concerning TPHd reported for this area.

The presence of a groundwater extraction well in this area and the potential to use this well as a groundwater sampling point was discussed. It was determined that the well was screened in two water bearing zones. It is unknown at this time whether this well is suitable for the collection of representative samples. Other wells exist in the area which may be useful. In any case, additional samples will need to be collected to characterize the contaminants in groundwater.

In addition, PNAs have been detected in groundwater collected from MW-1. Future groundwater sampling in this area will need to include PNAs.

Lead was detected in this area in shallow soil samples at concentrations above background levels (590 and 170 parts per million). Samples collected at deeper depths showed concentrations at background levels. The threat to groundwater quality may be minimal, however, the potential for surface runoff of lead to the Creek exists. This will need to be addressed.

Option Property

The option property was reported to be a former water and fueling station. Potential sources of contamination have been identified and investigated with the most recent results reported in the February 1997 Geomatrix "Results of Soil and Groundwater Sampling". Additional clarification and historical information needs to be provided and additional site characterization work needs to be conducted.

Please provide the following clarifications:

* The depths where groundwater samples were collected.

* The depths to groundwater. (The depths to groundwater were not shown on the boring logs or included in the text).

* The field screening results.

* The field observations concerning obvious impact (which resulted in several discrete samples being analyzed).

* The method of abandonment of the turn table and the mechanism used to remove rain/surface water and or/petroleum hydrocarbons from the subsurface unit during its use. And, the location of any piping (or former piping) associated with liquid transfer from the turn table.

* The location of any piping (or former piping) used to transfer oil from the 3000-barrel above-ground tank to the location(s) of use. And, the location of any piping (or former piping) associated with the oil traps and 4-inch oil column also needs to be identified.

* The use of the former pump houses. It is not clear at this time if the pump houses were associated with water supply wells. If so, the current status of the wells will need to be identified.

Additional site characterization work will need to include:

* The area of the former heating oil tank where product and stained soil were reported in the boring log during the Industrial Compliance phase of work. TPHd also was reported in groundwater at 31,000 ppb. TPHd was tested for and not reported in groundwater collected from this area during the Geomatrix phase of work.

* The area of the 3000-gallon barrel above-ground tank. One soil boring was collected in this area immediately south of the former tank which may not adequately represent actual site conditions. Investigative work in this area should include areas of piping (or former piping).

* Soil boring SRB21 was placed in the center of the oil trap location; however, SRB22 was not. Please clarify the difference in sampling locations. The lateral extent of contamination will need to be defined at both locations. Investigative work in this area should include areas of piping (or former piping), if any.

* Motor oil was reported at up to 900 ppm in shallow soil collected from SRB20. The lateral extent will need to be defined. It is not clear if these concentrations represent overall soil conditions beneath the track (and former track).

* PNA's were reported in soil throughout the area. However, groundwater samples were not analyzed for PNAs. It is stated on page 7 of the Geomatrix report that "The concentrations of PNAs were lower than the EPA Preliminary Remediation Goals (PRGs) for industrial exposure". Exposure related goals/concentrations may not be protective of water quality.

In general, we are interested in sufficient characterization of this property to evaluate the threat and/or impact to water quality. Composite soil samples were collected which may not be representative of site conditions. Monitoring wells are recommended to enable the collection of repeatable groundwater quality information. A workplan will need to be submitted on or before November 14, 1997. In addition, please provide us with a copy of the Phase 1 report for our review and records.

Northern Section

It was agreed that no further work is required for this area.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

cc: Santa Rosa Fire Department

Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111

Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION
5550 SKYLANE BLVD. SUITE A
SANTA ROSA, CA 95403
PHONE: (707) 576-2220

February 20, 1997

Greg Shepherd
Southern Pacific Transportation Company
Southern Pacific Building, Environmental Services
One Market Plaza
San Francisco, CA 94105

Dear Mr. Shepherd:

Subject: Southern Pacific Transportation Company, Third Street Property, Santa Rosa, Case No. 1TSR196

The October 1996 "Results of Soil and Groundwater Sampling" and the October 31, 1996 "Work Plan for Soil and Groundwater Sampling" prepared by Geomatrix for the subject site have been reviewed. Regional Water Board staff comments are:

Results of Soil and Groundwater Sampling

* It is stated on page 4 that "Information reviewed by Geomatrix in the regulatory file did not indicate that deeper soil samples had been collected at boring RB-5 for chemical analysis".

  For your records, soil samples were collected from RB-5 at 4.0, 5.5, 7.0, 8.5 and 10.5 feet below ground surface (bgs). Total petroleum hydrocarbons as diesel (TPHd) were reported in the soil samples collected from 4.0, 5.5 and 7.0 feet bgs at 16, 140 and 15 parts per million (ppm), respectively. No detectable levels of TPH as gasoline and diesel were reported in the samples collected at 8.5 and 10.5 feet bgs. Diesel odors were noted from 4 to 5.5 feet in the boring log.

* It is stated on page 4 that "The magnitude of the concentrations of TPH reported in the diesel range suggested the presence of non-dissolved petroleum in the samples and/or the presence of lighter hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel". This statement is referring to the diesel detections in groundwater samples collected from B-5 and B-7 at 14,000 and 6,500 parts per billion (ppb) reported in the July 30, 1992, Industrial Compliance document. Gasoline range hydrocarbons were not reported in samples B-5 and B-7 at that time.

  Industrial Compliance staff did not report free phase product in the samples. And, the typical gasoline/diesel range hydrocarbon ratio associated with aged gasoline was not observed.

  Our records show that diesel in soil and groundwater has been reported for the southern property. Please see comment 1 concerning diesel in B-5. Diesel was also reported in MW-1 soil samples at 61 ppm at 5.0

feet bgs, 41 ppm at 10 feet bgs, 58 ppm at 16.5 feet bgs, 640 ppm at 20.5 feet bgs and 1400 ppm at 30 feet bgs. The presence of diesel in shallower depths may be an indication of surface spills in this area.

No detectable levels of diesel were reported for groundwater samples SRB-1, SRB-3 and SRB-4; however, the detection limit was raised to 2500 ug/l due to high concentrations of non-target compounds in the samples.

Additional information will be needed to assess the nature of the contamination in this area. We recognize the potential for onsite migration of gasoline from the former Mead Clark site. The lack of diesel in groundwater in this area is not yet conclusive.

* It is stated on page 5 that "Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department". Please provide us with a copy of the drilling permit for our records.

* The results of composited soil samples may not be representative of site conditions.

Work Plan for Soil and Groundwater Sampling

* It is stated on page 2 that "Soil and Groundwater samples will be collected in accordance with Geomatrix protocols (Attachment A)". Attachment A was not included in the workplan. Please submit Attachment A for our records.

* It is stated on page 2 that "Soil samples (up to eight) at each boring will be composited into an upper and a lower sample by the analytical laboratory for chemical analysis. The remaining discrete samples from each boring will be placed on hold pending analytical results for the composite samples".

  The results of composited samples may not be representative. We request that discrete samples be collected for chemical analysis.

* A roundhouse is a subsurface structure where engines are placed for a direction change and/or engine repair and servicing. Please clarify if the roundhouse was completely removed or filled in.

  If the entire structure was completely removed, a soil boring in the center of the roundhouse appears appropriate. If the structure was filled in, the fill material should be identified and sampled.

  In addition, a roundhouse would be expected to contain a mechanism to remove rain/surface water and/or petroleum hydrocarbons. Please provide additional information concerning the roundhouse piping and discharge system.

* SRB-21 and SRB-22 are proposed to investigate the former oil traps. Please provide additional information concerning the function and construction of the oil traps. Any piping systems associated with the oil traps should be identified. SRB-21 is proposed center of the oil trap and SRB-22 is not. Please clarify the difference in proposed locations.

* A pump house is shown on Figure 1 south of the former above ground oil tank. Please clarify if this location was a former water supply well pump house.

Please include the following:

* A soil/groundwater boring west (downgradient) of the former 3000-~~gallon~~ barrel above ground oil tank. The potential for spills in this area exists and one soil/groundwater sample may not adequately characterize this area.

* A soil/groundwater boring downgradient (west) and within close proximity of the former roundhouse. As stated above, the roundhouse may have been an area where engine repair/servicing was conducted with releases of heavier hydrocarbons occurred. Soil sample B-1, drilled during the Regional Water Board site investigation and located west of the former roundhouse, contained 200 ppm total oil and grease at 12 feet bgs.

* A groundwater sample downgradient and in close proximity of the fuel storage house and drum storage area.

Petroleum hydrocarbons have been reported in groundwater east of the site in the business district of fourth and fifth streets. You may consider placing a groundwater sampling location between the former railroad yard and the business district to investigate potential upgradient sources.

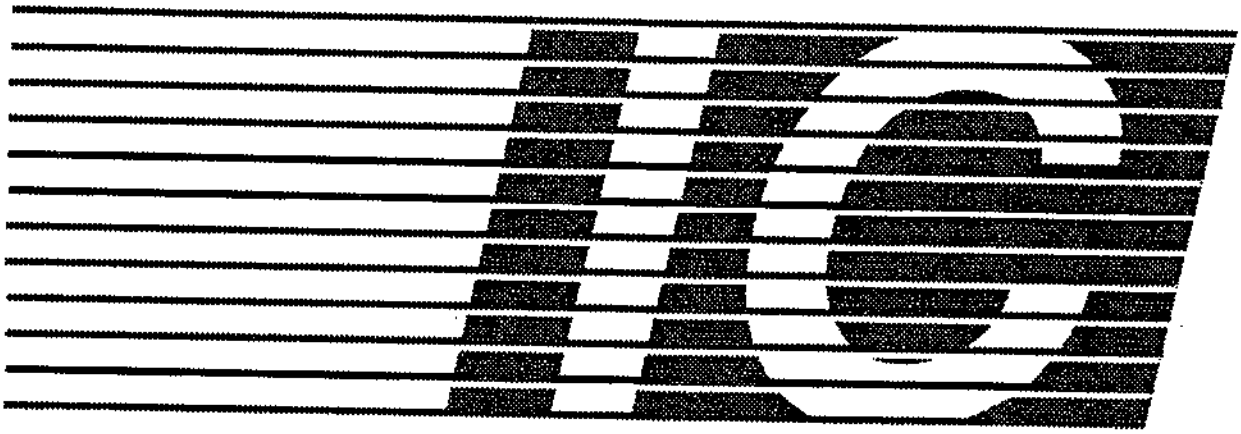
We look forward to the above requested clarifications. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Associate Engineering Geologist

JEF:lmf/sptrans

cc: Santa Rosa Fire Department
Sonoma County Environmental Health Services
Geomatrix, 100 Pine Street, 10th Floor, San Francisco, CA 94111



Industrial Compliance

PRELIMINARY SOIL AND GROUNDWATER INVESTIGATION SOUTHERN PACIFIC TRANSPORTATION COMPANY THIRD STREET PROPERTY SANTA ROSA, CALIFORNIA

IC Project No. 05383

Prepared for:

Southern Pacific Transportation Co.

One Market Plaza
San Francisco, California 94105

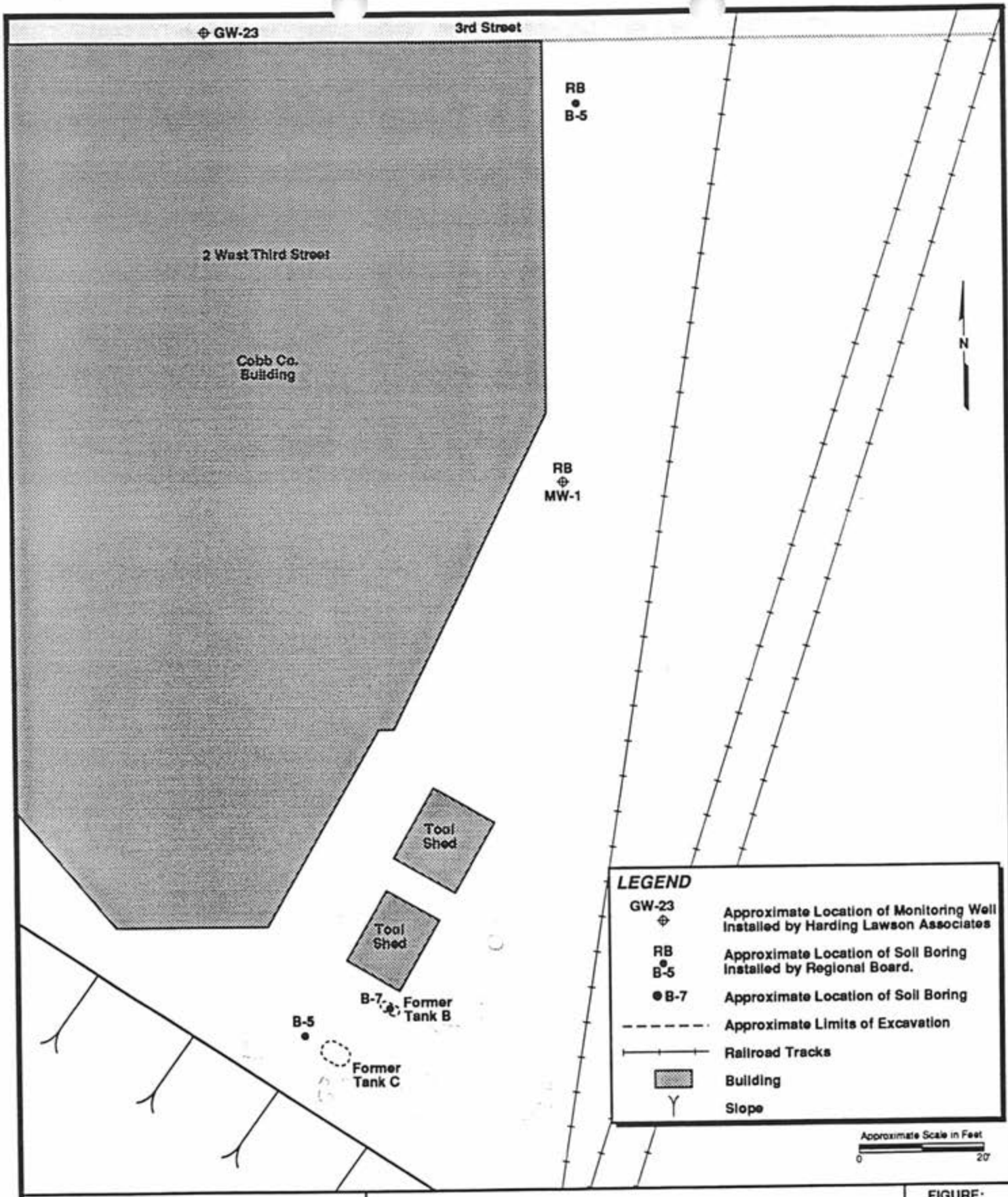
Prepared by:

Industrial Compliance

9719 Lincoln Village Dr., Suite 310
Sacramento, California 95827

July 30, 1992

A Subsidiary of SP Environmental Systems, Inc.



Industrial Compliance

A Subsidiary of SP Environmental Systems, Inc.

PROJECT NO:	05383	DATE:	06/11/92
DRAWN BY:	PD	CHECKED BY:	WF

BORING LOCATION MAP
SOUTHERN PORTION OF PROPERTY
SOUTHERN PACIFIC TRANSPORTATION CO.
THIRD STREET PROPERTY
SANTA ROSA, CALIFORNIA

FIGURE: 3

SCALE: as shown

05383 Fig 3/disk 119/Phase II 0692

Table 1
Summary of Soil Analyses
Southern Pacific Transportation Company
Third Street Property
Santa Rosa, California
May 1992
IC Project No. 05383

Sample Number[a]	Sample Depth[b]	Aromatic Hydrocarbons[c] (ppm)				Total Petroleum Hydrocarbons[d] (ppm)				PNAs[e]
		Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel	Oil	Kerosene	
B-1	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
B-2	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
B-3	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
B-4	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
B-5	6	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	16	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	21	<0.005	<0.005	<0.005	0.11	<0.5	37	<5	<5	<0.05
B-6	6	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	11	<0.005	<0.005	<0.005	<0.005	<0.5	37	<5	<5	<0.05
B-7	6	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	11	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	16	<0.005	<0.005	<0.005	<0.005	<0.5	<0.5	<5	<5	<0.05
	21	<0.005	<0.005	<0.005	<0.005	<0.5	46	<5	<5	<0.05

a See Figures 3 and 4 for approximate boring locations.

b Measured in feet below ground surface.

c Aromatic hydrocarbons analyzed by EPA Method 8260.

d Total petroleum hydrocarbons analyzed by EPA Method 8270.

e Polynuclear aromatic hydrocarbons (PNAs) analyzed by EPA Method 8270.

< indicates the analyte was not detected at or above the listed detection limits.

ppm parts per million

Table 2
Summary of Groundwater Analyses
Southern Pacific Transportation Company
Third Street Property
Santa Rosa, California
May 1992
IC Project No. 05383

Sample Number[a]	Aromatic Hydrocarbons[b] (ppb)				Total Petroleum Hydrocarbons[b] (ppb)	
	Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	Diesel
B-1	<0.5	<0.5	<0.5	<0.5	<50	<50
B-2	<0.5	<0.5	<0.5	<0.5	<50	<50
B-3	<0.5	<0.5	<0.5	<0.5	<50	<50
B-4	<0.5	<0.5	<0.5	<0.5	<50	<50
B-5	18	<0.5	21	21	<50	14,000
B-6	<0.5	<0.5	<0.5	<0.5	<50	31,000
B-7	2.0	<0.5	2.5	1.5	<50	6,500

a See Figures 3 and 4 for approximate boring locations.

b Analyzed by EPA Method 8260.

< indicates the analyte was not detected at or above the listed detection limit.

ppb parts per billion

Boring Log

INDUSTRIAL COMPLIANCE

Boring Location	7' west of Tank C			**Boring Name**	B-5
Drilling Company	Weeks Drilling			**Project Name**	3rd Street
Drilling Method	Hollow Stem Auger	**Rig Type**	B-53	**Project Number**	05383
Hole Diameter	8 in.	**Driller**	G. Meyers	**Date** 05/18/92	**Logged By** W. Floyd
Ground Elevation	NA	**Water Depth**	22 feet BGS	**Total Depth**	22.5 feet BGS

Sample Number	Recov.	Blows/ 6-inches	Depth Feet	Boring Detail	Lithology	USCS Log	Sample Description	FID/PID
			1	Backfilled with Cement/ Bentonite Grout		GW	GRAVEL: fill	
			2			SM	SILTY SAND: brown, moist, fine grained, no apparent odor, no apparent staining.	
	100%	3 3 6	3			CL	SILTY CLAY: dark brown, fairly moist, trace roots, no apparent odor, no apparent staining.	<1
			4					
			5					
B-5-6'	100%	6 12 19	6				SILTY CLAY: dark brown, ~5% fine grained sand, fairly moist, stiff, trace roots, no apparent odor, no apparent staining.	<1
			7					
	100%	8 8 11	8				SILTY CLAY: slightly lighter color, ~5% sand, trace gravel, fairly moist, stiff, trace roots, no apparent odor, no apparent staining.	
			9					
			10					
B-5-11'	100%	5 11 12	11				Gravel content increases to ~5%. Numerous small <1mm root casts.	3.1
			12			ML	SILT: light yellowish brown, very moist, root casts, traces of black organic material, no apparent odor, no apparent staining.	4.1
	100%	5 3 4	13					
			14					
			15					
B-5-16'	100%	3 3 5	16				SILT: light yellowish brown, ~5 to 10% sand, very moist, root casts, traces of black organic material, no apparent odor, no apparent staining.	
			17			CL	GRAVELLY CLAY: ~20% gravel, well graded.	
	85%	6 9 15	18				color change at 18.5' to blue gray, slight odor.	16

oring Log

INDUSTRIAL COMPLIANCE

ring Number	B-5	Project Number	05383	Project Name	3rd Street

Sample Number	Recov.	Blows/ 6-inches	Depth Feet	Boring Detail	Lithology	USCS Log	Sample Description	FID/PID
			20	Backfilled with Cement/ Bentonite Grout		CL	GRAVELLY CLAY	
-21'	100%	11 20 30	21			GC	CLAYEY GRAVEL/GRAVELY CLAY: bluish gray, ~40 to 60% fines, moist, well graded, odor.	82
			22					

Boring Log

INDUSTRIAL COMPLIANCE

Boring Location	Tank B	**Boring Name**	B-7
Drilling Company	Weeks Drilling	**Project Name**	3rd Street
Drilling Method	Hollow Stem Auger	**Rig Type**	B-53
Project Number	05383
Hole Diameter	8 in.	**Driller**	G. Meyers	**Date**	05/19/92	**Logged By**	W. Floyd
Ground Elevation	NA	**Water Depth**	21.5 feet BGS	**Total Depth**	22 feet BGS

Sample Number	Recov.	Blows/ 6-inches	Depth Feet	Boring Detail	Lithology	USCS Log	Sample Description	FID/PID
			1	Backfilled with Cement/ Bentonite Grout		GW	GRAVEL: fill	
			2			SM	SILTY SAND: brown, slightly moist, some debris, likely backfill material, no apparent odor, no apparent staining.	
	100%	2 2 2	3					
			4			CL	SILTY CLAY: dark brown, ~5% sand, moist, no apparent odor, no apparent staining.	<1
			5					
B-7-6'	100%	3 8 14	6					
			7			SM	SILTY SAND: brown, ~30% fines, fairly moist, no apparent odor, no apparent staining.	
	100%	7 9 9	8					
			9			CL	CLAY: brown, ~5% sand and gravel (pebbles), no apparent odor, no apparent staining.	
			10					<1
B-7-11'	100%	4 7 8	11					
			12			ML	SILT: yellowish brown, very moist, numerous root casts, no apparent odor, no apparent staining.	
	100%	3 3 4	13					
			14					
			15			CL	SILTY CLAY: brown to yellowish brown, very moist, firm, no apparent odor, no apparent staining.	
B-7-16'	100%	2 4 8	16					<1
			17				Traces of gravel at 16.5'.	
	100%	19 11 14	18					

Boring

INDUSTRIAL COMPLIANCE

Boring	B-7	Project	05383	Project	3rd

Sample Number	Recov	Blows/ 6-inches	Depth	Boring	Lithology	USCS	Sample	FID/PID
B-7-21	100%	6 15 23	20 21 22	Backfilled with Cement/ Bentonite		CL	GRAVELLY	38
						GC	CLAYEY GRAVEL/GRAVELY CLAY: bluish gray, ~40 to 60% fines, moist, well graded, moderately rounded, poor sphericity, clasts to 1" in diameter, odor. Collected groundwater sample, slight sheen and ?	

STAFF FILL IN	CLERICAL USE ONLY
WDID FOR SITE: (use PLANNING for planning files, AGT for aboveground tank, 205j for 205j files, GENERAL for general correspondence, WATERSHED FILES for Elemer's watershed files, DAIRies-319(h) for dairy files)	CLERICAL USE ONLY
NEW FILE NAME (exactly as it should be typed on label): Southern ~~UNION PACIFIC~~ Pacific Transportation Company PLANNING - 319(h) PROGRAM 319(h) GENERAL 1997 AND 1998	FILENAME
IS THERE A COMMON SYNONYM, IF SO, PLEASE PRINT AS YOU WOULD LIKE IT ENTERED IN DATABASE 319 (H) GENERAL FILES ~~SOUTHERN~~ Union PACIFIC	ALIAS1
IS THERE ANOTHER COMMON SYNONYM? IF SO, PLEASE PRINT IT AS YOU WOULD LIKE IT ENTERED IN DATA BASE:. NA	ALIAS2
IF THIS IS A SITE FILE, THEN THE ADDRESS OF THE SITE NEEDS TO BE PROVIDED, INCLUDING THE STREET NUMBER, WHERE AVAILABLE. DO NOT ABBREVIATE. NA THIRD STREET (SOUTH)	STREET NUMBER GOES IN STREETNO STREET IS ENTERED WITH ANY "EAST", "SOUTH", ETC, PUT AT THE END, AS IN: WESTSIDE ROAD, NORTH
IF THIS IS A SITE FILE, THEN THE CITY SHOULD BE IDENTIFIED NA - Regionwide SANTA ROSA	CITY
THE SURFACE WATERSHED ASSOCIATED WITH THIS SITE SHOULD BE IDENTIFIED (use Oat Valley Creek/Russian River as an example) Regionwide RUSSIAN RIVER	WATERSHED
	OPERATOR IS LEFT BLANK
PLEASE PROVIDE THE THREE INITIALS OF THE RESPONSIBLE STAFF PERSON RRK or WDW JEF	STAFFNAME
PLEASE CIRCLE THE UNIT: ND SD NPS **SMU** (UGT) ADM	UNIT
IS THIS FOR A NEW VOLUME? Yes WHICH NUMBER? Unnumbered	VOLUME_NO
IS THIS FOR AN ACCORDIAN FILE? WHICH VOLUME NUMBER? No VOLUME I	ACCORDIAN
WILL THIS FILE BE PLACED:APLHABETICALLY OR (DESCRIBE) In Planning Files ALPHA	HOWFILED
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WHAT COUNTY IS THE SITE LOCATED IN? SONOMA	CO IS NUMERICAL,COUNTY IS ALPHA: 08=DEL NORTE 12=HUMBOLDT 17=LAKE 21=MARIN 23=MENDOCINO 25=MODOC 47=SISKIYOU 49=SONOMA 53=TRINITY 11=GLENN
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2/24/99
3

SOUTHERN PACIFIC TRANS. CO
3RD Street Property (North)
Santa Rosa
Volume 2

add to cc list for Western Pac RR + SMART advisory letters

City of
Santa Rosa

Kathleen A. Millison
City Manager

for New RR Sgn. Project

OFFICE OF THE CITY MANAGER
100 Santa Rosa Avenue, Room 10 • Santa Rosa, CA 95404
(707) 543-3020 • Fax: (707) 543-3030
kmillison@srcity.org • www.srcity.org

Debate forestalls decision on Railroad Square

SR council inundated with opinions on bike lanes, parking spaces, housing

By CLARK MASON
THE PRESS DEMOCRAT

Bicycle lanes and parking spaces came into conflict Tuesday as Santa Rosa City Council members wrestled with the details of a plan to intensify development around Railroad Square.

The plan was hailed as a way to reduce traffic by locating homes near jobs and transit, but council members still were debating the fine points late Tuesday night after hearing more than 50 speakers.

Besides bike lanes, the top topics included ensuring affordable housing and green building practices.

"I'm told time and time again, people are too scared to ride in the streets," said Christine Culver, executive director of the Sonoma County Bike Coalition. "It's a wonderful plan. We're very excited about it."

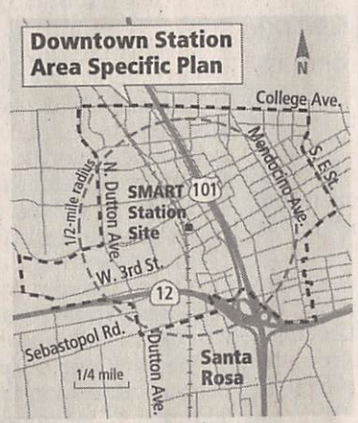
But some business owners said they would lose valuable parking if bike lanes are put in on streets including Wilson, Sixth and West Sixth.

Officials at Chops, the city teen center, and the 6th Street Playhouse were among those concerned about losing parking if a bike lane goes in along their street.

Members of the Historic Railroad Square Association also expressed concern that bike lanes on Wilson would eliminate 91 parking spaces.

Addressing the issue of green building, Craig Litwin, a member of Sonoma County Conservation Action and vice mayor of Sebastopol, said, "There's tremendous support for this plan."

But he said environmentally friendly building standards need to be mandatory, along with a formula to guarantee how much low-income housing is built.



Source: Downtown Station Area Specific Plan
The Press Democrat

But after more than four hours of testimony and discussion Tuesday, the council had not yet acted on the Downtown Station Area Specific Plan.

Housing advocates suggested the new dwellings in the area should be 20 percent low income, 20 percent moderate and 60 percent market rate.

Council members were split about whether to build such a formula into the plan and eventually decided to take a more in-depth look at the issue later.

The city plan covers about a square mile area, including downtown, Railroad Square and a portion of Roseland.

The plan provides for building 2,300 homes, with 6,000 residents beyond what the general plan now allows.

In some areas, up to 60 residential dwellings per acre would be allowed, much more than the land-use plan currently allows on the 650 acres.

The plan concentrates on an area within a half-mile of a proposed rail station in Railroad Square, a distance considered an easy walk for train commuters, the plan's target group.

One aspect calls for reconnecting Fourth Street through the Santa Rosa Plaza to provide a direct link between the rail station and downtown.

When the plaza was built 25 years ago, critics said it would create a barrier to traffic and isolate Railroad Square.

"It isn't going to happen anytime soon," said city planner Ken MacNab, who said reconnecting Fourth is a long-term goal. "It would be up to the Plaza."

New cultural facilities envisioned in the plan include a food and wine center on the property owned by the rail agency and a performing arts center on the existing City Hall site.

A historic warehouse on Robert Avenue north of Sebastopol Road is expected to be converted to a neighborhood community center.

The plan anticipates several new neighborhood parks totaling 4½ acres.

The plan was the result of a two-year study funded with a $450,000 grant from the Metropolitan Transportation Commission, the agency that oversees transportation projects in the Bay Area.

You can reach Staff Writer Clark Mason at 521-5214 or clark.mason@pressdemocrat.com.

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Dan Skopec
Acting Secretary

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold
Schwarzenegger
Governor

FACT SHEET
May 24, 2006

Environmental Conditions in Railroad Square Area

The Railroad Square Development Project is proposed for the former railroad water and fueling yard, which is currently being evaluated by Regional Water Board staff regarding no further action. The current status of our regulatory review is we have requested a groundwater monitoring/sampling event to document current water quality information prior to our consideration of no further action.

The issuance of a no further action letter in this case does not equate to a property with unrestricted land use free of environmental requirements. Due to the historical land use, which included above and belowground petroleum hydrocarbon storage and onsite use, spills and leaks that may have occurred in addition to those where corrective action was conducted during the fall of 2003. At that time, impacted soil was removed to the extent practicable; however, due to site constraints and weather conditions, some areas of impact remain in place.

Therefore, the property development plans must include a soil management plan to address known shallow soil impacts and any new impacts discovered during grading, trenching, and construction. The plan must include:

- A method to manage and characterize any shallow soil planned for off hauling.
- Proper disposal of contaminated soil at a permitted facility.
- Removal of known shallow soil impacts that remains in place.
- Contingencies for removal of impacted soil that may be discovered during site grading and trenching activities.

Further excavation in those areas where corrective action was conducted in 2003 is not required. However, soil may be subject to further regulation if disturbed during property development for the construction of subsurface parking structures. The greater the depth of the structure, the higher the likelihood of encountering impacted material. Therefore, the soil management plan must be expanded for development plans that include subsurface parking structures to include:

- A method to manage and characterize impacted soil removed during the construction of subsurface parking structures.
- A method to remove separate phase hydrocarbons (oil) on water, and contaminated groundwater, if encountered, during the construction of subsurface parking structures.
- Proper disposal of contaminated soil, oil and groundwater at permitted facilities.
- A method to manage and control groundwater during construction.
- A method to manage and control post construction groundwater unless the subsurface parking structures are designed and constructed to be watertight.

- A post construction groundwater management method must be included if the subsurface parking structures are not designed and constructed to be watertight.

Accordingly, the depth to groundwater is important. The depth to groundwater fluctuates seasonally depending upon rainfall.

- During the rainy season the depth to groundwater generally ranges between seven (7) to fourteen feet (14) below ground surface (bgs).
- During the dry season the depth to groundwater generally ranges between eleven (11) to twenty feet (20) bgs.

The groundwater flow is west/southwest toward Santa Rosa Creek. First encountered groundwater is continuous (not perched in laterally discontinuous lenses) and is not subject to complete dewatering. Plans to conduct temporary or ongoing groundwater extraction/dewatering must consider:

- The potential impacts of altering the natural groundwater flow direction and gradient and drawing in contaminant plumes that exist on nearby properties toward the point of extraction.
- The potential environmental and financial liability associated with plume boundary alterations.

Plans to conduct temporary or ongoing groundwater extraction must include a groundwater management plan, which includes:

- Locations and construction depths of extraction wells and extraction rate.
- Method of disposal (i.e. Santa Rosa Industrial Waste Sewer Discharge Permit or a National Pollutant Discharge Elimination System Permit (NPDES) issued by the Regional Water Board. If so,
- A monitoring and reporting program to verify compliance with NPDES permit requirements.

Groundwater impacts from oil is present on site in the vicinity of MW-13. The locations of Sites and discharge locations are listed below and shown on the enclosed map:

- Hotel La Rose (former gasoline station)
  101 Fifth Street
  Undefined gasoline/diesel plume.

- Occhipinti's (former gasoline station)
  210 Fifth Street
  Generally defined gasoline, diesel and Methyl Tertiary Butyl Ether (MTBE). The MTBE plume extends well into the former rail yard property.

- Santa Rosa Department of Public Works (former Poultry Producers of Central California)
  Third Street and Santa Rosa Creek

Generally defined gasoline plume. Some PCE in the Third Street area.

- Franchetti
  60 West Sixth Street (former cannery)
  Generally defined oil plume. Chlorinated hydrocarbons also present.

- Source Unknown
  Third and Wilson Streets
  Undefined Stoddard solvent and/or diesel plume.

- Montague, Ed
  100 Fourth Street
  Former underground storage tanks.

- Zeller's Cleaners (former Stoddard solvent dry cleaners)
  208 Wilson Street

- Shell Oil Company
  200 Fourth Street
  Generally defined gasoline plume.

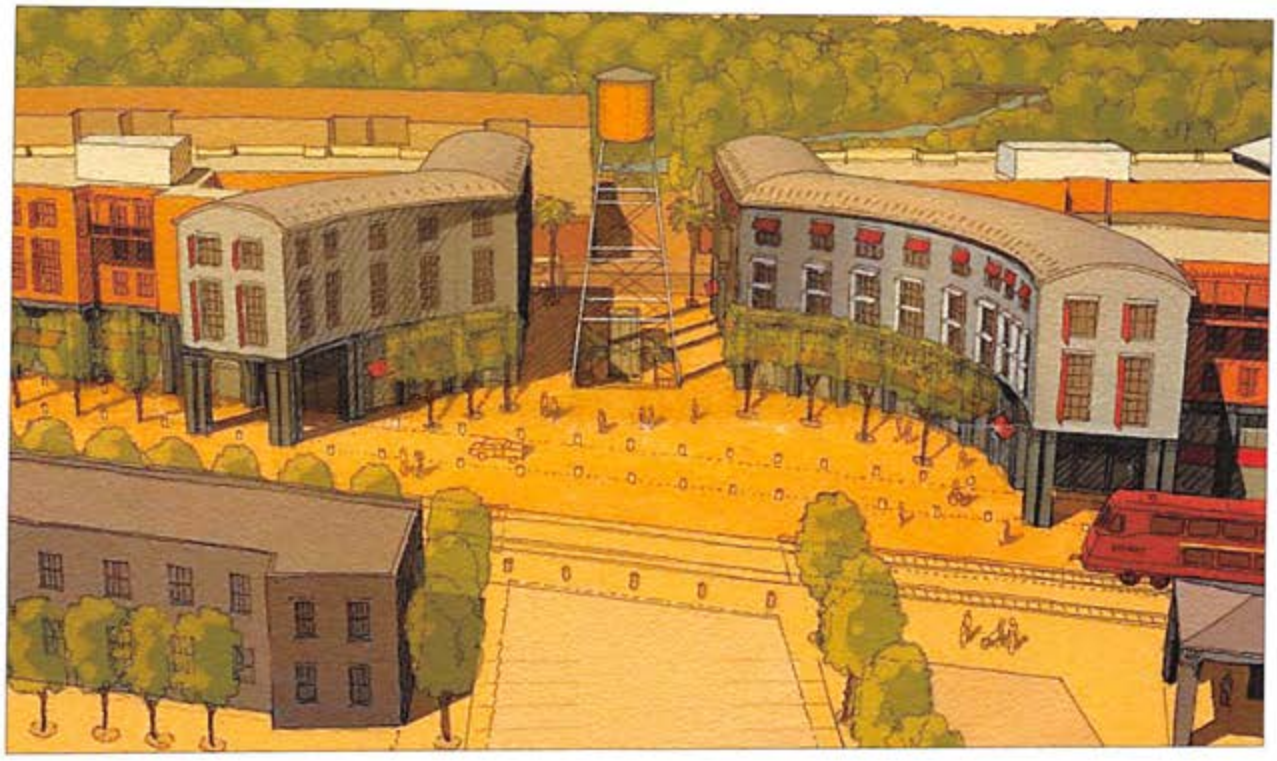
- Mead Clark Lumber Company
  175 Railroad Avenue
  Generally defined gasoline plume.

Hotel La Rose (former gasoline station)
101 Fifth Street
Shell Oil Company
200 Fourth Street
Occhipinti's (former gasoline station)
210 Fifth Street
UNION PACIFIC RAILROAD
RAIL ROAD PARK
RAILROAD SQUARE DEVELOPMENT
Zeller's Cleaners
208 Wilson Street
Montague, Ed
100 Fourth Street
Source Unknown
Third and Wilson Streets
Franchetti
60 West Sixth Street (former cannery)
Santa Rosa Department of Public Works
Third Street and Santa Rosa Creek
Mead Clark Lumber Company
175 Railroad Avenue
WALNUT ST.
CHESTNUT
HAZEL
ADAMS ST
JEFFERSON ST
EAST 6TH
PEAR
GARDEN ST
THIRD ST
IOWA ST
ROBERTS

New Railroad Square
Santa Rosa, CA

A Sustainable Neighborhood, with

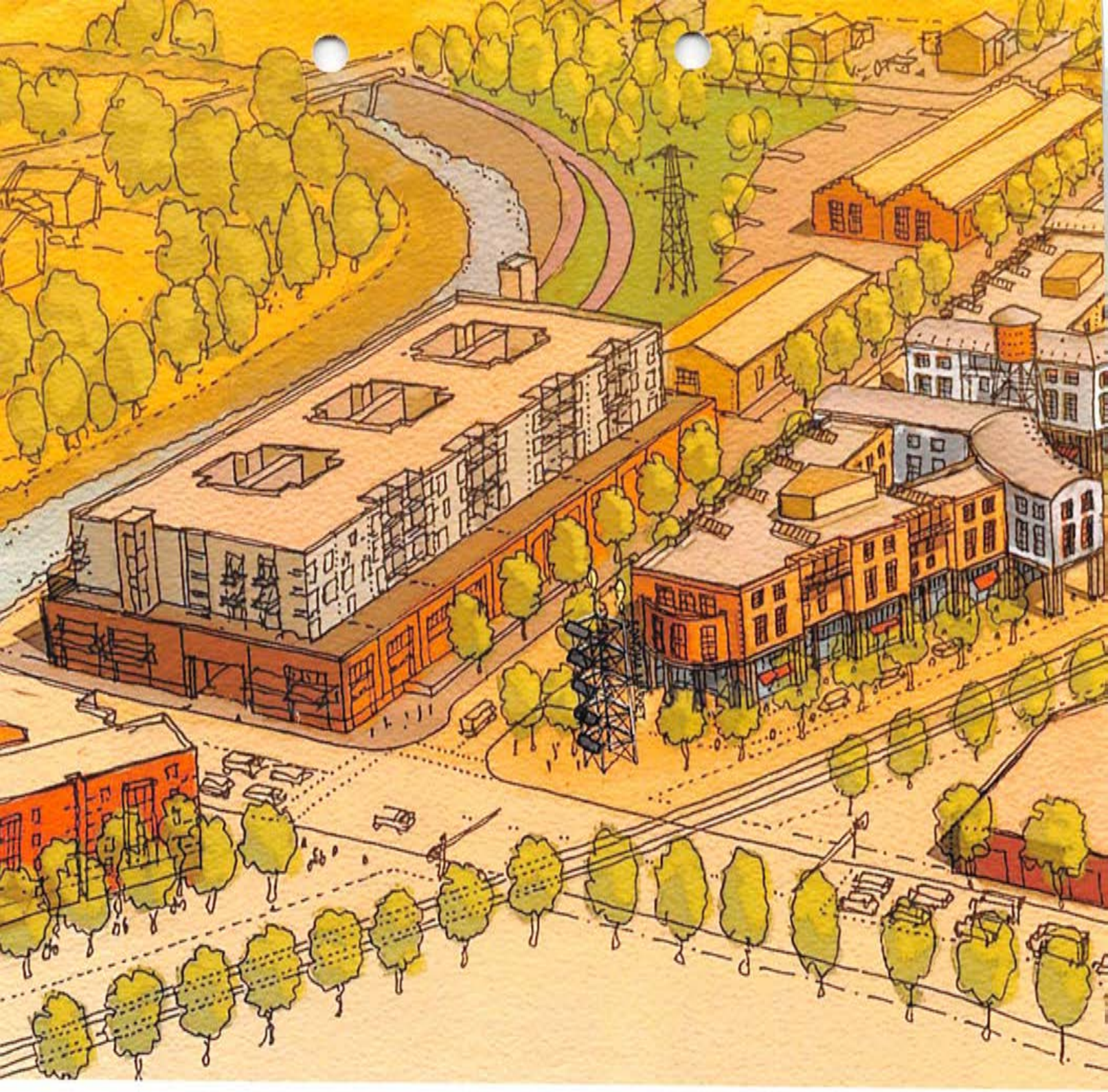
- *Site specific architecture responsive to its historic setting*
- *Major public spaces supporting uses including the Sonoma County Food & Wine Center*
- *Residential, commercial, cultural and community uses*



New Railroad Square is designed to reinforce the renaissance of the area surrounding Santa Rosa's historic railroad depot, slated to become an important stop on the proposed SMART commuter train service. It consists of a sustainable neighborhood of 250 new for-sale homes, a rich mix of new commercial and cultural activities including the Sonoma County Food & Wine Center, attractive facilities serving all passengers using the reactivated rail station, two levels of subterranean parking and a network of carefully shaped public spaces that will become a new focus for civic life in Santa Rosa.

The central feature of New Railroad Square is a crescent shaped public plaza facing Fourth Street and the historic railroad depot, providing the "front porch" for both residents and the long-planned Sonoma County Food & Wine Center, and suitable for a range of public activities, including farmers' markets, concerts, and other community-oriented events.

The site-specific architecture pays tribute to, but does not mimic, its historic surroundings in Railroad Square and the West End neighborhood, and respects them in its scale and massing.

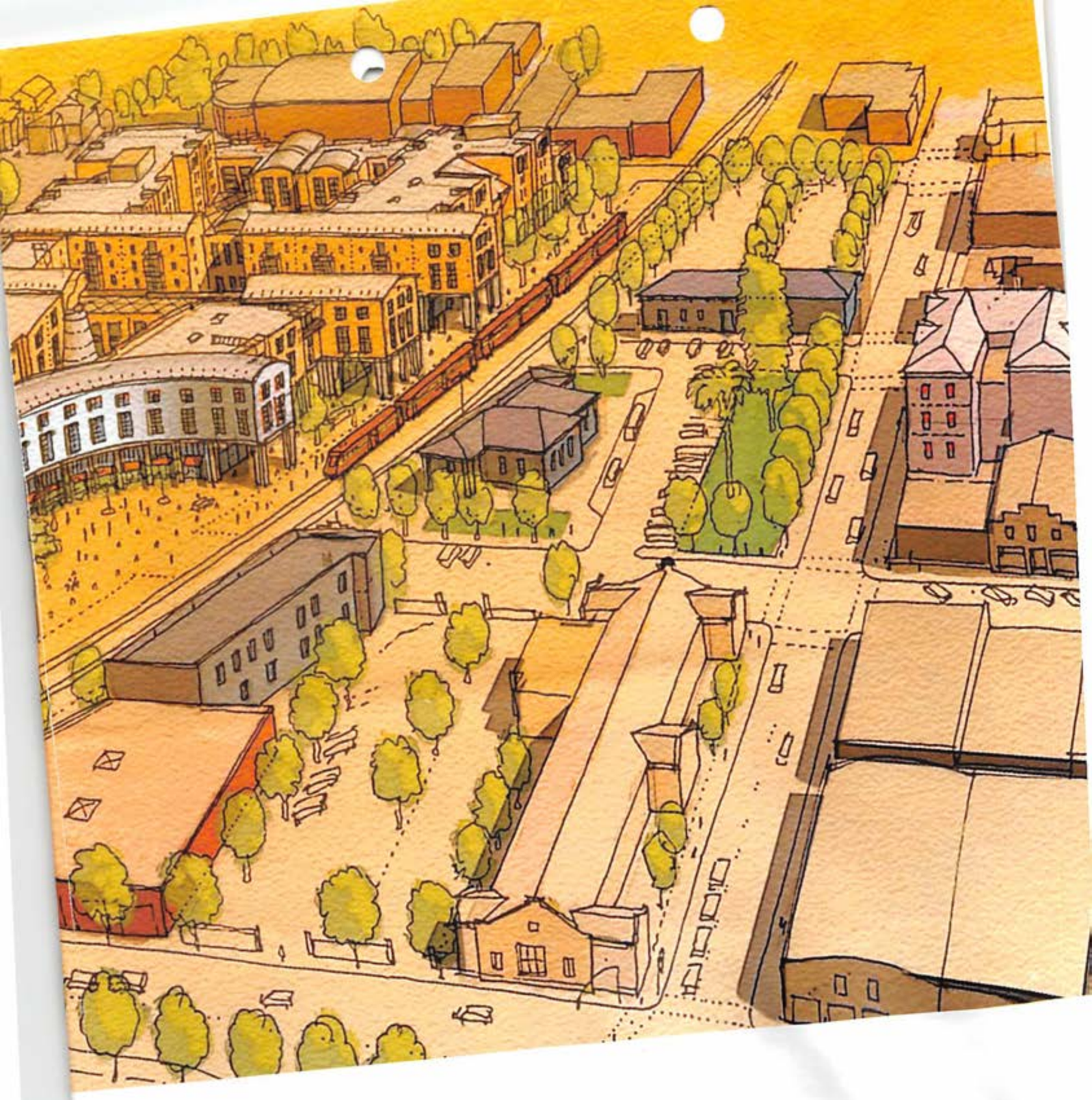


Third Street Facade

Railroad Promenade

Fourth Street Arcade

Railroa

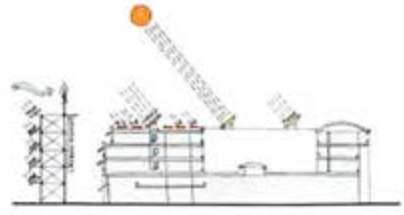


ailroad Depot

Fifth Street Arcade

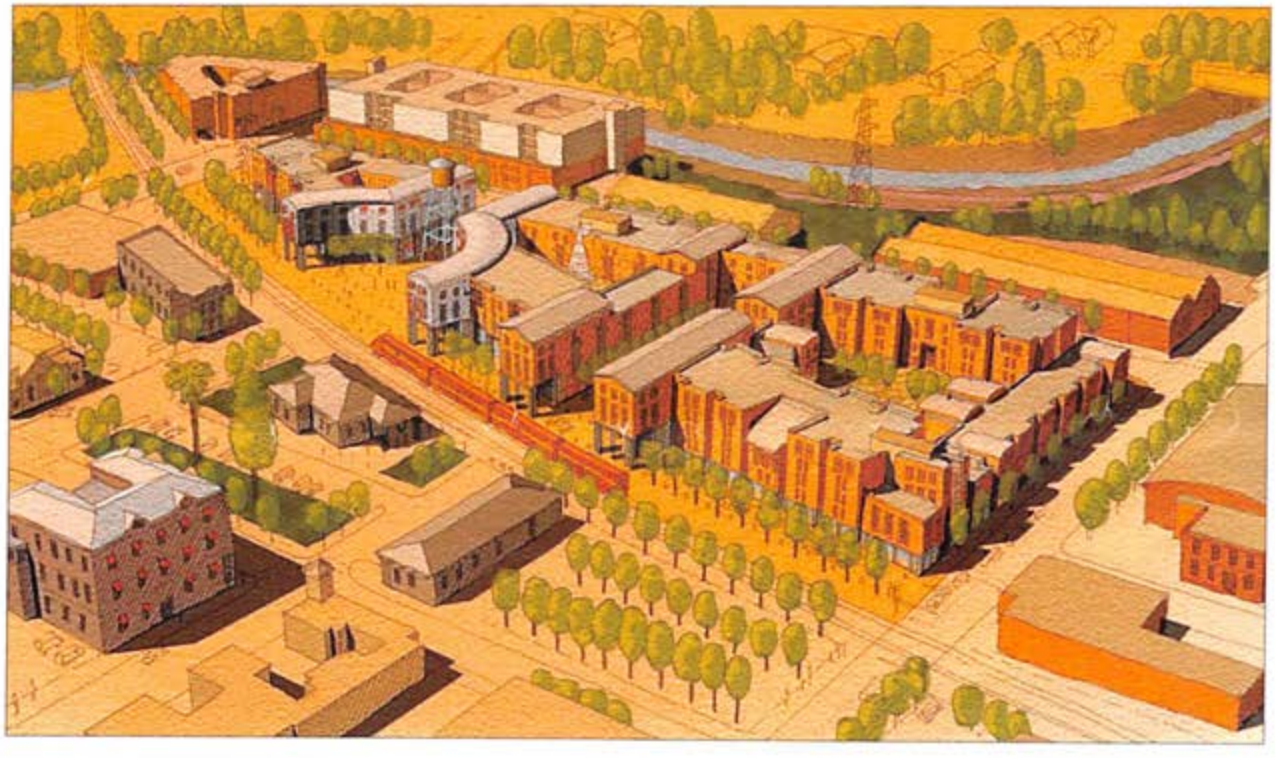
Fifth Street Portal

Sixth Street Facade



Sustainability

New Railroad Square is planned to achieve sustainability at two levels- that of the neighborhood, and that of the buildings. At the scale of the neighborhood, the project achieves a "location efficiency" as an infill/ brownfield redevelopment which has good access to schools, open spaces, and creates both jobs and housing. It will reinvest in existing infrastructure and contribute to a reduction in sprawl and automobile dependence. The buildings themselves - designed to achieve LEED-NC Platinum ratings - will minimize the use of non-renewable resources in their construction and operation; reduce wastewater, reuse storm water and achieve a high degree of energy efficiency.



Project Data

Housing Type:	For-Sale / Market-Rate & Affordable
Construction Start:	2007
Site Area:	5.39 acres (4.08 acres net developable)
Open Space:	1.49 acres
Floor Area Ratio:	2.46
Density:	61 dwelling units per net acre
Dwelling Units:	250
Parking:	451 spaces residential 235 spaces retail / visitor 50 on-street plus 15 along promenade 6 bus bays
Square Footage:	727,000 GSF; 346,660 sf for residential; 60,800 sf for retail; 29,450 for other non-residential mixed uses
Height:	3-5 Stories / 30'-50' above grade

Development Team

Development Entity:	Railroad Square, LLC: - Creative Housing Associates LLC - Lambert Development LLC - Hugh Futrell Corporation
Project Design:	WRT I Solomon E.T.C., Architects & Urban Designers Shook Kelley, Retail Architect
Agriculture & Outreach:	SAGE
Public Market:	Oxbow Management LLC
Restaurant & Fine Dining:	Moana Hotel & Dining Group
Civil Engineering:	Carlile • Macy, Civil Engineering Dick Carlile, Civil Engineering Consultant
General Contractor:	Charles Pankow Builders LTD
Transportation:	OMNI-Means, LTD
Parking:	International Parking Design
Sustainability:	Dutko Worldwide Environmental Planning & Design
Legal:	Perry Johnson Anderson Miller & Moskowitz LLP
Communications & Outreach:	Messagesmith Sobel Communications Boxer & Associates
Historic:	Historic Resources Group

OFFICE NO: _____

INSPECTOR: _____

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

WDS NUMBER	UNION PACIFIC RAILROAD NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	SPTRANS COMPANY NAME OF FACILITY
NPDES NUMBER	49 STEVENSON STREET AGENCY STREET	THIRD STREET FACILITY STREET
(YY) (MM) (TYPE) SCHEDULED INSPECTION DATA	SAN FRANCISCO CA AGENCY CITY AND STATE	SANTA ROSA CA FACILITY CITY AND STATE
	JOHN MOE AGENCY CONTACT PERSON	JOHN MOE ONSITE FACILITY CONTACT PERSON
02 . 06 . 25 (YYMMDD) ACTUAL INSPECTION DATE	415 , 541-7020 AGENCY PHONE NO.	, FACILITY PHONE NO.

S Inspection agency (State = S, State / EPA Joint = J)

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance -- Comprehensive inspection in which samples are taken. (EPA Type S)

B1 ✓ "B" type compliance -- A routine nonsampling inspection. (EPA type C)

02 ____ Noncompliance follow-up -- Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up -- Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint -- Inspection made in response to a complaint.

05 ____ Pre-requirement -- Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ Miscellaneous -- Any inspection type not mentioned above.

_____ If this is an EPA inspection not mentioned above, please note type. (e.g.--biomonitoring, performance audit, diagnostic, etc.)
(Type)

N Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

OBSERVED DRILLING IN FENCED ENCLOSURE AREA

INSPECTOR'S DATA:

INITIALS JSF SIGNATURE Jon Fluth DATE 6/25/02

For Internal Use: Reviewed by: (1) Matt Buxton (2) _____ (3) [signature]
Reg. WDS Coordinator

WDS Data Entry Date: 7 - 24 - 02 Regional Board File Number: _____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____ - _____ - _____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____ - _____ - _____

DESCRIPTION (200 Character Limit): _____

EPA SUGGESTED INSPECTION CHECKLIST

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:

ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE

OFFICE NO: ____

INSPECTOR: JEF

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

WDS NUMBER	UNION PACIFIC RAILROAD NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	SP TRANS COMPANY NAME OF FACILITY
NPDES NUMBER	49 STEVENSON STREET AGENCY STREET	THIRD STREET FACILITY STREET
(YY) (MM) (TYPE) SCHEDULED INSPECTION DATA	SANTA ROSA CA AGENCY CITY AND STATE	SANTA ROSA CA FACILITY CITY AND STATE
	JOHN MOE AGENCY CONTACT PERSON	NONE ONSITE FACILITY CONTACT PERSON
02 . 06 . 19 (YYMMDD) ACTUAL INSPECTION DATE	415 / 541-7020 AGENCY PHONE NO.	/ FACILITY PHONE NO.

5 Inspection agency (State = S, State / EPA Joint = J)

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance -- Comprehensive inspection in which samples are taken. (EPA Type S)

B1 ✓ "B" type compliance -- A routine nonsampling inspection. (EPA type C)

02 ____ Noncompliance follow-up -- Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up -- Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint -- Inspection made in response to a complaint.

05 ____ Pre-requirement -- Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ Miscellaneous -- Any inspection type not mentioned above.

____ (Type) If this is an EPA inspection not mentioned above, please note type. (e.g.--biomonitoring, performance audit, diagnostic, etc.)

N Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

OBSERVED THE COLLECTION OF SOIL SAMPLES BENEATH OIL PIPE

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE John Fluke DATE 6/24/02

For Internal Use: Reviewed by: (1) Mary Batson (2) ____ (3) RT
Reg. WDS Coordinator

WDS Data Entry Date: 7 - 24 - 02 Regional Board File Number: ____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____-_____-_____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____-_____-_____

DESCRIPTION (200 Character Limit): _____

EPA SUGGESTED INSPECTION CHECKLIST

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:

ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE

OFFICE NO: _____

INSPECTOR: JEF

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

WDS NUMBER	UNION PACIFIC RAILROAD	SP TRANS COMPANY (FORMER RAILROAD YARD)
	NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	NAME OF FACILITY
NPDES NUMBER	49 STEVENSON STREET	THIRD STREET
	AGENCY STREET	FACILITY STREET
(YY) (MM) (TYPE) SCHEDULED INSPECTION DATA	SAN FRANCISCO CA	SANTA ROSA CA
	AGENCY CITY AND STATE	FACILITY CITY AND STATE
	JOHN MOE	NONE
	AGENCY CONTACT PERSON	ONSITE FACILITY CONTACT PERSON
02 . 06 . 18 (YYMMDD) ACTUAL INSPECTION DATE	415 / 541-7020	/
	AGENCY PHONE NO.	FACILITY PHONE NO.

S Inspection agency (State = S, State / EPA Joint = J)

INSPECTION TYPE (Check One)

A1 ___ "A" type compliance -- Comprehensive inspection in which samples are taken. (EPA Type S)

B1 ✓ "B" type compliance -- A routine nonsampling inspection. (EPA type C)

02 ___ Noncompliance follow-up -- Inspection made to verify correction of a previously identified violation.

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06 ___ Miscellaneous -- Any inspection type not mentioned above.

_____ If this is an EPA inspection not mentioned above, please note type. (e.g.--biomonitoring, performance audit, diagnostic, etc.)
(Type)

N Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

INSPECTED STATUS OF DRILLING AND PIPE REMOVAL WORK

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE Jim Fluck DATE 6/24/02

For Internal Use: Reviewed by: (1) Mark J Bartson (2) _____ (3) RJ
Reg. WDS Coordinator

WDS Data Entry Date: 7 - 24 - 02 Regional Board File Number: _____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____ - _____ - _____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____ - _____ - _____

DESCRIPTION (200 Character Limit): _____

EPA SUGGESTED INSPECTION CHECKLIST

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:

ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE

OFFICE NO: _____

INSPECTOR: JEF

FACILITIES INSPECTION REPORT

SWRCB 001 (REV. 9-94)

PCA System Task No. | | | |

WDS NUMBER	UNION PACIFIC RAILROAD NAME OF AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE	SPTRANS COMPANY (FORMER RAILROAD YARD) NAME OF FACILITY
NPDES NUMBER	49 STEVENSON STREET AGENCY STREET	THIRD STREET FACILITY STREET
(YY) (MM) (TYPE) SCHEDULED INSPECTION DATA	SAN FRANCISCO CA AGENCY CITY AND STATE	SANTA ROSA CA FACILITY CITY AND STATE
	JOHN MOE AGENCY CONTACT PERSON	NONE ONSITE FACILITY CONTACT PERSON
02 . 06 . 17 (YYMMDD) ACTUAL INSPECTION DATE	(415) 541-7020 AGENCY PHONE NO.	/ FACILITY PHONE NO.

5 Inspection agency (State = S, State / EPA Joint = J)

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance -- Comprehensive inspection in which samples are taken. (EPA Type S)

B1 B "B" type compliance -- A routine nonsampling inspection. (EPA type C)

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03 ____ Enforcement follow-up -- Inspection made to verify that conditions of an enforcement action are being met.

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05 ____ Pre-requirement -- Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ Miscellaneous -- Any inspection type not mentioned above.

_____ If this is an EPA inspection not mentioned above, please note type. (e.g.--biomonitoring, performance audit, diagnostic, etc.)
(Type)

NO Were VIOLATIONS noted during this inspection? (Yes/No/Pending Sample Results)

N Was this a Quality Assurance-Based Inspection? (Y/N)

N Were bioassay samples taken? (N = No) If YES, then S = Static or F = Flowthrough.

INSPECTION SUMMARY (REQUIRED) (100 character limit)

INSPECTED SITE DURING FIELD WORK. OIL PIPE REMOVED AND DRILLING CONDUCTED

INSPECTOR'S DATA:

INITIALS JEF SIGNATURE [signature] DATE 6/24/02

For Internal Use: Reviewed by: (1) [signature] (2) _____ (3) [signature]
Reg. WDS Coordinator

WDS Data Entry Date: 7 . 24 . 02 Regional Board File Number: _____

VIOLATION (IF APPLICABLE)

VIOLATION TYPE? (A-G) _____ (See pages IK05.0 and IK05.1 of the Micro Waste Discharger System Users Manual)

DATE OF VIOLATION (YYMMDD): _____-_____-_____ DATE OF VIOLATION DETERMINATION (YYMMDD): _____-_____-_____

DESCRIPTION (200 Character Limit): _____

EPA SUGGESTED INSPECTION CHECKLIST

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

_____ Permit	_____ Flow Measurement	_____ Pretreatment	_____ Operations & Maintenance
_____ Records/Reports	_____ Laboratories	_____ Compliance Schedules	_____ Sludge Disposal
_____ Facility Site Review	_____ Eff./Receiving Waters	_____ Self-Monitoring	_____ Other

_____ (1-5) Overall Facility Operation Evaluation (5 = Very reliable, 3 = Satisfactory, 1 = Unreliable)

ADDITIONAL COMMENTS, SPECIAL INSTRUCTIONS, ITEMS FOR FOLLOWUP ON FUTURE INSPECTIONS, NOTES, ETC. (Attach additional pages, if necessary)

HISTORICAL INFORMATION:

MOST RECENT ORDERS:

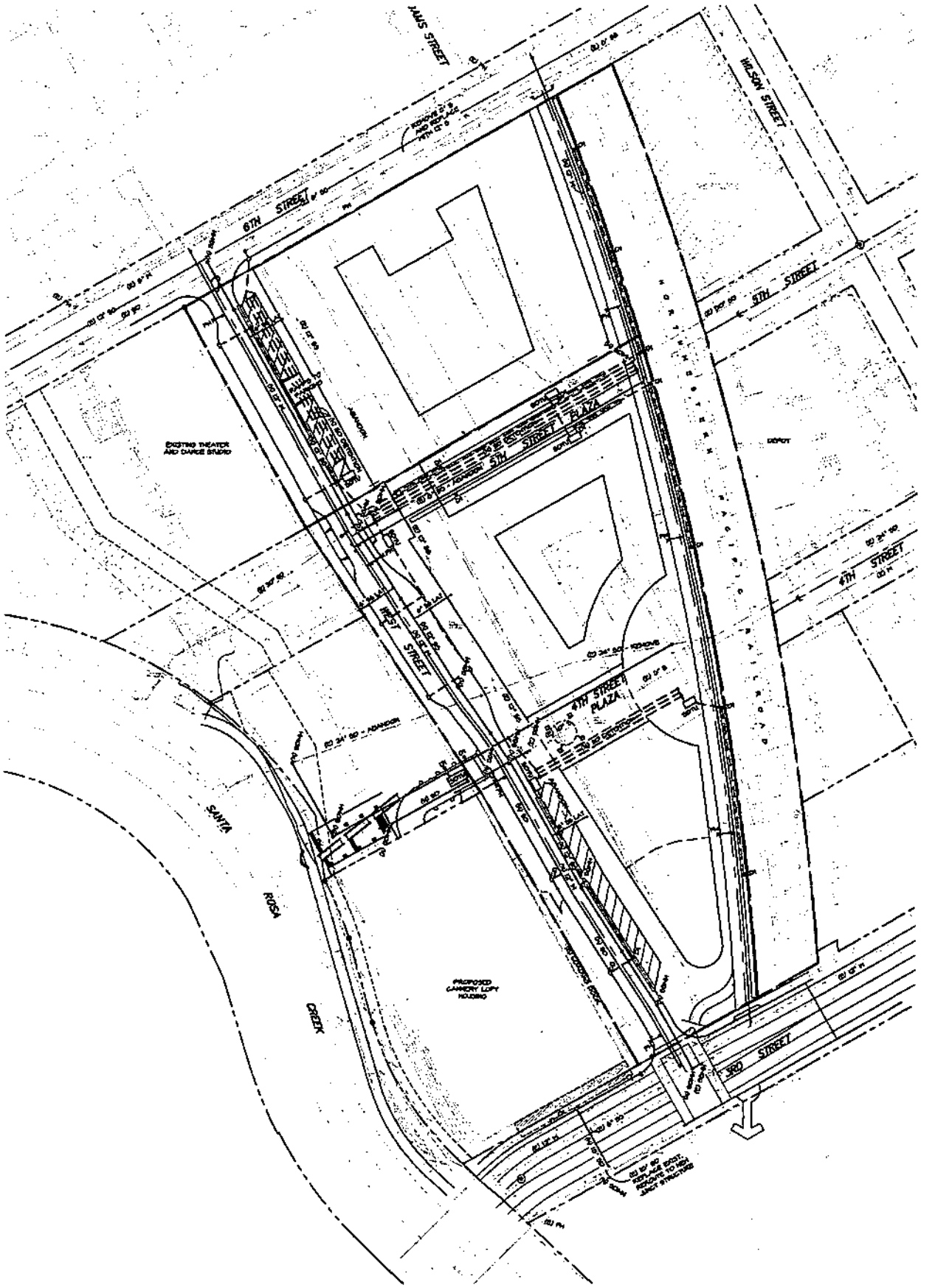
ORDER NO.	DATE ADOPTED	TYPE

MOST RECENT INSPECTIONS:

DATE	INSP. TYPE	VIOLATIONS?

MOST RECENT VIOLATIONS:

VIOL. TYPE	DATE



SHEET 1 OF 1
JANUARY 12, 2009

PREPARED FOR:
CREATIVE HOUSING ASSOCIATES

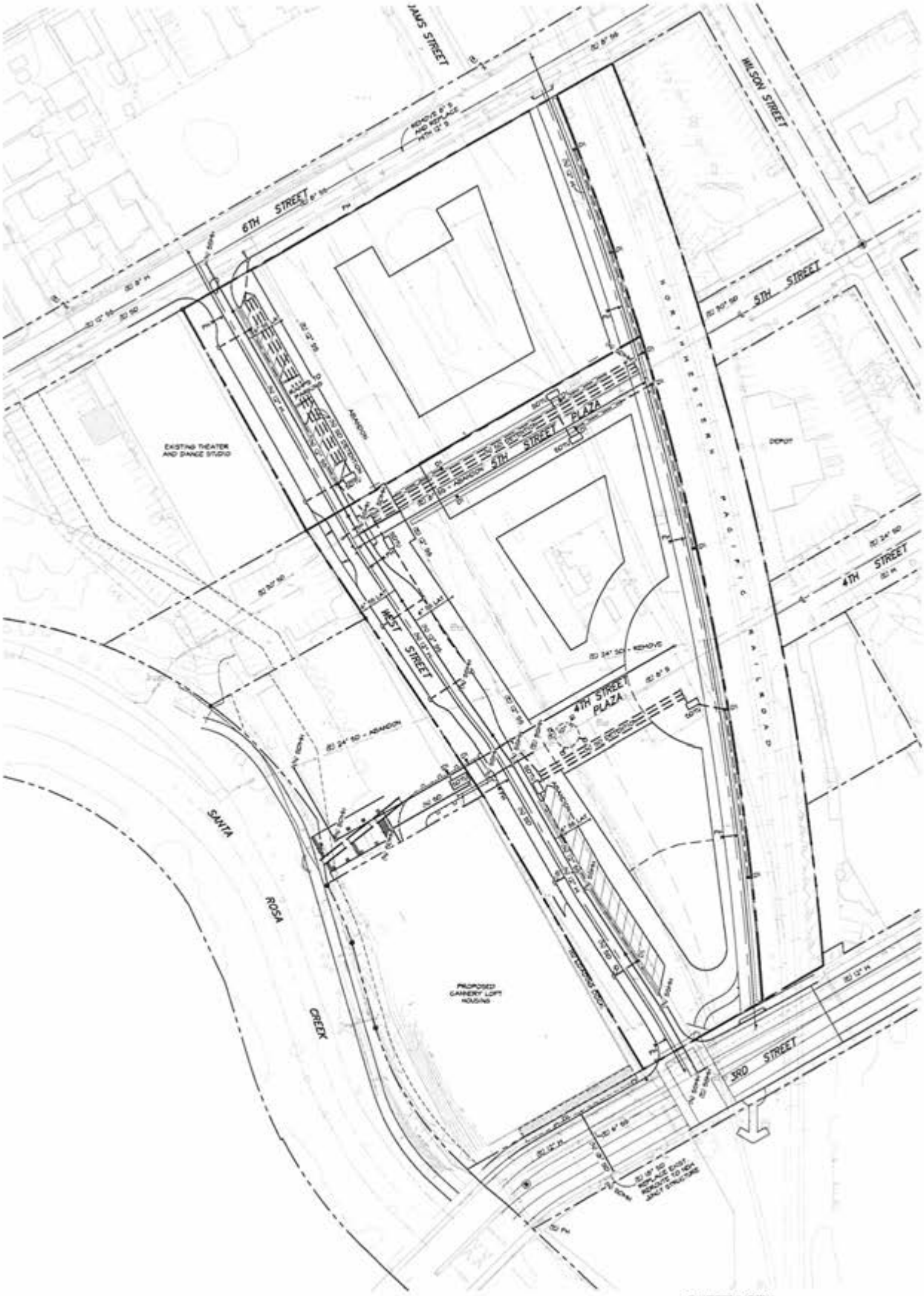
BY:
CARLILE · MACY
CIVIL ENGINEERS · URBAN PLANNERS · LAND SURVEYORS · LANDSCAPE ARCHITECTS
15 THIRD STREET, SANTA ROSA, CA 95401

PRELIMINARY
COMPOSITE UTILITY PLAN

RR SQUARE
DEVELOPMENT PROPOSAL

SANTA ROSA, CALIFORNIA

PROJECT No. 2006000400



SHEET 1 OF 1
JANUARY 12, 2009

PREPARED FOR:
CREATIVE HOUSING ASSOCIATES

BY:
CARLILE · MACY
CIVIL ENGINEERS · URBAN PLANNERS · LAND SURVEYORS · LANDSCAPE ARCHITECTS
15 THIRD STREET, SANTA ROSA, CA 95401

NORTH

1" = 40'

PRELIMINARY
COMPOSITE UTILITY PLAN

RR SQUARE
DEVELOPMENT PROPOSAL

SANTA ROSA, CALIFORNIA

PROJECT No. 2006/0034.00

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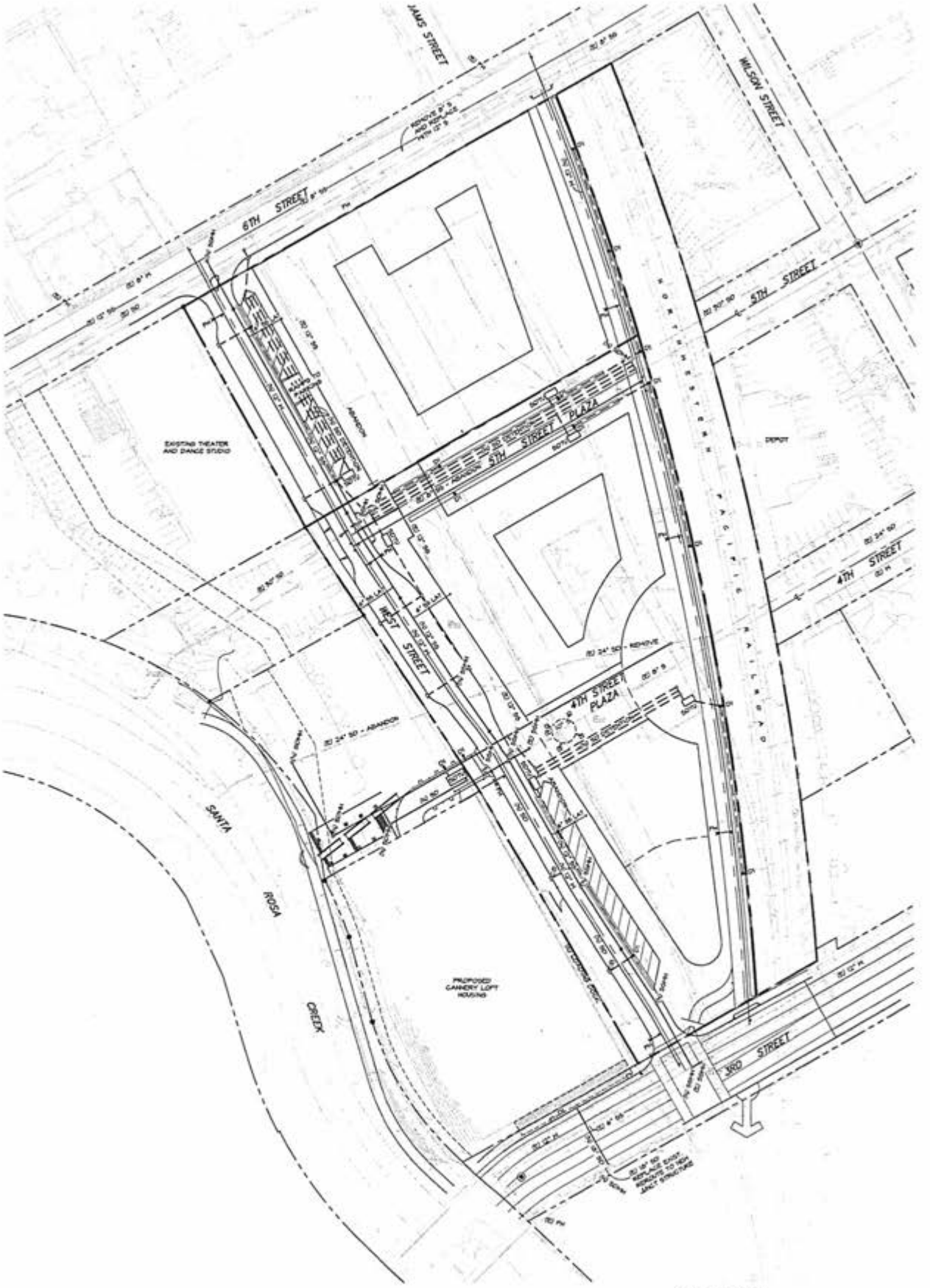

SHEET 1 OF 1
JANUARY 12, 2009

PREPARED FOR:
CREATIVE HOUSING ASSOCIATES

BY:
CARLILE • MACY
CIVIL ENGINEERS • URBAN PLANNERS • LAND SURVEYORS • LANDSCAPE ARCHITECTS
15 THIRD STREET, SANTA ROSA, CA 95401

PRELIMINARY
COMPOSITE UTILITY PLAN

RR SQUARE
DEVELOPMENT PROPOSAL

SANTA ROSA, CALIFORNIA

PROJECT No. 20080204.00

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: January 20, 2011

From: JEF

Subject: Southern Pacific Transportation Company 3rd Street Property

On this day I attended a meeting held at the Carlile-Macy office in Santa Rosa to discuss land development as it relates to the remaining environmental work at the subject site. I was invited by the Railroad Square Associates LLC. In attendance included the following:

John Lowery – Burbank Housing
Frank Kasimov – City of Santa Rosa Redevelopment Agency
John Stewart – Railroad Square Associates, LLC (John Stewart Company)
Rick Devine – Railroad Square Associates, LLC (Devine and Gong)
Paul Nelson – EBA Engineering (representing Railroad Square Associates LLC)
John Nemeth – Sonoma Marin Area Rail Transit (SMART)
Mark ? – Carlile-Macy
Mark ? – Carlile-Macy

I represented the Regional Water Board.

The topics of discussion included the proposed extension of West Street from 3rd to 6th including sewer, water, storm drain and paving and the impediment to completion, which include an underground oil storage tank and impacted soil. SMART wanted John Stewart and Rick Devine to use Prop C drawdown money to complete the work. I explained that before they can do that, SMART and/or Union Pacific Railroad needs to complete the environmental work.

John Nemeth explained that they are pursuing a claim with Union Pacific Railroad pay for the environmental work. I asked for clarification; is a claim a reimbursement of costs or do they expect Union Pacific to conduct the work. John explained that they wanted Union Pacific to conduct the work but the process is being dragged out because of staff changes at County Counsel. He admitted that they may need to move forward and pursue reimbursement.

Paul explained that the cost of the tank pull is approximately $14,000. John Nemeth said that they could probably take care of that.

I explained that we have identified the responsible parties as Union Pacific and SMART. We expect them to work it out with one or both stepping forward according to their

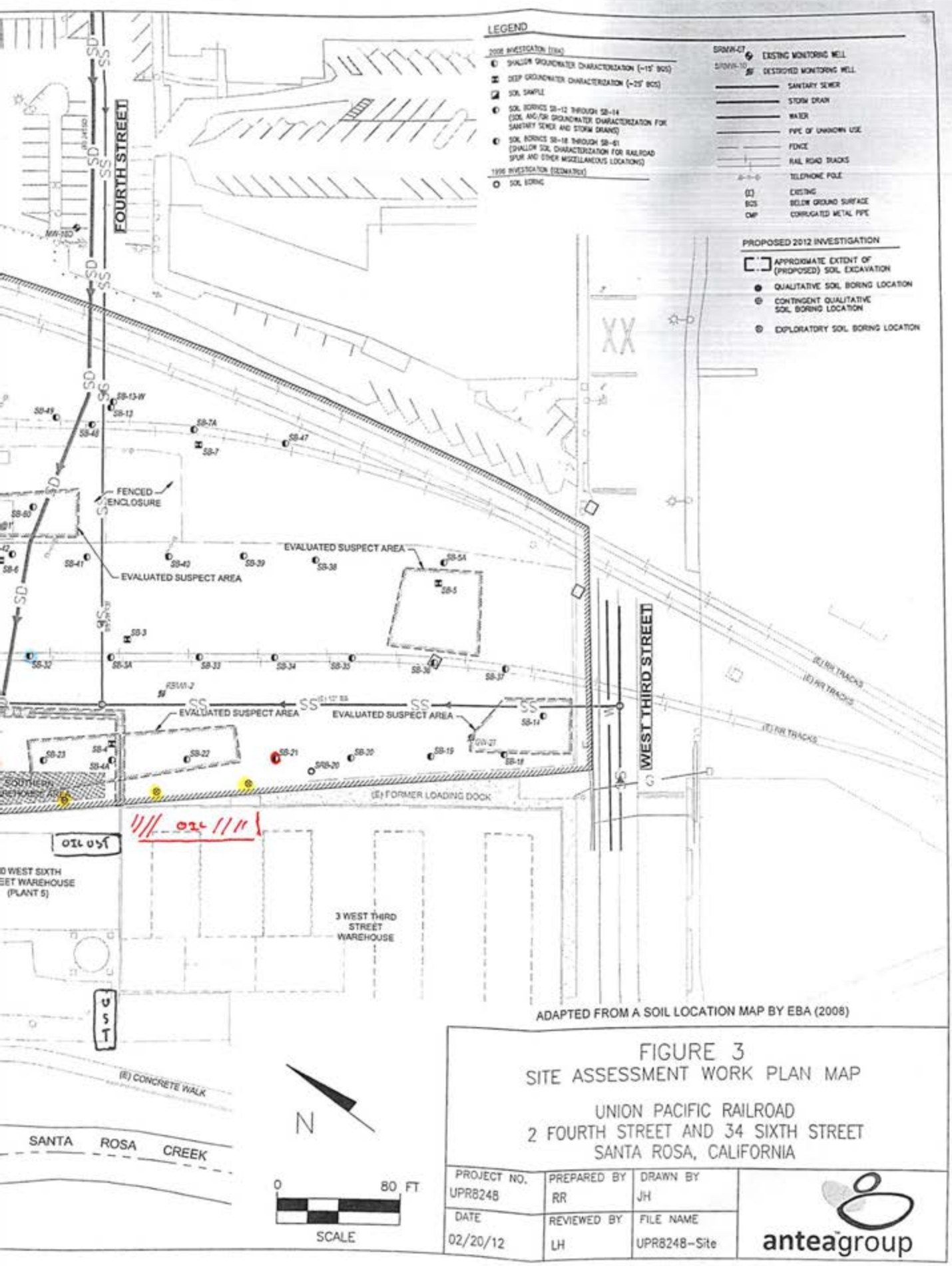
private agreement. If no one steps forward, our regulatory option is enforcement. I further explained that we prioritize our sites based on impacts to ground and surface water; however, environmental issues impeding property development are also a priority. When a development project is stalled because the environmental work has not been completed, my job performance is questioned if I have allowed too much time for responsible parties to "work it out". I explained that in this case, we are at that point. I have written letters asking for tank removal, and implementation of the soil excavation work plan without response.

I also explained the importance of doing the work; the extension of West Street cannot happen until the tank and impacted soil is removed. Also, heavy hydrocarbon impacts in groundwater extend beneath land to the west, which may impact the cleanup and development of those properties. The tank may be a source and the sooner we all know that, or not, the sooner we can make other critical decisions.

The discussion continued regarding the pros and cons of extending West Street at this time with issues concerning the city permitting process and future maintenance liability. John Nemeth and John Stewart came to an agreement regarding some type of walk way to move people from West Street to the train station. The Santa Rosa Canners project at 3 West Third Street is moving forward with West Street being completed only part way. The walk way appeared to be a compromise in the absence of completing West Street all the way to 6th.

John Nemeth commented that they then did not have to worry about the tank and contaminated soil if they don't extend the street to 6th Street. I quickly corrected him; he explained that not taking responsibility was not his intent of his statement.

I indicated that I would follow up with a letter and requested to know the names within the SMART organization that should receive a copy. John requested I include Lisa Pheatt, Bob Krantz, and Joan Thomas.



ADAPTED FROM A SOIL LOCATION MAP BY EBA (2008)

FIGURE 3
SITE ASSESSMENT WORK PLAN MAP

UNION PACIFIC RAILROAD
2 FOURTH STREET AND 34 SIXTH STREET
SANTA ROSA, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
UPR8248	RR	JH
DATE	REVIEWED BY	FILE NAME
02/20/12	LH	UPR8248-Site

anteagroup

FIFTH STREET
ADAMSON STREET
WEST SIXTH STREET
JEFFERSON STREET
SB-56
SB-10
SB-55-W
SB-55
SRMW-08
SB-54
SB-9A
SB-9
SB-61
SB-61-W
SB-57
SB-58
SB-59
SB-52
SB-8
SB-8A
SB-51
SB-50
FORMER REMEDIATION AREA (GENERAL)
CMP STRUCTURE
FORMER STRUCTURE
SRMW-07
SB-53
SB-45
SB-11
SB-44
EVALUATED SUSPECT AREA
FORMER FUEL DISPENSER ISLAND
SB-6A
SB-43
SB-42
S-N-GATE@7
S-N-GATE@7
EVALUATED SUSPECT AREA
SB-45
SB-45B
APPROXIMATE LOCATION OF FORMER CONCRETE SLABS
SB-2
SB-2A
SB-28-W
SB-30B
SB-28
SB-29
SB-30A
SB-31
SS
SRMW-3
LOCATION OF USTs AND EXCAVATION
SB-1A
SB-1E
SB-1F
SB-26
SB-1
SB-1B
SB-1C
SB-25
SB-27
SB-1D
FORMER REMEDIATION AREA (GENERAL)
SRMW-05
SRMW-12
SRMW-11
SRMW-06
SD

California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

Matt Rodriquez
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Edmund G. Brown Jr.
Governor

January 19, 2012

Mr. James Diel
Union Pacific Railroad
9451 Atkinson Street
Suite 100
Roseville, CA 95747

Mr. John Nemeth
Sonoma Marin Area Rail Transit
750 Landaro Street,
Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status

File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case Nos. 1TSR196 and 1NSR196

In the Regional Water Board staff letter dated July 22, 2011, remaining items to be completed were identified, which included the removal of the oil underground storage tank; removal of known shallow soil impacts; and removal of impacted soil in the vicinity of SB-1. It was stated that if evidence of a discharge is revealed at the time of tank removal, contaminated soil must be removed and depending upon the degree of discharge, the impact to water quality may need to be investigated. The purpose of this letter is to bring this file up to date summarizing work conducted since July 2011 and reiterating work items that remain to be completed.

Underground Storage Tanks

On November 3, 2011, the underground oil storage tank was removed. At the time of removal, a second tank was discovered and removed along with visually impacted soil. The excavation was continued to groundwater where separate phase oil product was observed.

Based on recent communications with Antea Group staff working on behalf of Union Pacific Railroad, report preparation is in progress and submittal is anticipated in the next few weeks.

Shallow Soil Impacts

As previously stated, shallow soil impacts may be addressed prior to and/or during property development.

Soil Removal at SB-1

Soil removal in the area of SB-1 must be completed as soon as possible and prior to land development activities. The work may be conducted according to the existing work plan prepared by EBA Engineering submitted on behalf of the Railroad Square Associates, LLC (who is not a responsible party) or a new work plan. If someone other than EBA Engineering implements the existing work plan, the licensed professional in responsible charge of the project must be identified.

Based on the current development plans, a delay in completing remedial actions in the area of SB-1 may impact the installation of proposed infrastructure.

Extent of Groundwater Impacts

In addition to the soil removal project at SB-1, a work plan must be submitted to investigate the extent of groundwater impacts including the presence of separate phase oil at the former tank location, groundwater impacts in the area of SB-1, and clarify the relationship of on-site discharges and off-site impacts to the west beneath adjacent properties. The work plan is due within 45-days of issuance of this letter.

If you have any questions or would like to meet to discuss this case, I can be reached at (707) 576-2675 and Jfleck@waterboards.ca.gov.

Sincerely,

Joan Fleck
Engineering Geologist

120119_JEF_SPTransCo

cc:

Santa Rosa Fire Department (GBuckheit@srcity.org)
Mr. Paul Nelson (pnelson@ebagroup.com)
Ms. Joan Thomas, SMART jthomas@sonomamarintrain.org
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703 (rdevine@devinegong.com)
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, Ca 94109
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514

Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100
Mr. John Nemeth (jnemeth@sonomamarintrain.org)
Ms. Lisa Pheatt, County Counsel (lpheatt@sonoma-county.org)

California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

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Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown Jr.,
Governor

F

July 22, 2011

Sonoma Marin Area Rail Transit
c/o Mr. John Nemeth
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Dear Mr. Nemeth:

Subject: Clarification of Regional Water Board staff letter of February 4, 2011
File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case No. 1TSR196

This letter serves as a written follow up of our July 13, 2011 phone conversation regarding the Regional Water Board staff letter dated February 4, 2011. In response to your request for clarification regarding the remaining work to be completed at the 3rd Street Property, I offer the following information:

Remaining work to be completed includes the:

1. Removal of the oil underground storage tank under permit from the Santa Rosa Fire Department.

   If evidence of a discharge is revealed at the time of tank removal, contaminated soil must be removed from this area and depending upon the degree of the discharge, the impact to water quality may need to be investigated and remediated. As stated in the February 4, 2011 letter, heavy hydrocarbon impacts to groundwater exist on and off site to the west and the tank may be a contributing source.

2. Removal of known shallow contaminated soil impacts.
3. Removal of shallow contaminated soil impacts encountered during property development.
4. Proper management of soil and groundwater during property development.

   A plan has been submitted to address these items, which is the August 2009 *Soil and Groundwater Management Plan* (SGMP) prepared by EBA Engineering on behalf of Railroad Square Associates LLC, who is not a responsible party.

Implementation of the soil and groundwater management plan will be a condition of property development and grading permit issuance. Implementation of the plan by someone other than EBA will require the identification of the licensed professional who will be in responsible charge of the project. Responsible parties may also submit their own SGMP.

5. Removal of impacted soil contamination in the area of B-1.

   Evidence of a surface discharge in the area of B-1 was reported in the November 2008 *Report of Findings* prepared by EBA Engineering. A plan has been submitted for the excavation of impacted soil in this area, which is the October 2009 *Soil Excavation Work Plan* prepared by EBA Engineering on behalf of the Railroad Square Associates LLC.

   The proposed scope of work must be implemented as soon as possible and prior to property development. Implementation of the plan by someone other than EBA will require the identification of the licensed professional who will be in responsible charge of the project. Responsible parties may also submit their own soil excavation work plan.

   Ground water impacts exist in the area of B-1. The extent will need to be defined and the impacts remediated.

If you have any questions or require further clarification, I can be reached at (707) 576-2675 and Jfleck@waterboards.ca.gov.

Sincerely,

Joan Fleck
Engineering Geologist

110722_JEF_SMART

cc:

Mr. James Diel, Union Pacific Railroad,9451 Atkinson Street, Suite 100, Roseville, CA 95747
Santa Rosa Fire Department (GBuckheit@srcity.org)
Mr. Paul Nelson (pnelson@ebagroup.com)
Rob Krantz, Property Manager, SMART District Office, 750 Lindaro Street, Suite 200, San Rafael, CA 94901 (rkrantz@sonomamarintrain.org)
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703 (rdevine@devinegong.com)
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite

101, Los Angeles, CA 90034
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Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100
Ms. Joan Thomas, Real Estate Assistant (jthomas@sonomamarintrain.org)
Mr. John Nemeth (jnemeth@sonomamarintrain.org)
Ms. Lisa Pheatt, County Counsel (lpheatt@sonoma-county.org)

California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

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Edmund G. Brown, Jr.,
Governor

F

February 4, 2011

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Area Rail Transit
c/o Mr. John Nemeth
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case No. 1TSR196

On January 16, 2009, the Southern Pacific Transportation Company case was reopened as a result of new discoveries reported in the November 2008 *Report of Findings Sonoma-Marin Area Rail Transit Property* and the January 7, 2009 *Additional Information* document prepared by EBA Engineering on behalf of Railroad Square Associates, LLC. The discoveries included an underground oil storage tank (UST), heavy hydrocarbon soil and groundwater impacts in the vicinity of soil boring SB-1, and shallow soil impacts.

Following receipt of this information, Regional Water Board staff requested that Union Pacific Railroad (UPR) and Sonoma Marin Area Rail Transit (SMART) remove the UST and submit two plans; a soil groundwater management plan to address shallow soil impacts and a work plan to address soil and groundwater impacts in the SB-1 area. The Railroad Square Associates LLC responded with the submittal of the *Soil and Groundwater Management Plan* and the *Soil Excavation Work Plan* on August 10, 2009 and October 14, 2009, respectively. For the record, Railroad Square Associates LLC is not a responsible party.

Subsequent written requests regarding tank removal were directed to UPR and SMART on May 27, 2009 and October 30, 2009. As of this date, efforts to remove the tank under permit from the Santa Rosa Fire Department have not been made.

This matter was discussed during the January 20, 2011 meeting held at the Carlile-Macy office in Santa Rosa including the relationship of land development

and completion of the environmental work. In summary, completion of the environmental work is critical for these reasons:

- Underground storage tank removal and excavation work plan implementation are required by law and regulation;
- Land development at the former railroad yard is dependent on the completion of the environmental work; and
- Some of the heavy hydrocarbon groundwater impacts beneath land to the west are likely the result of on site migration. Therefore, source removal work at the site is essential for water quality protection and to provide information regarding sources of groundwater impacts beneath other properties.

Two years have passed since the January 2009 letter, which is a generous amount of time to allow Union Pacific and SMART to resolve their legal interpretations regarding environmental liability issues. However, as I explained during our recent meeting, when progress is not made within a reasonable time frame, a compliance schedule must be established by the regulatory agencies. Proposed land development elevates the priority of a case.

Therefore, within 30-days of issuance of this letter, a written commitment and schedule is needed regarding your plans for tank removal and excavation work plan implementation. For your information, on January 31, 2011, I made another referral to Santa Rosa Fire Department to the attention of Mr. Mark McCormick (Interim Fire Chief) for enforcement of tank closure regulations.

I look forward to receipt of your written commitment and schedule followed by the timely removal of the underground storage tank. If you have any questions or would like to meet again to discuss this case, I can be reached at (707) 576-2675 and Jfleck@waterboards.ca.gov.

Sincerely,

Joan Fleck
Engineering Geologist

110204_JEF_SMART

cc:

Santa Rosa Fire Department (GBuckheit@srcity.org)
Mr. Paul Nelson (pnelson@ebagroup.com)
Rob Krantz, Property Manager, SMART District Office, 750 Lindaro Street, Suite 200, San Rafael, CA 94901 (rkrantz@sonomamarintrain.org)
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Mr. John Nemeth (jnemeth@sonomamarintrain.org)
Ms. Lisa Pheatt, County Counsel (lpheatt@sonoma-county.org)

NCRWQCB

APR 25 2011

EO ____ WMgmt ____ Admin ____
AEO ____ Timber ____ Legal ____
Reg/NPS ____ Cleanups JEF ____
____ ____ Data ____

anteagroup

Antea USA, Inc.
312 Piercy Road
San Jose, California 95138 USA
www.anteagroup.com

April 22, 2011

Ms. Joan Fleck
California Regional Water Quality Control Board – North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: **Letter of Planned Underground Storage Tank Removal**
Southern Pacific Transport Company, 3rd Street Property
Santa Rosa, California
CRWQCB – North Coast Region Case No. 1TSR196

Dear Ms. Fleck:

On behalf of Union Pacific Railroad (UPRR), Antea Group (formerly Delta Consultants) is advising the California Regional Water Quality Control Board – North Coast Region (NCRWQCB) of UPRR's intent to remove the underground storage tank (UST) at the above-referenced property. As requested in the NCRWQCB letter dated February 4, 2011, UPRR will remove the UST, and if necessary, conduct limited soil excavation during UST removal.

UPRR and Antea Group will negotiate access to the site, and obtain all applicable permits required for the UST removal. Antea Group anticipates that UST removal activities will be completed by Friday, **July 29th, 2011** with submittal of the associated *UST Removal Report* to the NCRWQCB and the Santa Rosa Fire Department by Wednesday, **August 31, 2011;** however, this planned schedule is contingent upon the timely receipt of an executed license agreement from the property owner to conduct the onsite activities.

Antea Group will also conduct a thorough file and historical data review to evaluate impacts in the vicinity of boring SB-1. Once our evaluation is complete, UPRR will propose a path forward.

If you have any questions please do not hesitate to contact me at the number below.

Sincerely,

Lia N. Holden
Senior Project Manager
(408) 826-1863
lia.holden@anteagroup.com
Antea Group

Inogen Environmental Alliance

COUNTY ADMINISTRATION CENTER
575 ADMINISTRATION DRIVE,
ROOM 105A
SANTA ROSA, CALIFORNIA 95403

TELEPHONE: (707) 565-2421
FACSIMILE: (707) 565-2624

ASSISTANT COUNTY COUNSEL
SHERYL L. BRATTON

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SUE GALLAGHER
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SALLY B. MCGOUGH
DAVID R. MCFADDEN
STEVE S. SHUPE
PHYLLIS C. GALLAGHER
ANNE L. KECK
BARBARA A. FITZMAURICE
LINDA D. SCHILTGEN
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MOE JAMIL

NCRWQCB

APR 15 2011

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☐ Reg/NPS ☐ Cleanups JEF ☐
☐ Date

April 13, 2011

Via Facsimile Transmission (916) 789-6238
And First Class U.S. Mail

Robert C. Bylsma
Senior Regional Environmental Counsel
Union Pacific Railroad Company Law Department
10031 Foothills Boulevard, Suite 200
Roseville, California 95747-7101

RE: Santa Rosa Railroad Square Contamination: Demand for Indemnity Pursuant to the Environmental Indemnity Agreement dated April 30, 1996 ("Agreement") between Union Pacific Railroad (UP), as successor-in-interest to Southern Pacific Transportation Company ("SPT"), and Sonoma Marin Area Rail Transit District ("SMART"), as successor-in-interest to Northwestern Pacific Railroad Authority ("NPRA")

Dear Mr. Bylsma:

This letter confirms receipt of your correspondence dated March 25, 2011, addressed to Lisa Pheatt of our office regarding the above referenced matter and serves as SMART's formal acknowledgment of Union Pacific Railroad's ("Union Pacific") acceptance of our tender of indemnity. While SMART appreciates Union Pacific's acceptance of its tender, we must respond to several points raised in your letter:

(1) In your letter, you contend that from the face of our February 9, 2011 letter "SMART has yet suffered an Environmental Claim, incurred an Environmental Expense or suffered a Liability for which indemnification is provided under Article 3." SMART must take exception with this statement.

The Agreement defines "Environmental Claim" as "any actual or threatened ... complaint, demand ..., or *notice by* any governmental authority, including, without limit, any and all enforcement, clean-up, *removal* or other governmental regulatory action . . . ." (Agreement, § 2.1.3, p. 3.)

On January 16, 2009, California Regional Water Quality Control Board (the "Water Board") notified **both** Union Pacific and SMART that it was reopening the Southern Pacific Transportation Company case (Case No. 1TSR196) and ordered, among other things, the removal of the underground storage tank on the site. Thereafter, the Water Board issued follow-up letters on May 27, 2009, October 30, 2009, and February 4, 2011. Each communication demanded removal of the underground storage tank, and the February 4, 2011 letter required "a written commitment and schedule" for excavation and removal of the underground storage tank. True and correct copies of the foregoing correspondence from the Water Board are enclosed for your reference. What should be clear from the referenced correspondence is that the Water Board's request to remove the underground storage tank falls squarely within the Agreement's definition of "Environmental Claim."

(2) Your letter asserts that SMARTS grant of an option to purchase the Property to New Railroad Square Associates, LLC may have terminated SMART's rights under the Agreement. I respectfully disagree and direct your attention to Section 2.1.6 of the Agreement, which provides, in pertinent part:

"Neither the leasing nor any other transfer by any Purchaser of an interest in the Property shall affect that entity's status as a 'Purchaser' hereunder, *nor limit or otherwise affect that Purchaser's right to a defense and indemnity hereunder.*" (Agreement, § 2.1.6, p. 5)

(3) Finally, we direct your attention to Section 3.5, subparagraph (b) of the Agreement, which provides, in relevant part:

"It shall be the obligation of [Union Pacific, as successor in interest to SPT] to accept the tender and *to promptly provide a defense and indemnity, and to undertake all necessary investigative, responsive and remedial activities* for the Indemnity Claim mandated by the Environmental laws, and to otherwise discharge all of its obligations hereunder, until and unless a court of competent jurisdiction or Private Judge . . . has entered a judgment or appealable order relieving [Union Pacific] of these obligations or finds that [Union Pacific] is not responsible for the particular indemnity."

Please confirm that Union Pacific is taking appropriate steps to provide the schedule and tank removal and remediation plan requested by the Water Board. If you need any other information

to commence the required remediation of the identified conditions, please advise our office as soon as possible. I am available to discuss this matter further if you desire. I can be reached at (707) 565-3731. Thank you in advance for your anticipated cooperation in this matter.

Very truly yours,

Robert Pittman
Deputy County Counsel

Cc: John Lackey, SMART Capital Projects Director
John Nemeth, SMART Rail Planner
Joan Fleck, CRWQCB
John Stewart, New Railroad Square Associates, LLC

Enclosures

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

NCRWQCB

APR 15 2011

☐ EO ☐ WMgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☐ Cleanups ☐
☐ Date

January 16, 2009

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

Regional Water Board staff have reviewed the November 2008 *Report of Findings Sonoma-Marin Area Rail Transit Property* report and the January 7, 2009 *Additional Information* prepared by EBA Engineering on behalf of New Railroad Square LLC. The work was conducted on properties identified as Assessor's Parcel Numbers 010-171-004 and 010-166-003 in Santa Rosa. The Phase II work was completed in relation to a proposed development project.

The results of the Phase II work included the discovery of an underground oil storage tank, shallow soil impacts, and groundwater impacts from petroleum and chlorinated hydrocarbons. The soil and groundwater impacts discovered in the vicinity of SB-1A represent new information regarding an onsite discharge; therefore, the case file has been re-opened.

We concur with the EBA Engineering recommendations to remove the underground oil storage tank under permit from the Santa Rosa Fire Department, prepare a work plan to address the soil and groundwater impacts in the vicinity of SB-1A, and prepare a soil and groundwater management plan to address the shallow soil impacts prior to and during property development. The underground storage tank must be removed as soon as possible. The work plan to address the soil and groundwater impacts in the vicinity of SB-1 is due within 60 days of issuance of this letter. The soil and groundwater

management plan must be submitted prior to property development. We also concur with the proposal to install groundwater monitoring wells after corrective actions have been conducted in the area of SB-1A. Based on the available information, it appears that off site migration has occurred to the west. The work plan must acknowledge and address this matter.

With regards to the widespread volatile organic compound (VOC) impacts, a potential MTBE source is 210 Fifth Street. I am currently researching historical land uses in the area east of the site for potential up gradient tetrachloroethene (PCE) discharge locations. With regards to groundwater impacts from petroleum, that appear to be the result of on site migration, I have forwarded copies of pertinent information for the SB-55-W area to ChevronTexaco, who is currently investigating a petroleum release at 101 Fifth Street. I am also exploring land use history for properties east of the SB-13-W sample location.

I look forward to removal of the underground storage tank and receipt of the work plan. If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

011609_JEF_SMART

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404

RECD MAY 28 2009

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for
Environmental Protection

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Arnold
Schwarzenegger
Governor

NCRWQCB

May 27, 2009

APR 15 2011

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☐ AEO ☐ Timber ☐ Legal
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Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

On January 16, 2009, we concurred with the EBA Engineering recommendations to remove the underground oil storage tank under permit from the Santa Rosa Fire Department, prepare a work plan to address the soil and groundwater impacts in the vicinity of SB-1A, and prepare a soil and groundwater management plan to address the shallow soil impacts prior to and during property development.

At that time, we indicated that:

- The underground storage tank needed to be removed as soon as possible;
- The work plan to address the soil and groundwater impacts in the vicinity of SB-1 was due within 60 days of issuance of the January 16, 2009 letter; and
- The soil and groundwater management plan needed to be submitted prior to property development.

As of this date, the underground tank has not been removed and the work plan has not been submitted. Therefore, on April 24, 2009, I inquired with the Santa Rosa Fire Department regarding the status of the underground storage tank and learned that an application has not been filed for tank closure.

Title 23, Article 7 regulates underground storage tank closure and requires the permanent closure of underground storage tanks in which the storage of hazardous substances has ceased. By copy of this letter, I am referring the issue of tank closure at this site to the Santa Rosa Fire Department as the permitting and enforcement agency for compliance with Title 23, Article 7, Section 2672(b).

The underground storage tank must be removed as soon as possible. A revised compliance date for the submittal of the work plan is 45-days from issuance of this letter. If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

052709_JEF_SMART

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

NCRWQCB

October 30, 2009

APR 15 2011

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☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☐ Cleanups ☐

Railroad Square Associates, LLC
c/o Mr. John Stewart
1388 Sutter Street, 11th Floor
San Francisco, CA 94109

Dear Mr. Stewart:

Subject: Soil Excavation and Soil and Groundwater Management Work Plans
File: Southern Pacific Transportation Company, 3rd Street Property (North) Santa Rosa, Case No. 1TSR196

I have reviewed the August 2009 *Soil and Groundwater Management Plan Sonoma-Marin Area Rail Transit Properties* and the October 2009 *Soil Excavation Work Plan Sonoma Marin Rail Transit Property* prepared by EBA Engineering. Both plans are acceptable with the following comments:

Soil and Groundwater Management Plan

- Soil samples collected from stockpiles proposed for reuse must be tested using EPA Method 8270 for polynuclear aromatic hydrocarbons (PAHs).

Soil Excavation Work Plan

- The depth of the excavation must extend to groundwater, which may be greater than fifteen feet below ground surface.

In addition, areas of shallow soil impacts were also discovered during the October 2008, investigation completed by EBA Engineering, which include SB-2A, SB-24, SB-27, SB-28, SB-29, SB-30, SB-31, SB-59 and SNGate@2'. Impacted soil must also be removed from these areas, and can be addressed either during the soil management plan or excavation plan implementation. The choice is yours.

Efforts to remove the underground oil storage tank have not been made. I will address this matter with the responsible parties, which include Sonoma Marin Area Rail Transit and Union Pacific Railroad, under separate cover. If you have any questions, I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

103009_JEF_SMART

Mr. Doug Dahme, Santa Rosa Fire Department
Ms. Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
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Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100
Mr. Mike Grant, Union Pacific Railroad, 1408 Middle Harbor Road, Oakland, CA 94607
Mr. Charles McGlashan, Sonoma Marin Area Rail Transit, 750 Lindaro Street, Suite 200, San Rafael, CA 94901

California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

Linda S. Adams
Acting Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Edmund G. Brown, Jr.,
Governor

February 4, 2011

APR 15 2011

☐ EO ☐ WMgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☐ Cleanups ☐
☐ Date

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma-Marin Area Rail Transit
c/o Mr. John Nemeth
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case No. 1TSR196

On January 16, 2009, the Southern Pacific Transportation Company case was reopened as a result of new discoveries reported in the November 2008 *Report of Findings Sonoma-Marin Area Rail Transit Property* and the January 7, 2009 *Additional Information* document prepared by EBA Engineering on behalf of Railroad Square Associates, LLC. The discoveries included an underground oil storage tank (UST), heavy hydrocarbon soil and groundwater impacts in the vicinity of soil boring SB-1, and shallow soil impacts.

Following receipt of this information, Regional Water Board staff requested that Union Pacific Railroad (UPR) and Sonoma Marin Area Rail Transit (SMART) remove the UST and submit two plans; a soil groundwater management plan to address shallow soil impacts and a work plan to address soil and groundwater impacts in the SB-1 area. The Railroad Square Associates LLC responded with the submittal of the *Soil and Groundwater Management Plan* and the *Soil Excavation Work Plan* on August 10, 2009 and October 14, 2009, respectively. For the record, Railroad Square Associates LLC is not a responsible party.

Subsequent written requests regarding tank removal were directed to UPR and SMART on May 27, 2009 and October 30, 2009. As of this date, efforts to remove the tank under permit from the Santa Rosa Fire Department have not been made.

This matter was discussed during the January 20, 2011 meeting held at the Carlile-Macy office in Santa Rosa including the relationship of land development

and completion of the environmental work. In summary, completion of the environmental work is critical for these reasons:

- Underground storage tank removal and excavation work plan implementation are required by law and regulation;
- Land development at the former railroad yard is dependent on the completion of the environmental work; and
- Some of the heavy hydrocarbon groundwater impacts beneath land to the west are likely the result of on site migration. Therefore, source removal work at the site is essential for water quality protection and to provide information regarding sources of groundwater impacts beneath other properties.

Two years have passed since the January 2009 letter, which is a generous amount of time to allow Union Pacific and SMART to resolve their legal interpretations regarding environmental liability issues. However, as I explained during our recent meeting, when progress is not made within a reasonable time frame, a compliance schedule must be established by the regulatory agencies. Proposed land development elevates the priority of a case.

Therefore, within 30-days of issuance of this letter, a written commitment and schedule is needed regarding your plans for tank removal and excavation work plan implementation. For your information, on January 31, 2011, I made another referral to Santa Rosa Fire Department to the attention of Mr. Mark McCormick (Interim Fire Chief) for enforcement of tank closure regulations.

I look forward to receipt of your written commitment and schedule followed by the timely removal of the underground storage tank. If you have any questions or would like to meet again to discuss this case, I can be reached at (707) 576-2675 and Jfleck@waterboards.ca.gov.

Sincerely,

Original signed by
Joan Fleck
Engineering Geologist

110204_JEF_SMART

cc:

Santa Rosa Fire Department (GBuckheit@srcity.org)
Mr. Paul Nelson (pnelson@ebagroup.com)
Rob Krantz, Property Manager, SMART District Office, 750 Lindaro Street, Suite 200, San Rafael, CA 94901 (rkrantz@sonomamarintrain.org)
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404

Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703 (rdevine@devinegong.com)
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, Ca 94109
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100
Ms. Joan Thomas, Real Estate Assistant (jthomas@sonomamarintrain.org)
Mr. John Nemeth (jnemeth@sonomamarintrain.org)
Ms. Lisa Pheatt, County Counsel (lpheatt@sonoma-county.org)

COUNTY ADMINISTRATION CENTER
575 ADMINISTRATION DRIVE,
ROOM 105A
SANTA ROSA, CALIFORNIA 95403

TELEPHONE: (707) 565-2421
FACSIMILE: (707) 565-2624

ASSISTANT COUNTY COUNSEL
SHERYL L. BRATTON

OFFICE OF THE COUNTY COUNSEL
BRUCE D. GOLDSTEIN
County Counsel

CHIEF DEPUTIES
C. [illegible]VID HURST
TARA HARVEY
GREGORY T. DION
KATHLEEN A. LAROCQUE

DEPUTIES
SUE GALLAGHER
JEFFREY L. BERK
SALLY B. MCGOUGH
DAVID R. MCFADDEN
STEVE S. SHUPE
PHYLLIS C. GALLAGHER
ANNE L. KECK
BARBARA A. FITZMAURICE
LINDA D. SCHILTGEN
ELIZABETH S. HUTTON
WILLIAM L. ADAMS
JEFFREY M. BRAX
JENNIFER C. KLEIN
MARGARET A. SINGLETON
DEBBIE F. LATHAM
CORY W. O'DONNELL
TAMBRA CURTIS
LISA A. PHEATT
JOSHUA A. MYERS
JACQUELINE BIRD
HOLLY RICKETT

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FEB 10 2011
EO
AEO
Reg/NPS
WMgmt
Timber
Cleanups JCF
Admin
Legal

February 9, 2011

Via Certified Mail, Return Receipt Requested

Union Pacific Railroad
Office of General Counsel
1400 Douglas Street
Omaha, NE 68179

Union Pacific Railroad
1408 Middle Harbor Road
Oakland, CA 94607
Attn: Manager Environmental Site Remediation

Union Pacific Railroad
9451 Atkinson Street
Roseville, CA 95747
Attn: Jim Diel

Re: Santa Rosa Railroad Square Contamination: Demand for Indemnity Pursuant to the Environmental Indemnity Agreement dated April 30, 1996 ("Agreement") between Union Pacific Railroad (UP), as successor-in-interest to Southern Pacific Transportation Company ("SPT"), and Sonoma Marin Area Rail Transit District ("SMART"), as successor-in-interest to Northwestern Pacific Railroad Authority ("NWPRA").

To whom it may concern:

SMART is the successor-in-interest to NWPRA with respect to certain parcels formerly owned by NWPRA located at 2 Fourth Street, Santa Rosa (APN 010-171-004), California and 34 Sixth Street, Santa Rosa, California (APN 010-166-003) (hereinafter jointly referred to as the "Property"). In 2009, SMART granted an option to purchase the Property to New Railroad Square Associates, LLC for transit-oriented development purposes. In anticipation of that option, in 2008, with SMART's consent, New Railroad Square Associates, LLC engaged the services of EBA Engineering ("EBA") to investigate environmental conditions at the Property. EBA's investigation discovered the presence of hazardous materials at various locations on the Property, as more particularly described in EBA's

November 2008 Comprehensive Report of Findings (EBA's Report). A true and correct copy of EBA's Report is enclosed for your reference.

Pursuant to the above-referenced Agreement, a copy of which is enclosed, SMART is entitled to defense and indemnity from UP with respect to the matters identified in EBA's Report. EBA's Report documents the nature of the hazardous materials and their general location, in accordance with the claim tender requirements under Paragraph 3.3 of the Agreement.

Please confirm your intent to indemnify and defend SMART and advise if you need any other information to commence remediation of the identified conditions. In connection with your obligations, we ask that UP respond to requests made by the California Regional Water Quality Control Board (CRWQCB) seeking to establish a compliance schedule for removal of the underground storage tank and associated excavation work. For your reference, I have attached the latest communication from CRWQCB. We look forward to hearing from you.

Sincerely,

Lisa A. Pheatt
Deputy County Counsel

Enclosures

cc (without enclosures):

Rob Krantz, SMART Real Estate Property Manager
John Nemeth, SMART Rail Planner
Joan Fleck, CRWQCB
John Stewart, New Railroad Square Associates, LLC

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

October 30, 2009

Railroad Square Associates, LLC
c/o Mr. John Stewart
1388 Sutter Street, 11th Floor
San Francisco, CA 94109

Dear Mr. Stewart:

Subject: Soil Excavation and Soil and Groundwater Management Work Plans
File: Southern Pacific Transportation Company, 3rd Street Property (North) Santa Rosa, Case No. 1TSR196

I have reviewed the August 2009 *Soil and Groundwater Management Plan Sonoma-Marin Area Rail Transit Properties* and the October 2009 *Soil Excavation Work Plan Sonoma Marin Rail Transit Property* prepared by EBA Engineering. Both plans are acceptable with the following comments:

Soil and Groundwater Management Plan

- Soil samples collected from stockpiles proposed for reuse must be tested using EPA Method 8270 for polynuclear aromatic hydrocarbons (PAHs).

Soil Excavation Work Plan

- The depth of the excavation must extend to groundwater, which may be greater than fifteen feet below ground surface.

In addition, areas of shallow soil impacts were also discovered during the October 2008, investigation completed by EBA Engineering, which include SB-2A, SB-24, SB-27, SB-28, SB-29, SB-30, SB-31, SB-59 and SNGate@2'. Impacted soil must also be removed from these areas, and can be addressed either during the soil management plan or excavation plan implementation. The choice is yours.

Efforts to remove the underground oil storage tank have not been made. I will address this matter with the responsible parties, which include Sonoma Marin Area Rail Transit and Union Pacific Railroad, under separate cover. If you have any questions, I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

103009_JEF_SMART

Mr. Doug Dahme, Santa Rosa Fire Department
Ms. Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100
Mr. Mike Grant, Union Pacific Railroad, 1408 Middle Harbor Road, Oakland, CA 94607
Mr. Charles McGlashan, Sonoma Marin Area Rail Transit, 750 Lindaro Street, Suite 200, San Rafael, CA 94901

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Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

F

October 30, 2009

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Underground Oil Storage Tank Removal
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

On January 16, 2009, we concurred with the EBA Engineering recommendations to remove the underground oil storage tank under permit from the Santa Rosa Fire Department; prepare a work plan to address the soil and groundwater impacts in the vicinity of SB-1A; and prepare a soil and groundwater management plan to address the shallow soil impacts prior to and during property development. On May 27, 2009, a follow up letter was sent reiterating the required action items for this site.

The *Soil and Groundwater Management Plan* prepared by EBA Engineering on behalf of the Railroad Square Associates LLC was submitted on August 10, 2009. The *Soil Excavation Work Plan*, also prepared by EBA Engineering on behalf of the Railroad Square Associates LLC, was submitted on October 14, 2009. However, as of this date, the underground tank has not been removed.

Title 23, Article 7 regulates underground storage tank closure and requires the permanent closure of underground storage tanks in which the storage of hazardous substances has ceased. The tank needs to be removed. The Santa Rosa Fire Department is the lead agency for tank closure activities. Ms. Corey Vincent with Santa Rosa Fire can be reached at (707) 543-3542.

If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

103009_JEF_SMARTtank

cc: Ms. Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
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Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100

From: "Eric Chase" <echase@rghgeo.com>
To: <jfleck@waterboards.ca.gov>
Date: 10/23/2009 2:48 PM
Subject: New Railroad Square Project
Attachments: Figure 2 from EBA.pdf

E-mail to Eric 10/26/09 by JSF OKAY

Joan:

As we discussed, I have attached our proposed exploration plan for your review. Our proposed scope of work is outlined in the paragraphs below. Please review and let me know what requirements, in addition to the proposed work, will be required for our geotechnical study. Thanks in advance for your assistance.

Scope of Work

Prior to drilling, we will mark our exploration locations with stakes and notify Underground Service Alert (USA). As required by Sonoma County Permit and Resource Management (PRMD), we will obtain well drilling permits from the Well and Septic Division.

Following permit approval, we will explore the subsurface conditions in the area of the proposed structures by performing 24 Cone Penetration Tests (CPT's) on the order of 50 feet deep. The CPT holes will be backfilled with grout.

We will supplement the CPT information by drilling six test borings on the order of 50 feet deep using a truck-mounted auger rig. These borings will be situated so as to avoid previously identified areas of higher contamination. We will sample two to three times in the upper five feet and then every 5 feet until we reach the bottom of the boring. The samples will be capped for delivery to our lab for geotechnical testing.

We will explore the proposed streets and at grade parking areas by drilling 8 test borings on the order of 5 feet deep. Bulk 5-gallon bucket samples will be collected and delivered to our lab for geotechnical testing. All borings will be backfilled with grout and the cuttings placed in a disposal bin. The hollow stem augers used for borings will be steam cleaned after use prior to using them in a different location. The soil cuttings and water generated from steam cleaning will be disposed of off-site with the assistance of EBA.

I trust this provides the information you require to address my request. If you have questions or need additional information, please email or call.

Eric G. Chase

Geotechnical Engineer - 2628

RGH Consultants

1305 N. Dutton Ave.

Santa Rosa, CA 95401

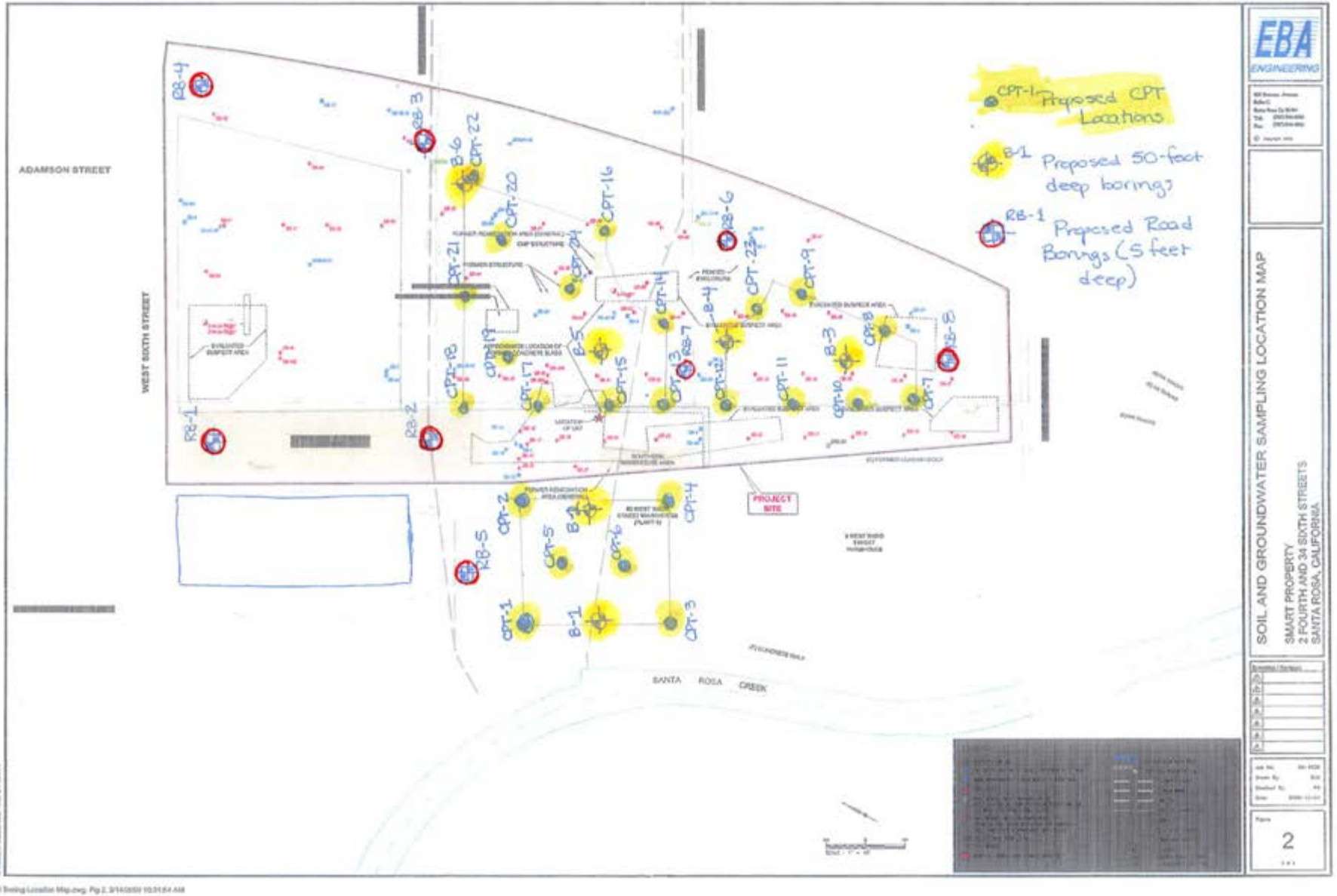
Office: (707) 544-1072

Cell: (707) 799-6341

Fax: (707) 544-1082

<mailto:echase@rghgeo.com> echase@rghgeo.com

<http://www.rghgeo.com> www.rghgeo.com


CPT-1 Proposed CPT Locations
B-1 Proposed 50-foot deep borings
RB-1 Proposed Road Borings (5 feet deep)
ADAMSON STREET
WEST SIXTH STREET
SANTA ROSA CREEK
PROJECT SITE
EBA ENGINEERING
SOIL AND GROUNDWATER SAMPLING LOCATION MAP
SMART PROPERTY
2 FOURTH AND 34 SIXTH STREETS
SANTA ROSA, CALIFORNIA
2

NCRWQCB

OCT 14 2009

☐ EO ☐ WMgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☑ Cleanups DEE ☐
☐ Date

EBA ENGINEERING
CIVIL & ENVIRONMENTAL ENGINEERS

October 9, 2009

Ms. Joan Fleck
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

SUBJECT: SOIL EXCAVATION WORK PLAN
SONOMA MARIN AREA RAIL TRANSIT PROPERTY, 2 FOURTH STREET AND 34 SIXTH STREET, SANTA ROSA, CALIFORNIA
EBA Project No. 08-1528 (6)

Dear Ms Fleck:

EBA Engineering (EBA) is submitting this Soil Excavation Work Plan (Work Plan) in order to assess the scope of potential future work as identified in the Report of Findings (Phase 2) dated November 17, 2008. Railroad Square Associates LLC has retained EBA to prepare the attached Work Plan. The scope of work includes the excavation and disposal of soil impacted by petroleum hydrocarbons and confirmation soil sampling. The proposed work addresses recommendations outlined in EBA's November 2008 *Report of Findings* (EBA, 2008b), which were subsequently approved by the North Coast Regional Water Quality Control Board (NCRWQCB) in their letter dated January 16, 2009.

If you should have any questions regarding the proposed work scope presented herein, please contact our office at (707) 544-0784.

Sincerely,
EBA ENGINEERING

Evan Platt
Environmental Scientist

cc: Corey Vincent, Santa Rosa Fire Department, 955 Sonoma Avenue, Santa Rosa, CA 95404

John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, CA. 94109

Jack Gardner, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, CA. 94109

Richard Devine, Devine & Gong, Inc., 100 Bush Street, Suite 600, San Francisco, CA. 94104

John Nemeth, Rail Planning Manager, Sonoma-Marin Area Rail Transit District (SMART). 750 Lindaro Street, Suite 200, San Rafael, CA. 94901

Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101 Los Angeles, CA. 90034

John Clawson, Equity Community Builders, P.O. Box 29585, San Francisco, CA. 94129-0585

Mark Hale, Carlile Macy, 15 3rd Street, Santa Rosa, CA. 95401

Dexter Dawes, 350 Santa Rita Avenue, Palo Alto, CA. 94301

COPY

EBA ENGINEERING
CIVIL & ENVIRONMENTAL ENGINEERS

NCRWQCB

AUG 10 2009

EO ___ WMgmt ___ Admin ___
AEO ___ Timber ___ Legal ___
Reg/NPS ___ Cleanups JEF ___
___ Date ___

August 6, 2009

Ms. Cory Vincent
Santa Rosa Fire Department
2373 Circadian Way
Santa Rosa, CA 95407

RE: SOIL AND GROUNDWATER MANAGEMENT PLAN
SONOMA–MARIN AREA RAIL TRANSIT PROPERTIES
2 FOURTH STREET AND 34 SIXTH STREET
SANTA ROSA, CALIFORNIA
EBA Project No. 08-1528

Dear Ms. Vincent:

Please find enclosed a *Soil and Groundwater Management Plan* (Plan) for the Sonoma-Marin Area Rail Transit properties located in Santa Rosa, California. This *Soil and Groundwater Management Plan* was prepared in response to a request by the Santa Rosa Fire Department and the North Coast Regional Water Quality Control Board for the proposed redevelopment of the project site in response to findings and recommendations from environmental characterization work that has been completed to date. Please note that this Plan does not address, or include provisions for, the removal of an underground storage tank or soil impacts located in the vicinity of former soil boring SB-1. Specific documents addressing these items will be submitted under separate covers.

If you have any questions regarding this report, please contact me at (707) 544-0784.

Sincerely,
EBA ENGINEERING

Paul Nelson, P.G.
Project Geologist

Attach: Soil and Groundwater Management Plan

cc: Ms. Joan Fleck, North Coast Regional Water Quality Control Board, 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403

John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, CA. 94109

L:\env\ast\1528 SMART\Reports\S&GMP\cover_letter.doc

Jack Gardner, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, CA. 94109

Richard Devine, Devine & Gong, Inc., 100 Bush Street, Suite 600, San Francisco, CA. 94104

John Nemeth, Rail Planning Manager, Sonoma-Marin Area Rail Transit District (SMART). 750 Lindaro Street, Suite 200, San Rafael, CA. 94901

Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101 Los Angeles, CA. 90034

John Clawson, Equity Community Builders, P.O. Box 29585, San Francisco, CA. 94129-0585

Mark Hale, Carlile Macy, 15 3rd Street, Santa Rosa, CA. 95401

Dexter Dawes, 350 Santa Rita Avenue, Palo Alto, CA. 94301

Frank Kasimov, City of Santa Rosa, Economic Development and Housing, P.O. Box 1806, Santa Rosa, CA. 95402

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

(F)

May 27, 2009

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

On January 16, 2009, we concurred with the EBA Engineering recommendations to remove the underground oil storage tank under permit from the Santa Rosa Fire Department, prepare a work plan to address the soil and groundwater impacts in the vicinity of SB-1A, and prepare a soil and groundwater management plan to address the shallow soil impacts prior to and during property development.

At that time, we indicated that:

- The underground storage tank needed to be removed as soon as possible;
- The work plan to address the soil and groundwater impacts in the vicinity of SB-1 was due within 60 days of issuance of the January 16, 2009 letter; and
- The soil and groundwater management plan needed to be submitted prior to property development.

As of this date, the underground tank has not been removed and the work plan has not been submitted. Therefore, on April 24, 2009, I inquired with the Santa Rosa Fire Department regarding the status of the underground storage tank and learned that an application has not been filed for tank closure.

Title 23, Article 7 regulates underground storage tank closure and requires the permanent closure of underground storage tanks in which the storage of hazardous substances has ceased. By copy of this letter, I am referring the issue of tank closure at this site to the Santa Rosa Fire Department as the permitting and enforcement agency for compliance with Title 23, Article 7, Section 2672(b).

The underground storage tank must be removed as soon as possible. A revised compliance date for the submittal of the work plan is 45-days from issuance of this letter. If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

052709_JEF_SMART

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100

JEF

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

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5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
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Arnold Schwarzenegger
Governor

May 27, 2009

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

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As of this date, the underground tank has not been removed and the work plan has not been submitted. Therefore, on April 24, 2009, I inquired with the Santa Rosa Fire Department regarding the status of the underground storage tank and learned that an application has not been filed for tank closure.

Title 23, Article 7 regulates underground storage tank closure and requires the permanent closure of underground storage tanks in which the storage of hazardous substances has ceased. By copy of this letter, I am referring the issue of tank closure at this site to the Santa Rosa Fire Department as the permitting and enforcement agency for compliance with Title 23, Article 7, Section 2672(b).

The underground storage tank must be removed as soon as possible. A revised compliance date for the submittal of the work plan is 45-days from issuance of this letter. If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

052709_JEF_SMART

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Ms. Deborah Fudge, P.O. Box 100, Windsor, CA 95492-0100

From: "Vincent, Corey" <CVincent@srcity.org>
To: "Joan Fleck" <JFleck@waterboards.ca.gov>
Date: 4/27/2009 7:11 AM
Subject: RE: Oil UST in old railroad yard

no

Corey Vincent - Senior Fire Inspector
Hazardous Materials Program Manager
Santa Rosa Fire Department
2373 Circadian Way, Santa Rosa, CA 95407
Tel. (707) 543-3542| Fax (707)543-3520
cvincent@srcity.org

logo for email signatures

-----Original Message-----
From: Joan Fleck [mailto:JFleck@waterboards.ca.gov]
Sent: Friday, 24 April, 2009 1:15 PM
To: Vincent, Corey
Subject: Oil UST in old railroad yard

Has anybody approached you regarding a permit to close this UST? It is the property west of the tracks between Third and Sixth owned by SMART. Thanks Corey.

California Regional Water Quality Control Board
North Coast Region
Bob Anderson, Chairman

Linda S. Adams
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

(F)

January 16, 2009

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Sonoma Marin Rail Area Rail Transit
c/o Mr. Charles McGlashan
Chair SMART Board of Directors
750 Lindaro Street, Suite 200
San Rafael, CA 94901

Gentlemen:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa, Case No. 1TSR196

Regional Water Board staff have reviewed the November 2008 *Report of Findings Sonoma-Marin Area Rail Transit Property* report and the January 7, 2009 *Additional Information* prepared by EBA Engineering on behalf of New Railroad Square LLC. The work was conducted on properties identified as Assessor's Parcel Numbers 010-171-004 and 010-166-003 in Santa Rosa. The Phase II work was completed in relation to a proposed development project.

The results of the Phase II work included the discovery of an underground oil storage tank, shallow soil impacts, and groundwater impacts from petroleum and chlorinated hydrocarbons. The soil and groundwater impacts discovered in the vicinity of SB-1A represent new information regarding an onsite discharge; therefore, the case file has been re-opened.

We concur with the EBA Engineering recommendations to remove the underground oil storage tank under permit from the Santa Rosa Fire Department, prepare a work plan to address the soil and groundwater impacts in the vicinity of SB-1A, and prepare a soil and groundwater management plan to address the shallow soil impacts prior to and during property development. The underground storage tank must be removed as soon as possible. The work plan to address the soil and groundwater impacts in the vicinity of SB-1 is due within 60 days of issuance of this letter. The soil and groundwater

management plan must be submitted prior to property development. We also concur with the proposal to install groundwater monitoring wells after corrective actions have been conducted in the area of SB-1A. Based on the available information, it appears that off site migration has occurred to the west. The work plan must acknowledge and address this matter.

With regards to the widespread volatile organic compound (VOC) impacts, a potential MTBE source is 210 Fifth Street. I am currently researching historical land uses in the area east of the site for potential up gradient tetrachloroethene (PCE) discharge locations. With regards to groundwater impacts from petroleum, that appear to be the result of on site migration, I have forwarded copies of pertinent information for the SB-55-W area to ChevronTexaco, who is currently investigating a petroleum release at 101 Fifth Street. I am also exploring land use history for properties east of the SB-13-W sample location.

I look forward to removal of the underground storage tank and receipt of the work plan. If you have any questions I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

011609_JEF_SMART

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Rob Krantz, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, CA 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514
Mr. Paul Nelson, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404

EBA ENGINEERING
CIVIL & ENVIRONMENTAL ENGINEERS

NCRWQCB
JAN - 8 2009
EO
AEO
Reg/NPS
WMgmt
Timber
Cleanups
DEF
Admin
Legal
Data

January 7, 2009

Ms. Joan Fleck
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

SUBJECT: ADDITIONAL INFORMATION
SONOMA–MARIN AREA RAIL TRANSIT PROPERTY (SMART),
2 FOURTH STREET AND 34 SIXTH STREET, SANTA ROSA,
CALIFORNIA
EBA Project No. 08-1528 (8)

Dear Ms Fleck:

In the Report of Findings (Report) for the above referenced site dated November 18, 2008 (EBA, 2008a), EBA Engineering (EBA) documented the detection of heavy-range petroleum hydrocarbon constituents in a groundwater sample collected from soil boring SB-13-W located in the eastern portion of the SMART property. The reported values corresponded to 0.279 milligrams per liter (mg/L) of diesel range organics and 0.246 mg/L of heavy range organics. Per your request during a telephone conversation on January 6, 2009, EBA Engineering (EBA) is presenting the following observations and conclusions regarding these detections:

- There was no apparent petroleum hydrocarbon staining or odor observed in soil samples that were collected during the drilling of SB-13-W or the adjacent soil boring SB-13. A soil sample that was collected from SB-13 (SB-13@9') did not contain concentrations of heavy-range petroleum hydrocarbons at or above the Method Reporting Limit (MRL).

- Heavy range petroleum hydrocarbon constituents were detected in a soil sample that was collected during a separate investigation conducted by EBA (EBA, 2008b) from a monitoring well (MW-16D) located on the north side of Fourth Street approximately 45 feet upgradient from the railroad tracks that trend along the eastern edge of the SMART property. The soil sample was collected from approximately 15.5 feet below ground surface (BGS) with corresponding analytical results indicating a concentration of Total Petroleum Hydrocarbons as diesel (TPH-d) at 271 milligrams per kilogram (mg/kg). The laboratory "flagged" this result as being a "heavier hydrocarbon than diesel". It should be noted that a soil sample collected from the MW-16D borehole at a depth of

approximately 10.5 feet BGS yielded non-detect results for heavy-range petroleum hydrocarbons.

- TPH-d was detected in a groundwater grab sample that was collected upgradient from the SMART property during a separate investigation conducted by The McEdwards Group (TMG) in 2002. The groundwater grab sample was collected from a soil boring identified as B-36, which was located on the north side of Fourth Street within approximately 30 feet of the SMART property (TMG, 2002). The corresponding groundwater sample analytical results indicated the presence of TPH-d at a concentration of 1,000 micrograms per liter (µg/L) (i.e., 1.000 mg/L). This TPH-d detection was "flagged" by the laboratory as "oil range compounds are significant". A soil sample collected from B-36 at a depth of 12 feet BGS also contained TPH-d at a concentration of 1.5 mg/kg. The analytical report indicated the same "oil range" flag.

It is EBA's opinion that the absence of an observed on-site source and the presence of upgradient detections of heavy-range petroleum hydrocarbons in soil and groundwater indicate that an upgradient, off-site source is likely responsible for the heavy-range petroleum hydrocarbons detected in the groundwater grab sample collected from SB-13-W.

If you should have any questions regarding the proposed work scope presented herein, please contact our office at (707) 544-0784.

Sincerely,
EBA ENGINEERING

Paul Nelson, P.G.
Project Geologist

EBA Engineering, November 2008a, *Report of Findings, Sonoma-Marin Area Rail Transit Property, Santa Rosa, California.* EBA Engineering, Santa Rosa, California.

EBA Engineering, 2008b, *Monitoring Well Installation Report, 210 Fifth Street, Santa Rosa, California.* EBA Engineering, Santa Rosa, California

The McEdwards Group, 2002, *Phase 1, 2, and 3 Site Investigation Report and Work Plan for Groundwater Monitoring, Occhipintis Service Station, 210 Fifth Street, Santa Rosa, California.* The McEdwards Group, Willits, California.

cc: John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor, San Francisco, CA. 94109

Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101 Los Angeles, CA. 90034

John Clawson, Equity Community Builders, P.O. box 29585, San Francisco, CA. 94129-0585
Mark Hale, Carlile Macy, 15 3rd Street, Santa Rosa, CA. 95401

Dexter Dawes, 350 Santa Rita Avenue, Palo Alto, CA. 94301

John Nemeth, Rail Planning Manager, Sonoma-Marin Area Rail Transit District (SMART). 750 Lindaro Street, Suite 200, San Rafael, CA. 94901

California Regional Water Quality Control Board
North Coast Region

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

INTEROFFICE COMMUNICATION

To: FILE Date: NOVEMBER 13, 2008

From: Joan Fleck

Subject: SOUTHERN PACIFIC TRANSPORTION COMPANY

ON THIS DAY, PAUL NELSON WITH EBA CALLED. WE DISCUSSED THE PCE DETECTIONS IN SOIL AND GROUNDWATER. OUR PHONE CONVERSATION WAS A FOLLOW UP OF OUR NOVEMBER 12, 2008 MEETING. DURING THE MEETING I SUGGESTED LOOKING AT THE OCCHIPINTI DATA FOR PCE.

PAUL DISCUSSED WITH THE LAB AND PCE IS PRESENT IN GROUNDWATER IN SOME OF THE OCCHIPINTI WELLS.

HE CALLED AGAIN ON THE 14TH AND REPORTED:

MW15 = .99 PCE ug/l
MW15D = < .5 ug/l
MW12 = CIS,1,2-DCE .7 ug/l PCE 2.0 ug/l
MW14 = 1.1 PCE
MW16 = 3.5 PCE
MW16D 12 PCE 1.3 TCE
ALL OTHERS < .5 ug/l

HE WILL HAVE THE LABORATORY PREPARE A NARRATIVE AND/OR QUANTIFIED SIGNED LAB REPORTS.

California Regional Water Quality Control Board
North Coast Region
John W. Corbett, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

August 31, 2007

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Dear Mr. Grant:

Subject: No Further Action

File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case No. 1TSR196

On February 23, 2007, Regional Water Board staff identified items remaining to be completed prior to the issuance of a no further action letter. They included:

- Submittal of documentation showing proper groundwater monitoring well abandonment;
- Submittal of documentation showing completion of waste disposal activities;
- Compliance with the State Water Resources Control Board, Geotracker data base electronic submittal requirements; and
- A written commitment from the person, or persons who will be taking responsibility for the preparation and implementation of a Soil and Groundwater Management Plan.

The first three bulleted items were completed by Union Pacific Railroad. Based on the April 16, 2007 correspondence from Sonoma-Marin Area Rail Transit (SMART), the soil and groundwater management plan will be prepared and implemented by SMART.

Accordingly, no further action is required regarding corrective actions completed for known discharges to soil and groundwater on properties identified as APN 010-166-003 and 010-171-004.

The areas where soil removal previously occurred or where off site migration has occurred may be subject to further regulation, if disturbed during land use changes

and/or property development. Remaining shallow soil impacts, and potential encounters with currently unknown areas of impact must be addressed during the property development process, according to an approved soil and groundwater management plan.

Acceptable components of the soil and groundwater management plan were identified in our February 23, 2007 correspondence. We look forward to receipt and review of that plan in the near future.

This letter does not relate to rail road right of way land south of Third Street where unresolved soil and groundwater issues remain.

If you have any questions, you may call Joan Fleck of my staff at (707) 576-2675.

Sincerely,

for Robert Klamt
Interim Executive Officer

083107_JEF_SPTCONFA.doc

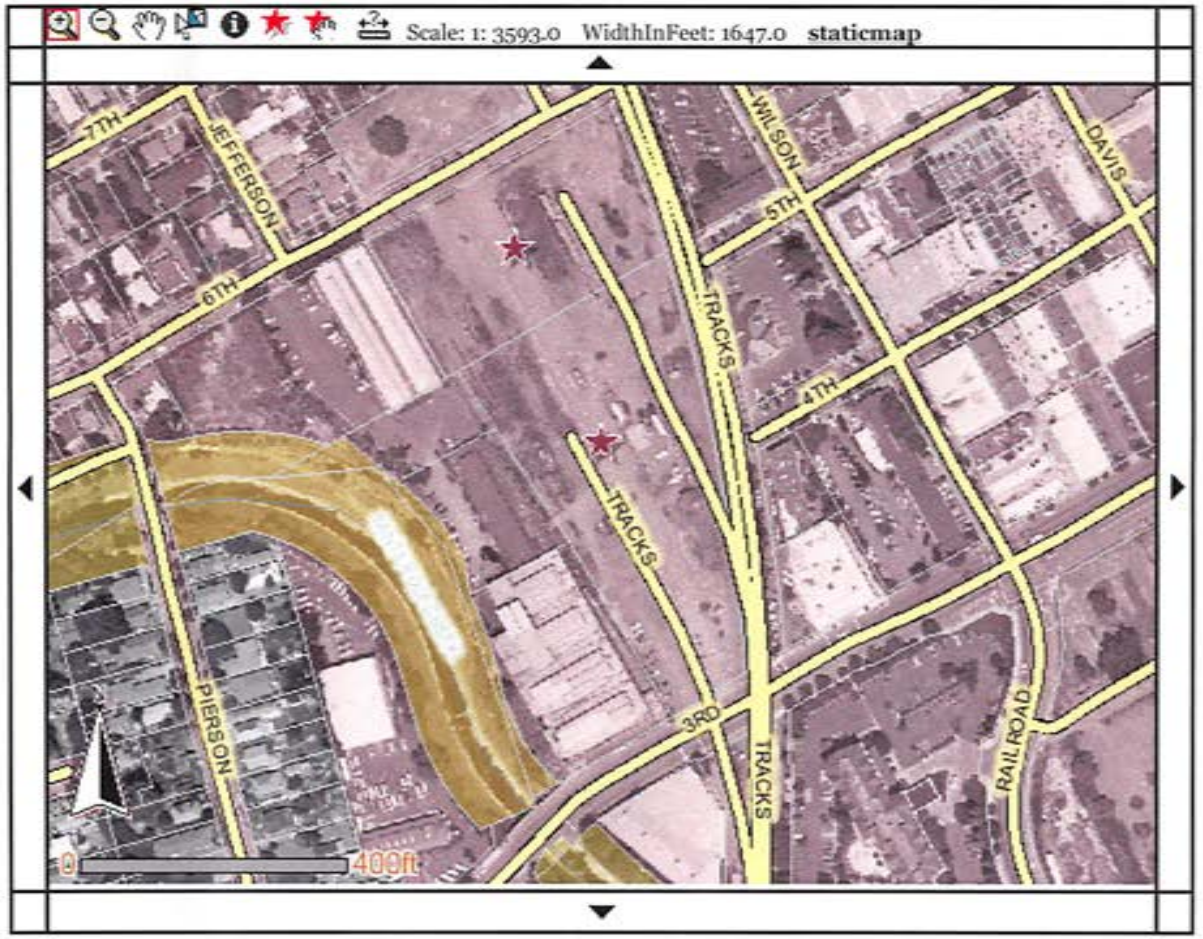
cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lilian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lucrecia Millia, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Richard Devine, Devine & Gong, Inc. 100 Bush Street, Suite 600, San Francisco, Ca 94104-3703
Mr. John Stewart, The John Stewart Company, 1388 Sutter Street, 11th Floor San Francisco, CA 94109
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Salvador Family Partnership, 5582 Drakes Drive, Byron CA 94514

Lucrecia Milla • Property Manager

4040 Civic Center Drive #200 San Rafael California 94903
Business Line 415.492.2857 Direct Line 415.492.2859
F 415.492.2854 E LMilla@sonomamarintrain.org

SCAMP 4

Search ▸ Navigate ▸ Config ▸ Reports ▸ Help/Exits ▸



Finder

Search String: 010-171-004.
Record found. I've zoomed the map to it.

--Choose an Info Page--

APN: 010-171-004

Sup District: 3rd (Tim Smith)
SecTownRange: 07N 08W 23
Census Tract: 153002
USGS Quad: SANTA ROSA
Ortho Tile: 664_hr

City	SOI	UGB
Santa Rosa	City of Santa Rosa	Santa Rosa

Situs address(es): 2 4TH ST , SR
Owner Address:
NORTHWESTERN PACIFIC RAILROAD AUTHORITY
C/O GOLDEN GATE BRIDGE HWY & TRANSPORTATI
BOX 9000 PRESIDIO STATION
SAN FRANCISCO CA 94126-0601
X: 6354799.0 **Y:** 1921808.0
Lat/Long: 038.43 ,-122.72 (38°26'13" N 122°43'22" W)
Elevation: 155.0 feet.
Area of parcel polygon: 152416.0 sq. ft. or 3.49898 acres
Assessed area: 3.37 acres

Quick Links (each opens new window):
VIEW SCANNED ASSESSOR'S MAP
OPEN RECORD OF SURVEY INDEX MAP

NCRWQCB

AUG 23 2007

☐ EO ☐ Wildgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☑ Cleanups JEE ☐
☐ Date

Assessor Inquiry

Asmt information

Asmt	010-171-004-000		
Feeparcel	010-171-004-000		
Asmt Desc	97 FM RAILROAD OR 96038413 SBE RELEASED		
Status	A	Date	
Taxability	023	TRA	004-296
Supl Cnt.	0	Base Date	1/1/2005
Zoning		Dwell	0
Acres	3.37	N/C	4HA

Name/Address

NORTHWESTERN PACIFIC RAILROAD AUTHORITY
C/O GOLDEN GATE BRIDGE HWY & TRANSPORTATION DIST
BOX 9000 PRESIDIO STATION
SAN FRANCISCO CA 94126-0601

Situs

2 4THST
SR

Comments

FROM 010-171-04 9 04/10/93

Document	Number	Date
Creating	199219999999	
Current	1996R038413	4/30/1996
Killing		

		Taxroll
AgPres	N	
Etal	False	Land
Notes	N	Structure
Bonds	False	Fixtures
Multi Situs	False	Growing
Flag1	N	Total L&I
Flag2	N	Fix RP
Asmt PP Pen		MH PP
Tax PP Pen		PP
Appeal Pend	N	Exemption
Split Pend	N	Net
		R/C#
		T/R Date
		R/CStatus

SCAMP 4

Search ▸ Navigate ▸ Config ▸ Reports ▸ Help/Exits ▸

Finder

Search String: 010-166-003.
Record found. I've zoomed the map to it.

--Choose an Info Page--

APN: 010-166-003

Sup District: 3rd (Tim Smith)
SecTownRange: 07N 08W 23
Census Tract: 153002
USGS Quad: SANTA ROSA
Ortho Tile: 664_hr

City	SOI	UGB
Santa Rosa	City of Santa Rosa	Santa Rosa

Situs address(es): 34 6TH ST , SR
Owner Address:
SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
4040 CIVIC CENTER DR STE 200
SAN RAFAEL CA 94903-
X: 6354670.0 **Y:** 1922101.0
Lat/Long: 038.43 ,-122.72 (38°26'21" N 122°43'35" W)
Elevation: 153.0 feet.
Area of parcel polygon: 94610.0 sq. ft. or 2.17194 acres
Assessed area: 2.02 acres

Quick Links (each opens new window):
VIEW SCANNED ASSESSOR'S MAP
OPEN RECORD OF SURVEY INDEX MAP

Assessor Inquiry

Asmt information

Asmt	010-166-003-000		
Feeparcel	010-166-003-000		
Asmt Desc	97 FM RAILROAD OR 96038413 SBE RELEASED		
Status	A	Date	
Taxability	023	TRA	004-296
Supl Cnt.	0	Base Date	1/1/2005
Zoning		Dwell	0
Acres	2.02	N/C	4HA

Name/Address

SONOMA-MARIN AREA RAIL TRANSIT DISTRICT
4040 CIVIC CENTER DR STE 200
SAN RAFAEL CA 94903

Situs

34 6THST
SR

Comments

FROM 010-166-03 1 04/10/93

Document	Number	Date
Creating	199219999999	
Current	2004R028629	3/2/2004
Killing		

		Taxroll
AgPres	N	
Etal	False	Land
Notes	Y	Structure
Bonds	False	Fixtures
Multi Situs	False	Growing
Flag1	N	Total L&I
Flag2	N	Fix RP
Asmt PP Pen		MH PP
Tax PP Pen		PP
Appeal Pend	N	Exemption
Split Pend	N	Net
		R/C#
		T/R Date
		R/CStatus

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: JULY 13, 2007

From: JOAN

Subject: SOUTHERN PACIFIC TRANSPORTATION COMPANY

ON JULY 12, 2007, LUCRECIA MILLA CALLED TO INQUIRE ON THE STATUS OF THE GEOTRACKER UPLOADS. I OPENED THE ELECTRONIC SUBMITTALS AND FOUND THE FOLLOWING:

Additional GW Monitoring Report - Data Only & Report
First, Third, Fourth 2004 Q Reports - Data Only
First and Second 2005 Q Reports - Data Only
Geo XY - Survey Report
2003 Source Removal Report

Uploads that are still needed include:
Elevation Data
Depth to Water
Geo Bore Data
Geo Map Data

October 1996 - Results of Soil and GW Sampling (Geomatrix)
February 1997 - Results of Soil and GW Sampling (Geomatrix)
✓ June 2000 - Soil and Groundwater Investigation and Recommendation for Closure (Geomatrix)
As of 7/25/07 OKAY
January 2001 - Results of the September 2000 Groundwater Sampling (Geomatrix)
January 2002 - Results of Grab Groundwater and Soil Sampling (Geomatrix)
March 2002 - Monitoring well installation and Sampling Report (Geomatrix)

I LEFT LUCRECIA A MESSAGE REGARDING THE ABOVE ON 7/12/07
7/13/07 LEFT ANOTHER MESSAGE

California Regional Water Quality Control Board
North Coast Region
John W. Corbett, Chairman

Linda S. Adams
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

June 18, 2007

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Dear Mr. Grant:

Subject: ANNUAL ESTIMATION LETTER
File: Southern Pacific Transportation Company
Third Street
Case No. 1TSR196; (201-6200)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED:

Regional Water Board staff estimate that the following work will be performed during fiscal year 2007/2008 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific and other responsible third parties and interested parties;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Provide regulatory oversight through the completion of the project.

STATEMENT OF EXPECTED OUTCOME

- Verify adequacy of final reports;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and
- Complete no further action process.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $125.00 per hour.

ESTIMATION OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 8 hours of work related to this site during fiscal year 2007/2008 (July 1, 2007 through June 30, 2008). Based on the average billing rate of $125.00 per hour, the estimated billing charge for this site during fiscal year 2007/2008 is about $1,000.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

Enclosure: Billing Rates Description

061807_JEF_CostrecoveryUnionPacific

cc: Mr. David Ceccarelli, SCPProgram Coordinator, SWRCB, Division of Clean Water Programs 201-6200
Lynda Jacobsen

Attachment 1

SITE CLEANUP PROGRAM (SCP)
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification [1]	ABR	SALARY SCALE
Associate Governmental Program Analyst	AGPA	5,744 - 6,982
Engineering Geologist	EG	7,625 - 9,269
Environmental Scientist	ES	6,175 - 7,456
Office Assistant	OA	2,977 - 3,617
Office Technician	OT	3,507 - 4,262
Principal Water Resources Control Engineer	PWRCE	11,645 -12,841
Sanitary Engineering Associate	SEA	6,476 - 7,869
Sanitary Engineering Technician	SET	5,121 - 6,222
Senior Engineering Geologist	SEG	8,728 -10,607
Senior Environmental Scientist	SRES	7,116 - 8,589
Senior Water Resources Control Engineer	SWRCE	8,728 -10,607
Staff Counsel	STCOUN	6,310 -10,568
Staff Counsel III	STCOUNIII	10,371 -12,803
Staff Counsel IV	STCOUNIV	11,456 -14,144
Staff Environmental Scientist	SES	7,110 - 8,585
Student Assistant	SA	2,708 - 3,510
Student Assistant Engineer	SAE	2,969 - 4,359
Supervising Water Resources Control Engineer	SUWRCE	9,580 -11,645
Water Resources Control Engineer	WRCE	5,181 - 9,240

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	20% of salaries and benefits

Billing Example

Water Resources Control Engineer		
Salary:	$	9,240
Overhead (indirect costs):	$	9,240
Admin.: State Board	$	1,386
Regional Board	$	1,848
Total Cost per month	$	21,714

Divided by 176 hours per month equals per hour: $ 123.38
(Due to the various classifications that expend SCP resources. An average of $ 125.00 per hour can be used for projection purposes.)

---

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

SOUTHERN PACIFIC TRANSPORTATION COMPANY

CH2M HILL
155 Grand Avenue
Oakland, California 94612
Tel 510-587-7576
Fax 510-622-9076

NCRWQCB

MAY 24 2007

CH2MHILL

May 22, 2007

☐ EO ☐ WMgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☒ Cleanups ☐
☐ Date

JEF 6/5/07

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Completion of Well Abandonment at UPRR's Santa Rosa Station, Sonoma County, California, Geotracker Global Identification number of T0609700676

Dear Ms. Fleck:

This letter describes the well abandonment activities performed at Union Pacific Railroad's (UPRR's) Santa Rosa Station (site), Sonoma County, California. In a letter dated May 22, 2006, the North Coast Region Regional Water Quality Control Board (NCRRWQCB) directed UPRR to complete one final round of groundwater monitoring/sampling and issue a public notice of consideration for No Further Action. As part of obtaining No Further Action at the site and under direction from the NCRRWQCB, UPRR has proceeded to abandon seven of the nine monitoring wells (SRMW-05, SRWM-06, and SRMW-10 through SRMW-14) at the site. As requested by the NCRRWQCB, two upgradient wells, SRWM-07 and SRMW-08, were not abandoned because of detections of MTBE related to non-UPRR sources. Walter Properties, Inc. has assumed ownership and liability of monitoring wells SRWM-07 and SRMW-08.

Monitoring wells SRMW-05, SRWM-06, and SRMW-10 through SRMW-14 were abandoned on May 15 and 16, 2007. All well abandonment activities included the removal of concrete and flush mounted well boxes, and overdrilling the 2-inch PVC wells to their total depths (ranging from 22 feet to 31 feet bgs). A neat grout mixture with 4% bentonite was gravity fed through a tremie pipe, where possible, from the base of the borings to surface. In instances where a tremie pipe was not used, it was confirmed that the boring stayed completely open to the bottom prior to applying grout.

Enclosed are copies of the Sonoma County well abandonment permit, Department of Water Resources Well Completion Reports, site maps, and summary table of well construction data. The Well Completion Reports were submitted to the California Department of Water Resources on May 22, 2007.

Please don't hesitate to give me or Mike Grant/UPRR a call at 510-587-7576 or (510) 891-7433, respectfully, if you have any questions.

Sincerely,

CH2M HILL

Matt Moore
Project Manager

Tess Byler, P.G.
Senior Project Manager

Enclosures

Cc:
Jim Curtis/CH2M HILL
Mike Grant/UPRR
John Anderson/Sonoma County

COPY

COUNTY OF SONOMA — DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
475 Aviation Blvd., Suite 220, Santa Rosa, CA 95403
Phone (707) 565-6565 Fax (707) 565-6525 www.sonoma-county.org

APPLICATION FOR DRILLING PERMIT
for Regional Board Lead/Environmental Assessment / LOP Lead

For Office Use Only
Amount paid $708
Receipt number 0694
Payment date 5-14-07 Rev. code 1348
Site ID# 23041
Permit # 05552 - HMW

Well type: [ ] Monitoring well [ ] Recovery extraction well [ ] Boring [ ] Injection well [✓] Destruct [ ] Environmental assessment
[ ] Soil gas survey [ ] Direct push [ ] Air sparging/venting [ ] Remediation well [ ] Other

Well depth See Table Boring depth See Table

On-site well/boring See Table ID # See Table # Off-site well/boring ID

Submit legal right-of-entry/off-site well address/encroachment permit N/A - Within Street

On-site Address Third Street, Santa Rosa, CA APN#

Facility Name NORTHWEST OPTION PROPERTY

On-site Owner Union Pacific Railroad Company Phone (402) 544-5000
Street 1400 Douglas Street City Omaha State NE Zip 68179

Responsible Party Union Pacific Railroad Company Phone (402) 544-5000
Street 1400 Douglas Street City Omaha State NE Zip 68179

Consultant CH2M HILL Phone (510) 587-7576
Street 155 Grand Avenue, Ste. 1000 City Oakland State CA Zip 94612

License #/Type

Drilling Contractor Vironex, Inc. Phone (925) 521-1490
Street 5292 Pacheco Boulevard City Pacheco State CA Zip 94553

C-57 License # 705927

Type of work: [ ] Initial investigation # Wells [ ] Subsequent investigation # Wells [✓] Destruct 7 (MW) # Wells

Groundwater investigation due to: [ ] Underground tank [ ] Surface impoundment [ ] Environmental assessment
[ ] Surface disposal practice—specify involved industry
[ ] Other

Perforated intervals See Table Chemical constituents TPHd, TPHmo, PAHs

Disposal method for soil cuttings Disposal method for development water

Drilling method N/A Method of drill equip. rinsate containment N/A

If destroying a well, abandonment method HOLLOW STEM AUGER

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? [ ] Yes [✓] No
50 feet of any sanitary sewer line? [ ] Yes [✓] No
25 feet of any private sanitary sewer line? [ ] Yes [✓] No

In addition, all monitoring wells must include *identification system* affixed to interior surface:

1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be *affixed* to the *exterior surface* security structure.

For Office Use Only

Address 9 4th St.

Site ID# 23041

Permit # 05552-HMW

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 565-6565, 48 hours in advance, to notify the Environmental Health Specialist when completing or destroying a well. I will furnish the Director of Health Services and the owner a legible copy of the State Water Well Driller's Report within 15 days, and a copy of the Summary Report including sample results, should be received by this Department within 90 days in order to obtain final approval on this well permit. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

Angela Dawson Date 05·08·07

Signature of Well Driller—no proxies

Insurance Carrier Granite State Expiration Date 06·15·07

Once all wells/borings are installed, submit a Well Driller's Log and/or Summary Report to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses, drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit

FOR OFFICE USE ONLY - ENVIRONMENTAL HEALTH DIVISION

Permit approved by John A Carlson Date 5/9/07

Const. approved by _____ Observed? | | Yes | | No Well # ___ Date / /

PWCDB / LOP approval _____ Date / /

drilling permit.doc (Revised Aug. 2006) Copies: White - File Yellow - Driller Pink - Consultant Gold - Owner/Responsible Party

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WE[illegible] COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. UPRR Santa Rosa, SRMW-D[illegible] No. 0929993
Date Work Began 5/16/07, Ended 5/16/07
Local Permit Agency Sonoma County, Dept. Health Services, Env. Health
Permit No. 05552-HMW Permit Date 5/14/07

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem augers FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	22	Removed 22' of casing and grouted to surface with neat cement mixture. Dyed cement black to be uniform with asphalt parking lot well removed from

TOTAL DEPTH OF BORING 22 (Feet)
TOTAL DEPTH OF COMPLETED WELL 22 (Feet)

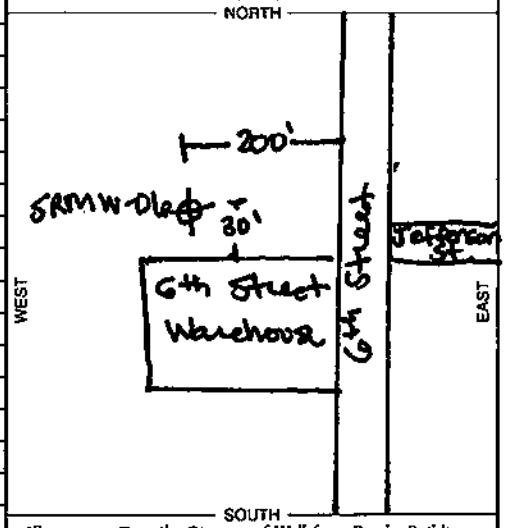
WELL OWNER

Name Mike Grant
Mailing Address 1408 Middle Harbor Road
City Oakland State CA ZIP 94607

WELL LOCATION

Address 20 Third Street
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 004
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 18 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 18 (Ft.) & DATE MEASURED 5/16/07
ESTIMATED YIELD * NA (GPM) & TEST TYPE NA
TEST LENGTH NA (Hrs.) TOTAL DRAWDOWN NA (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	10.5	8	✓		✓		PVC	2	Sch 40	
10.5	20.1	8		✓			PVC	2	Sch 40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	18	✓			neat cement mixture

ATTACHMENTS (✓)

✓ Geologic Log (See Attached Table)
✓ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex Inc. under oversight by CH2M HILL
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave. Ste 1000 CITY Oakland STATE CA ZIP 94612
Signed [signature] for Vironex DATE SIGNED 5/22/07
C-57 LICENSED WATER WELL CONTRACTOR C-57 LICENSE NUMBER 705927

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Owner's Well No. UPRR Santa Rosa, SeMW-05 No. 0929995
Date Work Began 05/16/07 Ended 05/16/07
Local Permit Agency Sonoma County, Dept. of Health Services, Environ Health
Permit No. 05552-HMW Permit Date 5/14/07

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem Auger FLUID ___

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0 to 22	Removed 22' of casing and grouted to ground surface with a neat cement mixture. Dyed surface black to match with Asphalt paving lot

TOTAL DEPTH OF BORING 22 (Feet)
TOTAL DEPTH OF COMPLETED WELL 20 (Feet)

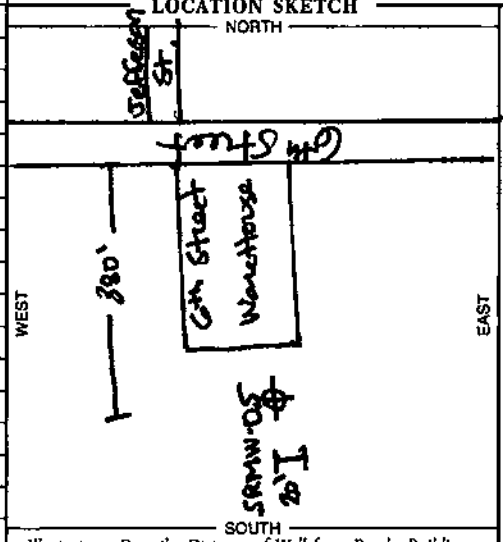
WELL OWNER

Name Mike Grant
Mailing Address 1400 Middle Harbor Road
City Oakland State CA Zip 94607

WELL LOCATION

Address 20 Third Street
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 004
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N
Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 19 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 19 (Ft.) & DATE MEASURED 5/16/09
ESTIMATED YIELD * NA (GPM) & TEST TYPE NA
TEST LENGTH NA (Hrs.) TOTAL DRAWDOWN NK (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 to 10.4		✓				PVC	2	Sch 40	
10.4 to 20			✓			PVC	2	Sch 40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 to 19	✓			neat cement mixture

ATTACHMENTS (✓)

Not available — Geologic Log
See Table — ✓ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other Site map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex, Inc. under oversight by CH2M Hill (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave., Ste 1000 CITY Oakland STATE CA ZIP 94612
Signed Matthew Moore for Vironex, Inc. DATE SIGNED 5/22/07
C-57 LICENSED WATER WELL CONTRACTOR
C-57 LICENSE NUMBER 705927

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. UPRR Santa Rosa, SRMW-11 No. 0929994
Date Work Began 5/16/07, Ended 5/16/07
Local Permit Agency Sonoma County, Dept. of Health Services
Permit No. 05552-HMW Permit Date 5/14/07 from the Division

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem auger FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	31	Removed 31' of casing and grouted to ground surface with neat cement mixture. Used cement grout at ground surface to blend w/ asphalt parking lot.

TOTAL DEPTH OF BORING 32 (Feet)
TOTAL DEPTH OF COMPLETED WELL 31 (Feet)

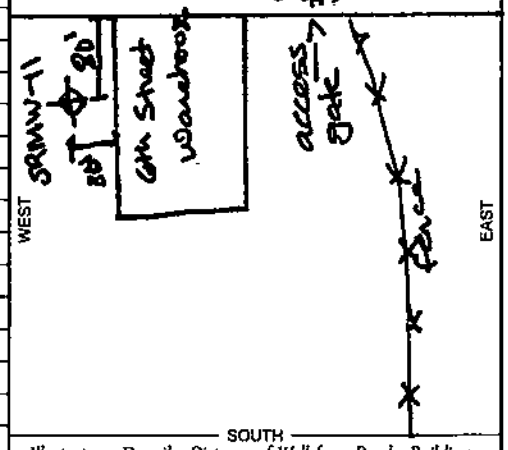
WELL OWNER

Name Mike Grant
Mailing Address 1408 Middle Harbor Road
City Oakland State CA ZIP 94607

WELL LOCATION

Address 20 Third Street
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 004
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 21 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL dry (Ft.) & DATE MEASURED 5/16/07
ESTIMATED YIELD * NA (GPM) & TEST TYPE NA
TEST LENGTH NA (Hrs.) TOTAL DRAWDOWN NA (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	18.2	8	✓				PVC	2	Sch 40	
18.2	28.2	8		✓			PVC	2	Sch 40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	21	✓			neat cement mixture

ATTACHMENTS (✓)

✓ Geologic Log
✓ Well Construction Diagram (See Attached Table)
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other SITE MAP

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex, Inc under oversight by CH2M Hill (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave, Ste 1000 CITY Oakland STATE CA ZIP 94612
Signed [signature] C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/22/07 C-57 LICENSE NUMBER 705927

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WE... COMPLETION REPORT
Refer to Instruction Pamphlet

Owner's Well No. VPAR Santa Rosa, SRMW-14 No. 0929996
Date Work Began 5/15/07, Ended 5/16/07
Local Permit Agency Sonoma County, Dept of Health Services
Permit No. 05552-HMW Permit Date 5/14/07

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem auger FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	27	Removed entirety (27') of casing and grouted to ground surface with neat cement mixture.

TOTAL DEPTH OF BORING 27 (Feet)
TOTAL DEPTH OF COMPLETED WELL 27 (Feet)

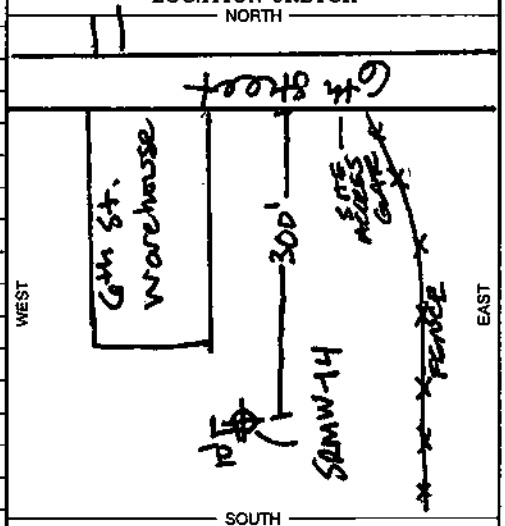
WELL OWNER

Name Mike Grant
Mailing Address 1408 Middle Harbor Road
City Oakland State CA ZIP 94607

WELL LOCATION

Address 20 Third Street
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 004
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 22 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 22 (Ft.) & DATE MEASURED 5/15/07
ESTIMATED YIELD * NA (GPM) & TEST TYPE NA
TEST LENGTH NA (Hrs.) TOTAL DRAWDOWN NA (Ft.)
* *May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	13.5	8	✓				PVC	2	Sch40	
13.5	23.5	8		✓			PVC	2	Sch40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	22	✓			neat cement mixture

ATTACHMENTS (✓)

✓ Geologic Log
✓ Well Construction Diagram
___ Geophysical Log(s)
✓ Soil/Water Chemical Analyses
✓ Other SITE MAP

See attached Table

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex, Inc. under oversite by CH2M HILL (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave., Ste 1000 CITY Oakland, STATE CA ZIP 94612
Signed Matthew Morris C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/22/07
C-57 LICENSE NUMBER 705927

DWR 188 REV. 05-03

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

OSP 03 78836

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WE _ COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. UPRR Santa Rosa, SRMW-13 No. 0929997
Date Work Began 5/15/07, Ended 5/16/07
Local Permit Agency Sonoma County, Department of Health Services
Permit No. 05552-HMW Permit Date 5/14/07

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem auger FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	28	Removed entirety (28') of casing and grouted to ground surface with neat cement mixture.

TOTAL DEPTH OF BORING 28 (Feet)
TOTAL DEPTH OF COMPLETED WELL 28 (Feet)

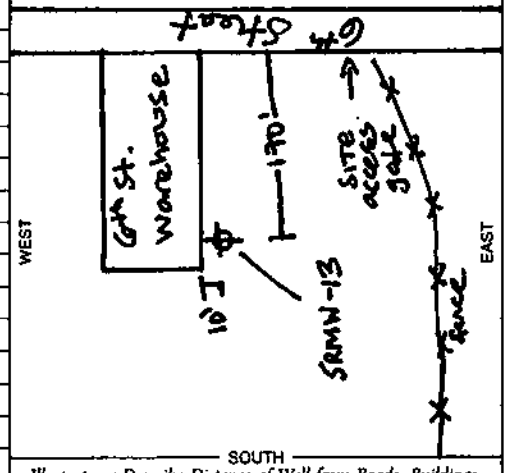
WELL OWNER

Name Mike Grant
Mailing Address 1408 Middle Harbor Road
City Oakland State CA ZIP 94607

WELL LOCATION

Address 20 Third St.
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 004
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



*Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.***

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 21 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 21 (Ft.) & DATE MEASURED 5/15/07
ESTIMATED YIELD * NA (GPM) & TEST TYPE NA
TEST LENGTH NA (Hrs.) TOTAL DRAWDOWN NA (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CON-DUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	17	8	✓				PVC	2	Sch40	
17	27	8		✓			PVC	2	Sch40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	21	✓			neat cement mixture

ATTACHMENTS (✓)

✓ Geologic Log
✓ Well Construction Diagram
___ Geophysical Log(s)
✓ Soil/Water Chemical Analyses
✓ Other Site MAP

See attached Table

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex, Inc. under oversight by Cardno HRL (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave., Ste 1000 CITY Oakland STATE 94612 ZIP
Signed [signature] C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/22/07
C-57 LICENSE NUMBER 705927

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78636

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. VFW Santa Rosa, SEMW-12 No. 0929998
Date Work Began 05/15/07 , Ended 05/16/07
Local Permit Agency Sonoma County, Dept. of Health Services
Permit No. 05552-HMW Permit Date 5/14/07

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD Hollow Stem Auger FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	29.5	Removed entirety (29.5') of casing and grouted to ground surface with neat cement mixture

TOTAL DEPTH OF BORING 30 (Feet)
TOTAL DEPTH OF COMPLETED WELL 29.5 (Feet)

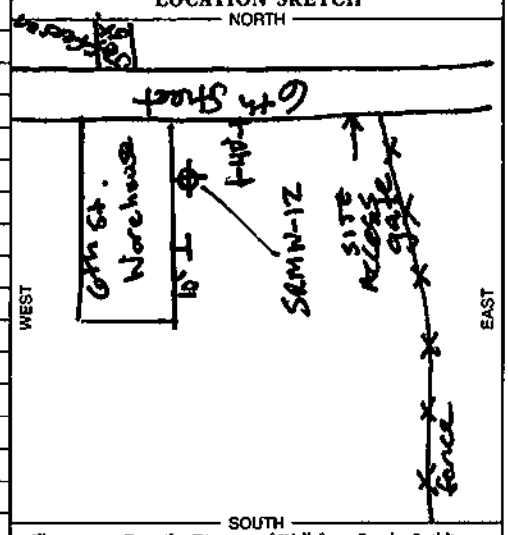
WELL OWNER

Name Mike Grant
Mailing Address 1408 Middle Harbor Road
City Oakland State CA Zip 94607

WELL LOCATION

Address 20 Third Street.
City Santa Rosa
County Sonoma
APN Book 010 Page 171 Parcel 007
Township ___ Range ___ Section ___
Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)
WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 22 (Ft.) BELOW SURFACE
DEPTH OF STATIC WATER LEVEL 22 (Ft.) & DATE MEASURED 5/15/07
ESTIMATED YIELD * N/A (GPM) & TEST TYPE N/A
TEST LENGTH N/A (Hrs.) TOTAL DRAWDOWN N/A (Ft.)
** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	17	8	✓				PVC	2	Sch 40	
17	27	8		✓			PVC	2	Sch 40	0.01

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	22	✓			neat cement

ATTACHMENTS (✓)

✓ Geologic Log
✓ Well Construction Diagram (See attached Table)
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
✓ Other site map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Vironex, Inc. under oversight by CH2M Hill (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 155 Grand Ave., Ste 1000 CITY Oakland STATE CA ZIP 94612
Signed Matthew Moore C-57 LICENSED WATER WELL CONTRACTOR
DATE SIGNED 5/22/07
C-57 LICENSE NUMBER 705927

DWR 188 REV. 05-03 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM OSP 03 78836

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

Owner's Well No. UPRR Santa Rosa, SRMW-10 No. 0929999

Date Work Began 05/15/2007, Ended 05/16/2007

Local Permit Agency Sonoma County, Dept of Health Services

Permit No. 05552-HMW Permit Date 5/14/07

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Hollow stem auger FLUID ___

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	22	Removed 22 feet of casing and grouted to ground surface with neat cement mixture

TOTAL DEPTH OF BORING 22 (Feet)

TOTAL DEPTH OF COMPLETED WELL 22 (Feet)

WELL OWNER

Name Mike Grant

Mailing Address 1408 Middle Harbor Road

City Oakland State CA ZIP 94607

WELL LOCATION

Address 20 Third Street

City Santa Rosa

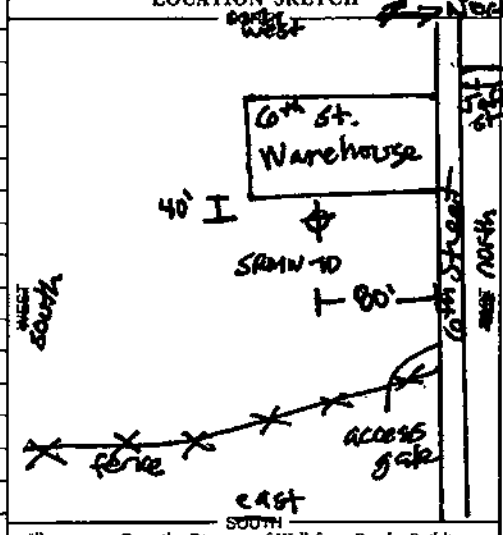
County Sonoma

APN Book 010 Page 171 Parcel 004

Township ___ Range ___ Section ___

Lat 38 DEG. 44 MIN. 52 SEC. N Long -122 DEG. 74 MIN. 89 SEC. W

LOCATION SKETCH



Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

___ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

✓ DESTROY *(Describe Procedures and Materials Under "GEOLOGIC LOG")*

USES (✓)

WATER SUPPLY
___ Domestic ___ Public
___ Irrigation ___ Industrial

___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 15 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 22 (Ft.) & DATE MEASURED 5/15/07

ESTIMATED YIELD * N/A (GPM) & TEST TYPE N/A

TEST LENGTH N/A (Hrs.) TOTAL DRAWDOWN N/A (Ft.)

** May not be representative of a well's long-term yield.*

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	10.6	8	✓				PVC	2	Sch 40	-
10.6	20.3	8		✓			PVC	2	Sch 40	0.01 inch
20.3	22	8					PVC	2	Sch 40	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	15	✓			neat cement

ATTACHMENTS (✓)

✓ Geologic Log
✓ Well Construction Diagram
___ Geophysical Log(s)
✓ Soil/Water Chemical Analyses
✓ Other Site map

See attached table

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

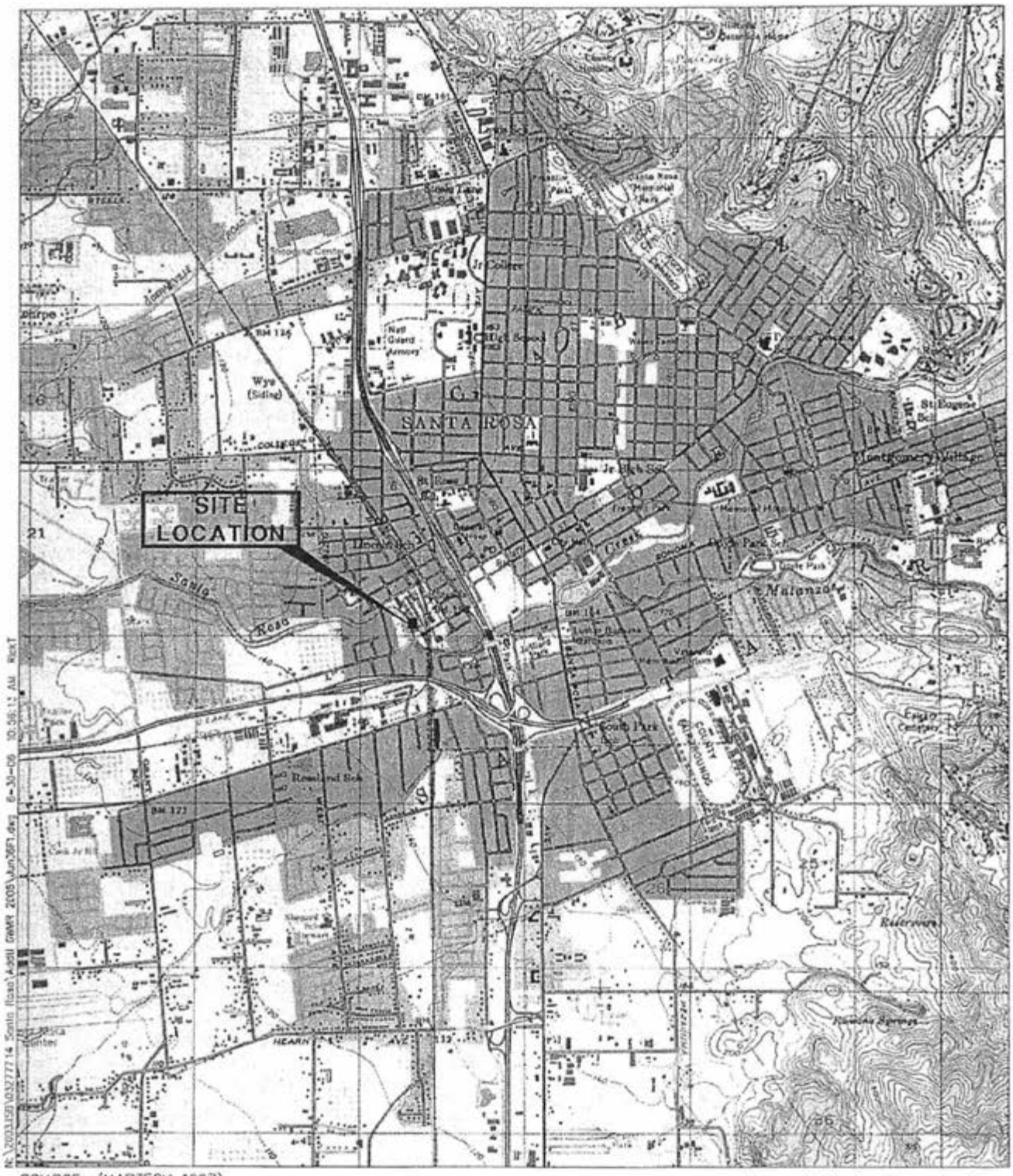
NAME Virotex, Inc. under oversight of CH2M Hill (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

155 Grand Ave., Ste 1000 Oakland CA 94612
ADDRESS CITY STATE ZIP

Signed [signature] C-57 LICENSED WATER WELL CONTRACTOR

5/22/07 DATE SIGNED

705927 C-57 LICENSE NUMBER



SOURCE: (MAPTECH 1997)

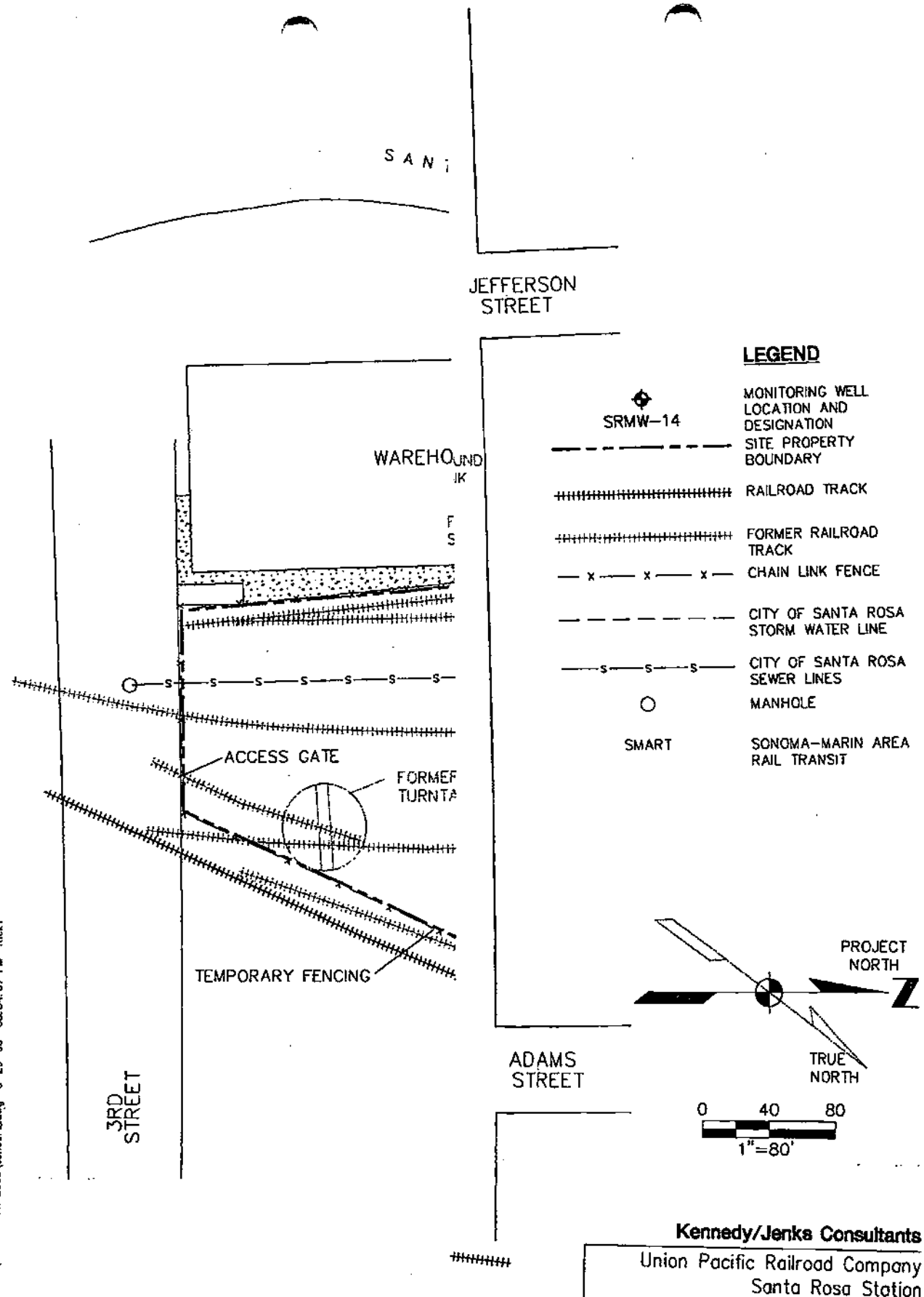
Kennedy/Jenks Consultants

Union Pacific Railroad Company
Santa Rosa Station
Santa Rosa, California

SITE LOCATION MAP

K/J 032777.14

FIGURE 1



NOTES:

1. BASE MAP FROM GEOMATRIX C
2. ALL LOCATIONS ARE APPROXIM

Kennedy/Jenks Consultants

Union Pacific Railroad Company
Santa Rosa Station
Santa Rosa, California

SITE PLAN

K/J 032777.14

FIGURE 2

Y:\2003.ISB\032777.14 Santa Rosa\Addtl GWMR 2006\Jun05F2.dwg 6-29-06 03:34:37 PM RickT

Table 1: Monitoring Well Construction Data

Monitoring Well	Date Installed	TOC[b] Elevation (ft AMSL)[c]	Approximate Seal Depth (ft bgs)[d]	Total Depth (ft bgs)	Casing Diameter (inches)	Screened Interval Depth (ft bgs)	Sand Pack Interval Depth (ft bgs)	Screen Specifications
SRMW-05[a]	09/27/01	149.05	9.0	22.0	2	10.4 to 20.0	9.0 to 22.0	Sch. 40 PVC[e] 0.010-inch slot
SRMW-06[a]	09/27/01	149.71	9.0	22.0	2	10.5 to 20.1	9.0 to 22.0	Sch. 40 PVC 0.010-inch slot
SRMW-07[a]	09/27/01	151.25	9.0	22.0	2	10.7 to 20.0	9.0 to 22.0	Sch. 40 PVC 0.010-inch slot
SRMW-08[a]	09/28/01	152.29	9.0	22.0	2	10.9 to 20.5	9.0 to 22.0	Sch. 40 PVC 0.010-inch slot
SRMW-10[a]	09/27/01	150.26	9.0	22.0	2	10.6 to 20.3	9.0 to 22.0	Sch. 40 PVC 0.010-inch slot
SRMW-11	09/08/04	149.60	11.5	31.0	2	18.2 to 28.2	15.0 to 31.0	Sch. 40 PVC 0.010-inch slot
SRMW-12	09/07/04	150.18	12.5	29.5	2	17.0 to 27.0	15.5 to 29.5	Sch. 40 PVC 0.010-inch slot
SRMW-13	09/07/04	149.49	12.0	28.0	2	17.0 to 27.0	15.5 to 28.0	Sch. 40 PVC 0.010-inch slot
SRMW-14	09/07/04	149.77	11.0	27.0	2	14.5 to 24.5	13.0 to 27.0	Sch. 40 PVC 0.010-inch slot

(a) Monitoring well construction data from the *Quarterly Groundwater Monitoring Report – July 2003* by Geomatrix Consultants, Inc.
(b) TOC = Top of Casing.
(c) ft AMSL = feet above mean sea level.
(d) ft bgs = feet below ground surface.
(e) Sch. 40 PVC = Schedule 40 polyvinyl chloride well screen.

SECTION B

FRIDAY, MAY 25, 2007

THE PRESS DEMOCRAT
SANTA ROSA, CALIFORNIA

npire News

SANTA ROSA Teen arrested on suspicion of shooting fellow gang member B4

OBITUARIES B2
AROUND THE EMPIRE B3
EDITORIALS B10

ONLINE AT PRESSDEMOCRAT.COM

SR leaders rally for Railroad Square

Developer reconsiders pulling out of transit village project after offers of help come pouring in

By BOB NORBERG
THE PRESS DEMOCRAT

The Railroad Square transit village was briefly derailed Thursday when the developer, frustrated over financing problems and under fire for proposing less housing, decided to pull out.

"I think on any given day if you are in this business, you wake up and question your own sanity," developer Michael Dieden said. "This morning was one of those."

By early afternoon, however, Dieden softened his position, saying he was "taking a timeout" to decide how to proceed.

Soon after he agreed to stay aboard, he said he had been besieged by offers of help from business and civic leaders.

TURN TO PROJECT, PAGE B3

Low-income housing urged for SR plans

By GEORGE LAUER
THE PRESS DEMOCRAT

Santa Rosa's "extreme makeover" plans for downtown drew sharp criticism Thursday, almost all of it from people urging the Planning Commission to add affordable housing and green building standards to the 20-year plan.

Close to 100 people, many of them wearing green stickers saying "Housing for All" and Build It Green," raised hands in agreement with calls to add specific numbers for affordable housing units and to adopt environmentally friendly building requirements.

Organized by the Accountable

TURN TO PLAN, PAGE B3

low- to moderate-income housing and 60 percent market-value housing.

"Our concerns in this plan are aroused not by what's in the plan, but what isn't in it," said Julia Prange, representing the coalition.

In addition to affordable housing and green building standards, she urged the commission to add pedestrian and bicycle accommodations and to pay attention to mass transit needs.

Several other special interest groups — from the Council on Aging to a member of the city school board — called for affordable housing requirements.

Among the approximately 70 speakers was Bill Kortum, the dean of Sonoma County environmental activists. He called the downtown plan an opportu-

hours of testimony, commissioners asked planning staff to examine possible amendments to deal with affordable housing, green building and other issues raised at the hearing, among them parks, parking and bicycle accommodations.

The meeting was the final public hearing for the Santa Rosa Downtown Station Area Plan, a mammoth proposal to create a denser, more urban downtown centered around a proposed commuter rail line.

The plan calls for taller, denser buildings than allowed elsewhere in the city, with businesses on the ground floor and living quarters above, all built around a commuter rail line known as SMART, for Sonoma-Marin Area Rail Transit.

The Santa Rosa station in

failed to come up with enough votes in November. The issue probably will be on a ballot again next year.

The Planning Commission plans to certify the plan's environmental impact report at an upcoming meeting. The commission then will make a recommendation to the City Council.

The Downtown Station Area Plan calls for 3,249 residential units, nearly 2,300 of them within a mile-wide circle extending from a train station proposed for Railroad Square.

City planner Ken MacNab said the downtown development study, funded by a $450,000 grant from the Metropolitan Transportation Commission, is part of an attempt "to create a transit-supported environment" by building up

home by 2020.

Although the plan was developed with the commuter train in mind, city officials said it can be pursued even if the tax is never approved.

The underlying idea is to deemphasize reliance on automobiles by developing high-density residential, commercial and office buildings along major rail and transit corridors.

Most of that development would be concentrated in two areas, downtown west of E Street and in mostly industrial areas along Cleveland Avenue, Wilson Street and Sebastopol Road that are bisected by the railroad tracks.

You can reach Staff Writer George Lauer at 521-5220 or george.lauer@pressdemocrat.com

SONOMA-MARIN
SMART
AREA RAIL TRANSIT

NCRWQCB

APR 18 2007

EO
AEO
Reg/NPS
WMgmt
Timber
Cleanups
Admin
Legal
Date
PSC

Directors
Mike Kerns, Chairman
Sonoma County
Charles McGlashan, Vice Chair
Marin County
Al Boro
San Rafael
Peter Breen
San Anselmo
Hal Brown
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Carole Dillon-Knutson
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GGBHTD
Debora Fudge
Town of Windsor
Robert Jehn
Cloverdale
Jake Mackenzie
Rohnert Park
Barbara Pahre
GGBHTD
Mike Reilly
Sonoma County

SMART Staff
Lillian Hames
General Manager

Lucrecia Milla
Property Manager
John Nemeth
Rail Planning Manager
Nina West
Administrative Assistant

4040 Civic Center Drive
Suite 200
San Rafael, CA 94903
415-492-2857
Fax-492-2854
Email www.sonomamarintrain.org

April 16, 2007

David S. Evans
Supervising Engineer
California Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

RE: Southern Pacific Transportation Company, Case No. 1TSR196

Dear Mr. Evans:

On February 23, 2007, Sonoma-Marin Area Rail Transit District (SMART) received your letter regarding the California Regional Water Quality Control Board's (Regional Board) response to Kennedy/Jenks Consultants' August 11, 2006 Groundwater Monitoring report of the preceding case number, located in Railroad Square, Santa Rosa, CA. Pursuant to a recent conversation with Ms. Joan Fleck, Engineering Geologist, Regional Board, SMART understands that the following needs to take place in order to receive a No Further Action status on this site:

- The submittal of documentation showing proper well abandonment;
- The submittal of documentation showing proper disposal of drummed waste currently stored at the site, if any;
- Compliance with the State Water Resources Control Board, Geotracker data base electronic submittal requirements; and
- A written commitment from the person or persons who will be taking responsibility for the preparation and implementation of a Soil and Groundwater Management plan, in the event of property development.

It is SMART's staff understanding through discussions with Mike Grant, Manager, Environmental Site Remediation, Union Pacific, that Union Pacific will be responsible for submittal of documentation showing well abandonment, submittal of documentation showing proper disposal of drummed waste and submittal of information to the State Water Resources Control Board's Geotracker data base. Further, SMART understands it shall be responsible for preparing and implementing a Soil and Groundwater Management plan in the event of property development. Should SMART enter into a Development and Disposition Agreement (DDA) with a developer in regards to development at Railroad Square, we will include this plan in the DDA as a condition of the site's development. A copy of the DDA will be forwarded to Regional Board staff.

SMART is eager to work with Union Pacific and Regional Board staff to begin this process and receive a No Further Action status on this site. If you have any questions regarding this issue, please do not hesitate to contact either myself or SMART's Property Manager, Lucrecia Milla at (415) 492-2857. We look forward to working with the Regional Board on this matter.

Sincerely,

Lillian Hames
General Manager

cc: M. Kerns, SMART Board Chairman
L. Milla, SMART
J. Nemeth, SMART
G. Dion, Sonoma County Counsel
J. Fleck, RWQCB
M. Dieden, Railroad Square LLC
M. Grant, Union Pacific

California Regional Water Quality Control Board
North Coast Region
Mr. John W. Corbett, Chairman

Linda S. Adams
Secretary for Environmental Protection

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

February 23, 2007

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
1408 Middle Harbor Road
Oakland, CA 94607

Dear Mr. Grant:

Subject: Case Status
File: Southern Pacific Transportation Company, 3rd Street Property
Santa Rosa, Case No. 1TSR196

Regional Water Board staff has reviewed the August 11, 2006 *Results of Additional Groundwater Monitoring Event and Recommendation for No Further Action* prepared by Kennedy/Jenks Consultants and the file for the Southern Pacific Transportation Company site (Third Street site) in Santa Rosa. The purpose of this letter is to provide you with a written status report regarding our consideration of no further action, and also identify the remaining regulatory requirements for completion of this project and those associated with the proposed property development. Our comments are as follows:

- The post corrective action groundwater verification monitoring results reveal significant water quality improvements in the vicinity of SRMW-13. The presence of separate phase hydrocarbons has been reduced to dissolved concentrations of diesel range hydrocarbons detected at 280, ug/l.

- The area of groundwater impact extends an unknown distance to the west beneath the adjacent property. However, the groundwater analytical results demonstrate that the heavy hydrocarbon plume has not migrated to monitoring wells SRMW-12 to the north, SRMW-06 and SRMW-11 to the west and SRMW-05 and SRMW-14 to the south and therefore, does not appear to be a threat to Santa Rosa Creek.

- Groundwater impacts from Methyl tert Butyl Ether (MtBE) also exist in the vicinity of SRMW-7 and SRMW-8 located on the eastern portion of the site. On site sources of MtBE were investigated and not found. Based on the available information, including MtBE detections in grab groundwater samples and in SRMW-8 at the eastern property boundary, the source of MtBE appears to be off site and up gradient.

Therefore, no further groundwater testing is required at this time associated with the areas where corrective actions have been completed to date. Since the public notice requirements have been completed and comments were not received, you may proceed with monitoring well decommissioning in compliance with Sonoma County Environmental Health Division regulatory requirements.

A no further action letter will be issued upon completion of the following items:

- The submittal of documentation showing proper well abandonment;
- The submittal of documentation showing proper disposal of drummed waste currently stored at the site, if any;
- Compliance with the State Water Resources Control Board, Geotracker data base electronic submittal requirements; and
- A written commitment from the person or persons who will be taking responsibility for the preparation and implementation of a Soil and Groundwater Management Plan, as discussed below.

The subject site is the location of the proposed Sonoma Marin Area Rail Transit (SMART) development project referred to as the Railroad Square Development, a transit-oriented redevelopment project. Regional Water Board staff attended and spoke at meetings during the master developer selection process and provided interested parties with a fact sheet dated May 24, 2006 (Enclosed).

As stated in the fact sheet, the issuance of a no further action letter in this case does not equate to a property with unrestricted land use free of environmental requirements. Areas of shallow soil impacts remain in place, including but not limited to SRB-20 and in the fenced enclosure area in the vicinity of the power pole. Spills and leaks may have also occurred in areas other than those where corrective action was completed in October 2003 due to the historical land use. And deep soil impacts remain in place where corrective action was completed due to site constraints and rainy weather conditions. Groundwater management may also be an issue since the development design includes subsurface parking.

Therefore, the preparation of a soil and groundwater management plan is required, and must be included as a component of the building permit application to the City of Santa Rosa Department of Community Development and Santa Rosa Fire Department. Since the timing of development is unknown, and the Railroad Square Development Project is dependent upon the issuance of a no further action letter that facilitates a change in property ownership to SMART, we only need to have at this time the written commitment from the person or persons who will taking responsibility for the preparation and implementation of the plan.

For your information, the soil and groundwater management plan must include 1) a proposal to remove the known areas containing shallow soil impacts, 2) a method to

characterize, manage and dispose of any soil/fill material removed from the site for development reasons, and 3) a contingency plan for a potential encounter with newly discovered areas of contaminated soil and/or groundwater, or subsurface piping or structures, during trenching, parking garage construction and property development.

The soil and groundwater management plan must also include a method to control groundwater, impacted or otherwise, if encountered during the installation of utilities or construction of the subsurface parking structures. If the subsurface parking garage is constructed below the seasonal high water table and is not designed to be water tight, a post construction groundwater management plan will also be needed. A contingency plan must be included for a proposed water tight structure in the event that it does not function as designed.

For the record, the railroad corridor located south of Third Street and north of Santa Rosa Creek is also part of the over all "site". A discussion regarding this parcel will be forthcoming under separate cover and will be independent of the north of Third Street parcels.

If you have any questions or would like to meet to discuss this case please contact Joan Fleck of my staff at (707) 576-2675.

Sincerely,

David S. Evans
Supervising Engineer

Enclosure: Fact Sheet

023107_JEF_SPTrans

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Fire Inspector Corey Vincent, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lillian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lucrecia Millia, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Mike Grant, Union Pacific Railroad, Manager Environmental Site Remediation, 49 Stevenson Street, 15th Floor, San Francisco, CA 94105
Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Messrs John Stewart and Richard Devine, Santa Rosa Canners, 160 Sansome

Street, 7th Floor, San Francisco, Ca 94104
Mr. Mike Martini, Santa Rosa City Counsel, P.O. Box 1678, Santa Rosa, CA 95402
Mr. Jim Eddie, Golden Gate Bridge and Highway Transportation District Board c/o SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Robert Jehn, Sonoma Marin Area Rail Transportation District Chair, 124 North Cloverdale Blvd. Cloverdale, CA 95425
Mr. John Sawyer, Santa Rosa City Council, P.O. Box 1678, Santa Rosa, CA 95402
Mr. Charles McGlashan, Marin County Board of Supervisors, c/o SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, Ca 94903
Mr. David Noren, EBA Engineering, 825 Sonoma Avenue, Suite C, Santa Rosa, CA 95404
Mr. Michael Dieden, Creative Housing Associates, 8758 Venice Boulevard, Suite 101, Los Angeles, CA 90034
Mr. John Anderson, Sonoma County Environmental Health Division
Salvador Family Partnership, 5582 Drakes Drive, Byron, CA 94514

SONOMA-MARIN SMART AREA RAIL TRANSIT

NCRWQCB

FEB 14 2007

EO ___ WMgmt ___ Admin ___
AEO ___ Timber ___ Legal ___
Reg/NPS ___ Cleanup ___
___ Date 2/20/07

Directors
Al Boro, Chairman
San Rafael
Mike Kerns, Co-Chair
Sonoma County
Robert Jehn
Cloverdale
Peter Breen
San Anselmo
Hal Brown
Marin County
Carole Dillon-Knutson
Novato
Jim Eddie
GGBHTD
Debora Fudge
Town of Windsor
Mike Healy
Petaluma
Charles McGlashan
Marin County
Barbara Pahre
GGBHTD
Mike Reilly
Sonoma County

SMART Staff
Lillian Hames
General Manager

Lucrecia Milla
Property Manager
John Nemeth
Rail Planning Manager
Nina West
Administrative Assistant

4040 Civic Center Drive
Suite 200
San Rafael, CA 94903
415-492-2857
Fax-492-2854
Email www.sonomamarintrain.org

February 8, 2007

Christine Wright-Shacklett
Sr. Engineering Geologist
California Regional Water Quality Control Board
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

RE: Railroad Square Development, Case No. 1TSR196

Dear Ms. Wright-Shacklett:

On August 14, 2006, Sonoma-Marin Area Rail Transit (SMART) received a letter from Kennedy/Jenks Consultants who performed ground water monitoring and sampling on behalf of the Union Pacific Railroad Company (Union Pacific) and for SMART at the Santa Rosa Station (Site) in Santa Rosa, California. This report summarized the additional groundwater sampling activities conducted at the Site on June 7, 2006. The report concluded that the additional groundwater monitoring events were consistent with historical results. Kennedy/Jenks recommended that the California Regional Water Quality Control Board (Regional Board) grant No Further Action status to the Site.

Recently SMART staff has had several conversations with Ms. Joan Fleck, Engineering Geologist, Regional Board. In a telephone message received on February 1, 2007, Ms. Fleck stated that within the next two weeks, SMART would be receiving a letter regarding its property at the Railroad Square Site. This letter would reflect that if the property stayed in its current condition, it would receive a No Further Action status. However with the pending development plans, the following would need to take place:

- A plan to disseminate the existing monitoring wells.
- Obtain a well abandonment permit.
- Meet regulatory requirements regarding the wells.
- The implementation of a soil management program.

SMART is eager to begin implementation of these conditions to retain fee title of this portion of the remaining Railroad Square site. If you have any questions regarding this issue, please do not hesitate to contact either myself or SMART's Property Manager, Lucrecia Milla at (415) 492-2857. We look forward to working with the Regional Board on this matter.

Sincerely,

Lillian Hames
General Manager

cc: M. Kerns, SMART Board Chairman
L. Milla, SMART
J. Nemeth, SMART
G. Dion, Sonoma County Counsel
J. Fleck, RWQCB
D. Evans, RWQCB

SONOMA-MARIN
SMART
AREA RAIL TRANSIT
4040 Civic Center Dr. #200
San Rafael, CA 94903-4150

SAN RAFAEL
FEB 12 '07
CA

U.S. POSTAGE
00.39
M METER 70 70078

Christine Wright-Shacklett
California Regional Water Quality Control Board
5550 Skylane Blvd., Ste A
Santa Rosa, CA 95403

9590 9403 1072

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: JANUARY 12, 2007

From: JOHN

Subject: SP TRANS COMPANY

ON JANUARY 11, 2007 I SPOKE WITH MIKE GRANT WITH UNION PACIFIC TRAILROAD. HIS NEW PHONE # IS (510) 891-7433. HIS NEW ADDRESS IS:

1408 MIDDLE HARBOR ROAD
OAKLAND, CA 94607.

SANTA ROSA CANNERS, LLC

160 Sansome Street, 7th Floor, San Francisco, CA 94104

July 17, 2006

NCRWQCB

JUL 20 2006

☐ EO ☐ WMgmt ☐ Admin
☐ AEO ☐ Timber ☐ Legal
☐ Reg/NPS ☒ Cleanups ☐
☐ Date

Joan Fleck
California Regional Water
Quality Control Board
5550 Skylane Blvd. Suite A
Santa Rosa, CA 95403

Re: Case No. ITSR196

Dear Ms. Fleck:

The purpose of this letter is to comment on the proposed Notice of No Further Action for the SPTCO property located between West Third and West Sixth Streets in Santa Rosa.

As you know, SMART has selected a master developer for that property. The master developer will be required by the City of Santa Rosa to construct new water, sewer and storm drains. In addition, current plans call for two levels of underground parking on a large portion of the site. As the owner of two properties located to the immediate west of the subject, we are both encouraged by the proposed redevelopment of this land and concerned that proposed improvements could cause hazardous substance such as diesel, oil, gas and MTBE to migrate to our property. Improving the site and constructing underground parking will require significant excavation. The construction of hundreds of housing units and other commercial structures will also have an impact on soil conditions. This transit-based development is needed and hopefully it will benefit SMART, the City, our project and other surrounding owners. However, we want your assurance that the Water Board will require the developer to implement a soil and water management program, just as your office has done with the Santa Rosa Canners. This will not only protect our property from the migration of hazardous substances, but also ensure that the master developer does not negatively impact the remediation and clean up program that we are presently conducting.

Thank you for your attention to our concerns.

Sincerely,

John Stewart
Managing Partner

Richard J. Devine
Managing Partner

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Linda S. Adams
Agency Secretary

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

June 15, 2006

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: ANNUAL ESTIMATION LETTER
File: Southern Pacific Transportation Company
Third Street
Case No. 1TSR196; (201-6200)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED:

Regional Water Board staff estimate that the following work will be performed during fiscal year 2006/2007 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific and other responsible third parties and interested parties;
- Conduct site inspections.
- Complete public notice requirements

- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Provide regulatory oversight through the completion of the project.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on reports;
- Complete initial public participation documents;
- Comply with public participation and other needs of the California Environmental Quality Act (CEQA);
- Ensure compliance with CEQA;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and
- Complete no further action review and process.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $110.00 per hour.

ESTIMATION OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 30 hours of work related to this site during fiscal year 2006/2007 (July 1, 2006 through June 30, 2007). Based on the average billing rate of $110.00 per hour, the estimated billing charge for this site during fiscal year 2006/2007 is about $3,300.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

Enclosure: Billing Rates Description

061506_JEF_CostrecoveryUnionPacific

cc: SLIC Program Coordinator, SWRCB, Division of Clean Water Programs 201-6200
Lynda Jacobsen

- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Provide regulatory oversight through the completion of the project.

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- Ensure compliance with CEQA;
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- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
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- Complete no further action review and process.

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If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

Enclosure: Billing Rates Description

061506_JEF_CostrecoveryUnionPacific

cc: SLIC Program Coordinator, SWRCB, Division of Clean Water Programs 201-6200
Lynda Jacobsen

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUPS (SLIC) PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification [1]	ABR	SALARY SCALE
Associate Governmental Program Analyst	AGPA	5,468 - 6,646
Engineering Geologist	EG	4,753 - 8,316
Environmental Scientist	ES	3,824 - 7,097
Office Assistant	OA	2,578 - 3,442
Office Technician	OT	3,338 - 4,056
Principal Water Resources Control Engineer	PWRCE	9,476 - 10,451
Sanitary Engineering Associate	SEA	6,165 - 7,491
Sanitary Engineering Technician	SET	4,245 - 5,922
Senior Engineering Geologist	SEG	7,650 - 9,297
Senior Environmental Scientist	SRES	6,774 - 9,823
Senior Water Resources Control Engineer	SWRCE	7,650 - 9,297
Staff Counsel	STCOUN	5,099 - 9,823
Staff Counsel III	STCOUNIII	9,185 - 11,334
Staff Counsel IV	STCOUNIV	10,141 - 12,522
Staff Environmental Scientist	SES	6,767 - 8,172
Student Assistant	SA	1,812 - 2,413
Student Assistant Engineer	SAE	2,488 - 3,723
Supervising Water Resources Control Engineer	SUWRCE	8,622 - 10,206
Water Resources Control Engineer	WRCE	4,753 - 8,298

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	20% of salaries and benefits

Billing Example

Water Resources Control Engineer		
Salary:	$	8,298
Overhead (indirect costs):	$	8,298
Admin.: State Board	$	1,245
Regional Board	$	1,660
Total Cost per month	$	19,501

Divided by 176 hours per month equals per hour: $ 110.80
(Due to the various classifications that expend SLIC resources. An average of $ 110.00 per hour can be used for projection purposes.)

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[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

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5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Dan Skopec
Acting Secretary

Arnold Schwarzenegger
Governor

May 24, 2006

Mr. Mike Martini
Santa Rosa City Council
P.O. Box 1678
Santa Rosa, CA 95402

Mr. John Sawyer
Santa Rosa City Council
P.O. Box 1678
Santa Rosa, CA 95402

Mr. Jim Eddie
Golden Gate Bridge and Highway
Transportation District Board
C/o SMART District Office
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903

Mr. Charles McGlashan
Marin County Board of Supervisors
c/o SMART District Office
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903

Mr. Robert Jehn
Sonoma Marin Area Rail Transportation
District Chair
Cloverdale Mayor
124 North Cloverdale Blvd.
Cloverdale, CA 95425

Gentlemen:

Subject: Railroad Square Development

File: Southern Pacific Transportation Company, 3rd Street (North), Santa Rosa
Case No. 1TSR196

On May 1, 2006, I represented the North Coast Regional Water Quality Control Board at a public meeting held in the City of Santa Rosa City Council Chambers regarding the Railroad Square Development project. During that meeting, soil and groundwater issues were mentioned with varying degrees of interpretation and significance as it related to proposed development plans particularly with the issue of subsurface vehicle parking structures. Therefore, it appeared appropriate to submit written comments for your use and information.

Enclosed is a FACT SHEET summarizing regulatory requirements and environmental conditions at and near the former railroad water and fueling station as it relates to the proposed development project. Our intention is to provide you with information that should be considered and incorporated into the development team plans and proposals.

I am available at (707) 576-2675 if you require additional information. The files mentioned in the enclosed FACT SHEET are public information and can be reviewed by calling (707) 576-2220.

Sincerely,

Joan Fleck
Engineering Geologist

Enclosure: Fact Sheet

052406_JEF_Railroad

cc: Fire Inspector Doug Dahme, Santa Rosa Fire Department
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402
Mr. John Nemeth, Rail Planning Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lillian Hames, Project Director, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lucrecia Millia, Property Manager, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Mr. Mike Grant, Union Pacific Railroad, Manager Environmental Site Remediation, 49 Stevenson Street, 15th Floor, San Francisco, CA 94105
Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404

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Dan Skopec
Acting Secretary

Arnold Schwarzenegger
Governor

FACT SHEET
May 24, 2006

Environmental Conditions in Railroad Square Area

The Railroad Square Development Project is proposed for the former railroad water and fueling yard, which is currently being evaluated by Regional Water Board staff regarding no further action. The current status of our regulatory review is we have requested a groundwater monitoring/sampling event to document current water quality information prior to our consideration of no further action.

The issuance of a no further action letter in this case does not equate to a property with unrestricted land use free of environmental requirements. Due to the historical land use, which included above and belowground petroleum hydrocarbon storage and onsite use, spills and leaks that may have occurred in addition to those where corrective action was conducted during the fall of 2003. At that time, impacted soil was removed to the extent practicable; however, due to site constraints and weather conditions, some areas of impact remain in place.

Therefore, the property development plans must include a soil management plan to address known shallow soil impacts and any new impacts discovered during grading, trenching, and construction. The plan must include:

- A method to manage and characterize any shallow soil planned for off hauling.
- Proper disposal of contaminated soil at a permitted facility.
- Removal of known shallow soil impacts that remains in place.
- Contingencies for removal of impacted soil that may be discovered during site grading and trenching activities.

Further excavation in those areas where corrective action was conducted in 2003 is not required. However, soil may be subject to further regulation if disturbed during property development for the construction of subsurface parking structures. The greater the depth of the structure, the higher the likelihood of encountering impacted material. Therefore, the soil management plan must be expanded for development plans that include subsurface parking structures to include:

- A method to manage and characterize impacted soil removed during the construction of subsurface parking structures.
- A method to remove separate phase hydrocarbons (oil) on water, and contaminated groundwater, if encountered, during the construction of subsurface parking structures.
- Proper disposal of contaminated soil, oil and groundwater at permitted facilities.
- A method to manage and control groundwater during construction.
- A method to manage and control post construction groundwater unless the subsurface parking structures are designed and constructed to be watertight.

- A post construction groundwater management method must be included if the subsurface parking structures are not designed and constructed to be watertight.

Accordingly, the depth to groundwater is important. The depth to groundwater fluctuates seasonally depending upon rainfall.

- During the rainy season the depth to groundwater generally ranges between seven (7) to fourteen feet (14) below ground surface (bgs).
- During the dry season the depth to groundwater generally ranges between eleven (11) to twenty feet (20) bgs.

The groundwater flow is west/southwest toward Santa Rosa Creek. First encountered groundwater is continuous (not perched in laterally discontinuous lenses) and is not subject to complete dewatering. Plans to conduct temporary or ongoing groundwater extraction/dewatering must consider:

- The potential impacts of altering the natural groundwater flow direction and gradient and drawing in contaminant plumes that exist on nearby properties toward the point of extraction.
- The potential environmental and financial liability associated with plume boundary alterations.

Plans to conduct temporary or ongoing groundwater extraction must include a groundwater management plan, which includes:

- Locations and construction depths of extraction wells and extraction rate.
- Method of disposal (i.e. Santa Rosa Industrial Waste Sewer Discharge Permit or a National Pollutant Discharge Elimination System Permit (NPDES) issued by the Regional Water Board. If so,
- A monitoring and reporting program to verify compliance with NPDES permit requirements.

Groundwater impacts from oil is present on site in the vicinity of MW-13. The locations of Sites and discharge locations are listed below and shown on the enclosed map:

- Hotel La Rose (former gasoline station)
  101 Fifth Street
  Undefined gasoline/diesel plume.

- Occhipinti's (former gasoline station)
  210 Fifth Street
  Generally defined gasoline, diesel and Methyl Tertiary Butyl Ether (MTBE). The MTBE plume extends well into the former rail yard property.

- Santa Rosa Department of Public Works (former Poultry Producers of Central California)
  Third Street and Santa Rosa Creek

Generally defined gasoline plume. Some PCE in the Third Street area.

- Franchetti
  60 West Sixth Street (former cannery)
  Generally defined oil plume. Chlorinated hydrocarbons also present.

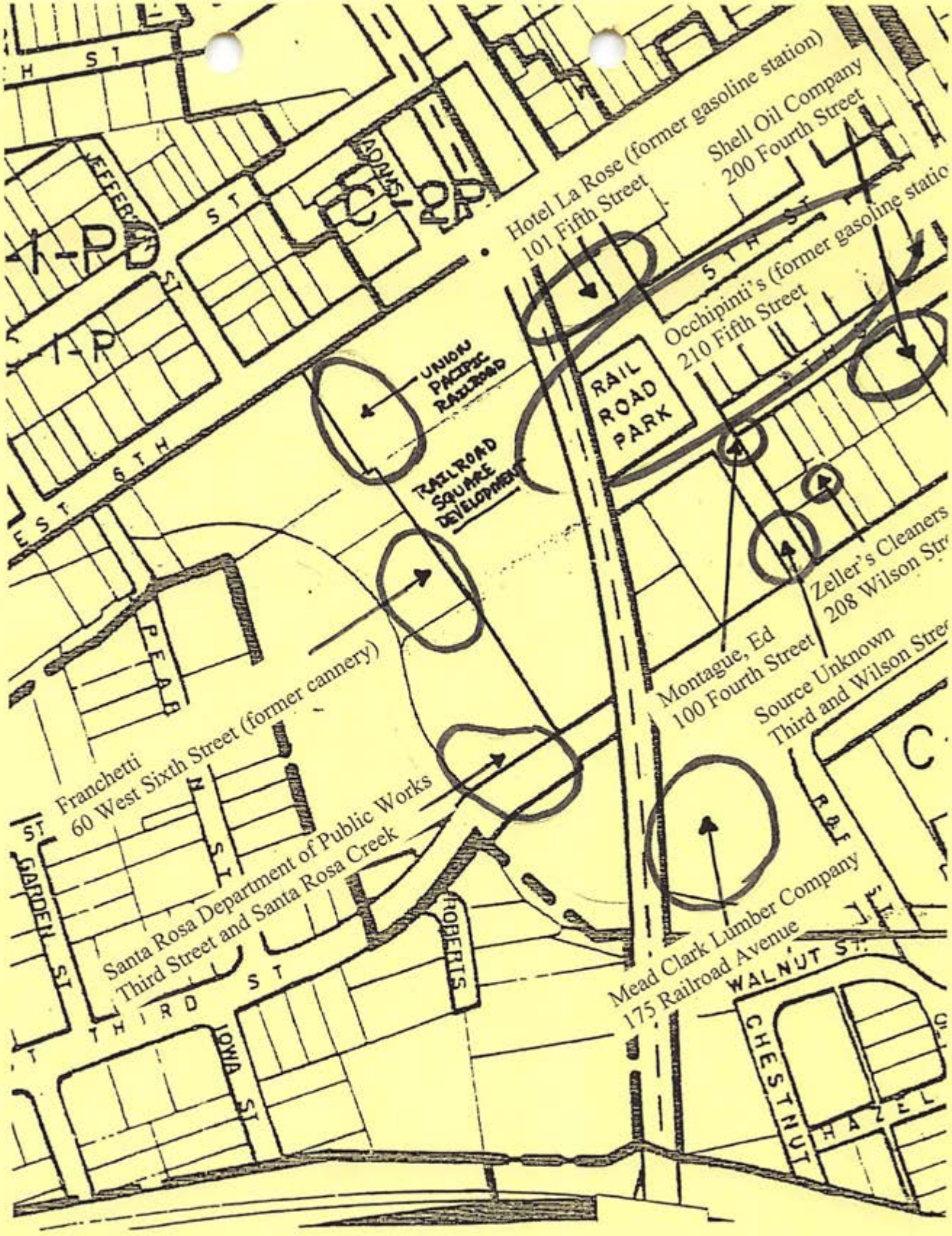
- Source Unknown
  Third and Wilson Streets
  Undefined Stoddard solvent and/or diesel plume.

- Montague, Ed
  100 Fourth Street
  Former underground storage tanks.

- Zeller's Cleaners (former Stoddard solvent dry cleaners)
  208 Wilson Street

- Shell Oil Company
  200 Fourth Street
  Generally defined gasoline plume.

- Mead Clark Lumber Company
  175 Railroad Avenue
  Generally defined gasoline plume.


Hotel La Rose (former gasoline station)
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Occhipinti's (former gasoline statio
210 Fifth Street
UNION PACIFIC RAILROAD
RAIL ROAD PARK
RAILROAD SQUARE DEVELOPMENT
Zeller's Cleaners
208 Wilson Stre
Montague, Ed
100 Fourth Street
Source Unknown
Third and Wilson Stree
Franchetti
60 West Sixth Street (former cannery)
Santa Rosa Department of Public Works
Third Street and Santa Rosa Creek
Mead Clark Lumber Company
175 Railroad Avenue
H ST
ADAMS ST
6TH ST
5TH ST
PEAR
GARDEN ST
THIRD ST
IOWA ST
ROBERTS
WALNUT ST
CHESTNUT

California Regional Water Quality Control Board
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Dan Skopec
Acting Secretary

Arnold Schwarzenegger
Governor

May 22, 2006

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: Case Status

File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa
Case No. 1TSR196

Regional Water Board staff has reviewed the case file including the September 26, 2005 *Second Quarter 2005 Groundwater Monitoring Report and Request for No Further Action* prepared by Kennedy/Jenks Consultants for the Southern Pacific Transportation Company site located between 3rd and 6th Streets in Santa Rosa. Our comments are:

The groundwater monitoring well network includes two wells (MW-7 and MW-8) on the northeastern portion of the site, four wells in the northwestern portion of the site and three wells off site and to the west. Groundwater impacts in MW-7 and MW-8 include detectable levels of Methyl tertiary Butyl Ether (MtBE), which is a gasoline oxygenate. Of the other seven wells, one well (MW-13) contains detectable levels of diesel and oil range hydrocarbons.

An on site source of MtBE has not been identified and the presence of this chemical in groundwater beneath the railroad property on the eastern side appears to be the result of on site migration. The onsite sources of diesel and oil range hydrocarbons have been removed to the extent feasible. Concentrations of diesel and oil in groundwater collected from the vicinity of MW-13 prior to the completion of corrective action in 2003 were reported as high as 6,300,000 and 12,000,000 ug/l, respectively. Post corrective action groundwater samples collected from MW-13 contain dissolved diesel and oil at up to 1,500 and 970 ug/l, respectively. The last sampling event was conducted in June 2005.

This case is being considered for no further action with regards to groundwater sampling and remediation and has been evaluated at the management level, where two items were identified for completion prior to consideration of no further action. They include:

- The completion of an additional groundwater monitoring/sampling event to document current water quality conditions and verify a lack of down gradient migration. The wells must be sampled using the method identified in the Kennedy Jenks work plan for well sampling (bailer) rather than the method used during the March and June 2005 events, which included a pump and tubing. The detection limit for diesel and oil must be 50 ug/l. The detection limit for oil must be no more than 100 ug/l. Please notify me of the sampling schedule so I can conduct a site visit during field activities.

- The completion of the public notice requirements. I have enclosed a public notice form for you to 1) publish in a local newspaper of general circulation, 2) post at and near the site in conspicuous locations on Sixth Street, Wilson Street and Third Street and 3) distribute to adjacent landowners and business operators and interested parties. I will place the notice on our web site and make it available at our front counter for public review.

We look forward to receipt of the monitoring and sampling report in the near future and proof that the public notice requirements were completed including:

- A copy of the newspaper publication.
- Photos of the locations where the notice was posted and the date posted.
- A list of adjacent property owners and interested parties that received the notice and the date of distribution.

In addition, as you know, this property is proposed for development known as the Railroad Square Development, a transit-oriented project including retail and residential land use, a food and wine center, culinary and wine education and a local farmer's market. The issuance of a no further action letter does equate to the property being free of future regulatory requirements with unrestricted land use. A soil and groundwater management plan will be a required component of the permit application process with the City of Santa Rosa Community Development and Fire Departments. The plan will ensure that remaining impacts, such as the area of the light pole in the fenced enclosure area, or impacts encountered during the grading/construction process, will be managed appropriately.

This matter was discussed at a meeting held on October 27, 2004 at which time, it was agreed that Union Pacific Railroad and SMART would negotiate who would address environmental regulatory requirements during property development.

If you have any questions or would like to meet to discuss this case, I can be reached at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

Enclosure: Public Notice Form

052206_JEF_UnionPacific

cc: Fire Inspector Corey Vincent, Santa Rosa Fire Department
Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Mr. Jeffery Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402-1678
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Ms. Lillian Hames, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Lucrecia Milla, SMART District Office, 4040 Civic Center Drive, Suite 200, San Rafael, CA 94903
Ms. Sheryl Bratton, Chief Deputy County Counsel, 575 Administration Drive, Room 105A, Santa Rosa, CA 95403

California Regional Water Quality Control Board
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Dan Skopec
Acting Secretary

Arnold Schwarzenegger
Governor

May 22, 2006

Southern Pacific Transportation Company
Third Street Property (North)
Santa Rosa, California
1TSR196

Notice of Consideration of No Further Action
Case No. 1TSR196 is being evaluated with regards to no further action. The comment period will end 30-days after all the public notice requirements have been completed including publication in a newspaper of general circulation, distributed to neighboring land and business owners, posted at the site in conspicuous locations and posted on the Regional Water Board web page.

Problem Description
The site was formerly occupied by, a water and fueling station dating back to the 1800s for the Northwestern Pacific Railroad (NWPR), followed by Southern Pacific Transportation Company (SPTCO) in 1906 and Union Pacific Railroad in 1996. Petroleum hydrocarbons including gasoline, diesel and oil were used and stored on the property in above and below ground storage tanks. Discharges to soil and groundwater were discovered and investigated from 1995 to 2003. Significant diesel and oil range hydrocarbon impacts were found in the northwest portion of the property including the presence of separate phase oil in soil and on groundwater. Shallow soil impacts were found in other areas.

Remedial Actions Completed

The above and belowground tanks and associated piping were removed. Approximately 5,400 cubic yards of impacted soil was removed in 2003. At that time, 70,000 gallons of impacted groundwater were pumped from the open excavations. Separate phase hydrocarbons (oil) on water were also removed.

Status of Contaminants in Groundwater

Five groundwater-monitoring wells were installed and monitored from 2001 to 2004. Four additional wells were installed in 2004. Post excavation monitoring was conducted quarterly in all the wells from 2004 to June 2005. Diesel and oil have been detected in one of the seven, groundwater-monitoring wells at up to 1500 and 970 ug/l, respectively. An additional groundwater-sampling event has been requested to document current concentrations.

MtBE Status

Methyl tert Butyl Ether (MtBE) is present in groundwater and appears to be the result of on site migration.

Consideration of No Further Action
Regional Board staff, are considering this case for no further action. Records for this case are contained in a file identified as Southern Pacific Transportation Company, 3rd Street (North), Santa Rosa, Case No. 1TSR196 available for review by calling (707) 576-2220. You may also contact Joan Fleck at (707) 576-2675 or Jfleck@waterboards.ca.gov with questions.

052206_UPNFAnoticeform

Contact Us

Click here to send email via our online form.

PROJECT EMAIL ADDRESS:
info@sonomamarintrain.org

MAIL:
SMART District Office
4040 Civic Center Drive, Suite 200
San Rafael, California 94903

PROJECT DIRECTOR:
Lillian Hames
Work: 415.492.2855
Email: LHames@sonomamarintrain.org

PROPERTY MANAGER:
Lucrecia Milla
Work: 415.492.2859
Email: lmilla@sonomamarintrain.org

RAIL PLANNING MANAGER:
John Nemeth
Work: 415.492.2837
Email: jnemeth@sonomamarintrain.org

INFORMATION LINES:
Marin County – 415.419.3510
Sonoma County – 707.583.2323

Email This Page

About Us

On January 1, 2003 a new regional transportation district was established to oversee the development and implementation of passenger rail service in Sonoma and Marin Counties. The new rail district, created with the passage of California State Assembly Bill 2224 (Nation, District 6), holds in public ownership, over seventy miles of railroad right-of-way (ROW), estimated to be worth over a billion dollars. The Sonoma Marin Area Rail Transportation (SMART) District is governed by a 12-member Board consisting of elected officials: two County Supervisors each from Marin and Sonoma counties, three appointed City Council members from each county and two representatives from the Golden Gate Bridge District. The SMART District is charged with planning, engineering, evaluating and implementing passenger train service and corridor maintenance from Cloverdale to a Ferry Terminal that connects to San Francisco.

The Directors include:

Marin County

Al Boro - Vice Chair of SMART - Mayor of the City of San Rafael
Peter Breen - San Anselmo City Council

Hal Brown - Marin County Board of Supervisor
Pat Eklund - Novato City Council
Charles McGlashan - Marin County Board of Supervisors

Sonoma County

Mike Kerns - Sonoma County Board of Supervisors
Robert Jehn - SMART Chair - Mayor of the City of Cloverdale
Tim Smith - Sonoma County Board of Supervisors

Mike Healy - Petaluma City Council
Deborah Fudge- Windsor City Council

Golden Gate Bridge and Highway Transportation District

Barbara Pahre - GGBHTD Board
Jim Eddie - GGBHTD Board

SMART Staff

Lillian Hames - General Manager

Lucrecia Milla - Property Manager
John Nemeth - Transportation Planner

Email This Page

F

California Regional Water Quality Control Board
North Coast Region
Beverly Wasson, Chairperson

Alan C. Lloyd, Ph.D.
Agency Secretary

http://www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

June 16, 2005

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: ANNUAL ESTIMATION LETTER
File: Southern Pacific Transportation Company, Third Street Property, Santa Rosa
Case No. 1TSR196; (201-6200)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED:

Regional Water Board staff estimate that the following work will be performed during fiscal year 2005/2006 on the Southern Pacific Transportation Company Third Street site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Evaluate need for revised remedial corrective action plan based on quarterly groundwater monitoring reports;
- Review plans for additional remedial corrective action, if necessary;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific Railroad and other responsible third parties;

- Assist local agencies, future property owners and their representatives with potential development issues.
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project;
- Evaluate consideration of no further action and complete all work associated with the no further action process including case summary preparation and public notice requirements.
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and reports;
- Complete public participation documents;
- Ensure compliance with California Environmental Quality Act;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $90.00 per hour.

ESTIMATION OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 40 hours of work related to this site during fiscal year 2005/2006 (July 1, 2005 through June 30, 2006). Based on the average billing rate of $90.00 per hour, the estimated billing charge for this site during fiscal year 2005/2006 is about $3,600.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

JEF:clh/061605_JEF_CostrecoverySPTrans

Enclosure: Billing Rates Description

cc: Mike Harper, SWRCB, Division of Clean Water Programs 201-6200
Nancy Negley

Enclosure 1

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUPS (SLIC) PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification[1]	ABR.	SALARY SCALE
Student Assistant	SA	1594 - 2123
Student Assistant Engrng.	SAE	2085 - 3120
Office Assistant	OA	2160 - 2884
Office Technician	OT	2748 - 3341
Environmental Scientist	ES	3204 - 5946
Sanitary Engineering Technician	SET	3557 - 4962
Engineering Geologist	EG	3830 - 5324
Water Resources Control Engineer	WRCE	3830 - 6590
Associate Governmental Program Analyst	AGPA	4581 - 5568
Sanitary Engineering Associate	SEA	5165 - 6276
Associate Engineering Geologist	AEG	5169 - 6283
Staff Environmental Scientist	SES	5670 - 6846
Senior Environmental Scientist	SRES	5675 - 6849
Senior Water Resources Control Engineer	SWRCE	5952 - 7232
Senior Engineering Geologist	SEG	5952 - 7232
Supervising Water Resources Control Eng.,	SUWRCE	7224 - 7968
Principal Water Resources Control Eng.,	PWRCE	7940 - 8756

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	20% of salaries and benefits

Billing Example

Water Resources Control Engineer		
Salary:	$	6,590
Overhead:	$	6,590
Admin.: State Board	$	988
Regional Board	$	1,318
Total Cost per month	$	15,486

Divided by 176 hours per month equals per hour: $ 87.99
(Due to the various classifications that expend SLIC resources, an average of $ 90.00 per hour can be used for projection purposes.)

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

MEAD CLARK

Kennedy/Jenks Consultants

Engineers & Scientists

622 Folsom Street
San Francisco, California 94107
415-243-2150
FAX 415-896-0999

13 May 2005

RWQCB
REGION 1

MAY 16 2005

☐ CK ☐ FCR ☐ DSE-SJ JET
☐ RLT ☐ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL

Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Groundwater Monitoring Wells Sampling
Third Street, Santa Rosa
K/J 032777*14

Dear Ms. Fleck:

In response to your letter dated 29 March 2005, a coordinated sampling event will be conducted for the wells located south of Third Street. Kennedy/Jenks Consultants (Kennedy/Jenks), on behalf of the Union Pacific Railroad Company (Union Pacific), and Winzler & Kelly, on behalf of the Mead Clark Lumber Company (Mead Clark), will be conducting the coordinated sampling event.

Because the monitoring wells referenced in the letter (GW-26A, GW-35, GW-22, GW-29, and MW-1) have not been sampled within the past year, the monitoring wells were redeveloped on 11 May 2005. Blaine Tech Services, Inc. conducted the redevelopment under the direction of a Kennedy/Jenks Registered Geologist.

Groundwater samples will be collected from monitoring wells GW-26A, GW-35, GW-22, GW-29, and the North Coast Regional Water Quality Control Board well MW-1 the week of 16 May 2005. Samples will be transported to Analytical Sciences in Petaluma following chain-of-custody procedures and analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015 modified, for total petroleum hydrocarbons as diesel (TPHd) and total petroleum hydrocarbons as motor oil (TPHmo) by EPA Method 8015 modified with a silica gel cleanup step, and for volatile organic compounds by EPA Method 8260 (full scan). Analytical results will also include the chromatograms for each requested analysis.

If you have any questions, please contact me at (415) 243-2405.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Laura J. Kennedy
Project Manager

cc: Mike Grant, Union Pacific
Kevin Destruel, Mead Clark
Dave Vossler, Winzler & Kelly

California Regional Water Quality Control Board
North Coast Region
Beverly Wasson, Chairman

Alan C. Lloyd, Ph.D.
Agency Secretary

http://www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

March 29, 2005

Mr. Kevin Destruel
Mead Clark Lumber Company
P.O. Box 529
Santa Rosa, CA 95402

Mr. Mike Grant
Manager, Environmental Site Remediation
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Gentlemen:

Subject: Groundwater Monitoring Wells Sampling & Abandonment

File: Mead Clark Lumber Company, Third Street, Santa Rosa, Case No. 1TSR016
Southern Pacific Transportation Company, Third Street Property, Santa Santa Rosa, Case No. 1TSR196

In February 2005, Ms. Norma Jellison contacted me regarding the groundwater monitoring wells installed on railroad property on behalf of the Mead Clark Lumber Company. The wells in question include GW-24 and GW-27 located north of Third Street. The interest in GW-24 and GW-27 relates to a potential change in property title and ownership of the wells.

Wells GW-24 and GW-27 may be properly abandoned because they are no longer needed for the Mead Clark Lumber Company investigation. Prior to abandonment, the wells must be sampled and tested for total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), motor oil and the full EPA Method 8260 scan. I have relayed this information to Mr. Brian Wingard of Winzler & Kelly, consultant to the Mead Clark Lumber Company with instructions to proceed with the work.

A separate but related issue is the wells located south of Third Street also installed on behalf of the Mead Clark Lumber Company. These wells must also be sampled. An unresolved issue remains in this area regarding contaminant characterization and responsibility. Total petroleum hydrocarbons as diesel were reported in groundwater in the vicinity of the former railroad underground storage tanks at 14,000 and 6,500 ug/l during the Industrial Compliance phase of work in 1992. Total petroleum hydrocarbons as diesel were not reported during a later phase of work completed by Geomatrix. Total petroleum hydrocarbons as gasoline were detected.

On March 13, 1998, Regional Water Board staff concurred with the Union Pacific proposal to conduct a coordinated sampling event with the consultant for the Mead Clark investigation to

resolve this matter. However, the joint sampling event was not conducted and the issue of diesel verses gasoline has not and must be resolved.

Please take the necessary steps to conduct the coordinated sampling event. Splits samples must be collected from wells GW-26A, GW-35, GW-22 and GW-29 and analyzed by different analytical laboratories. Well GW-29 was installed as an extraction well and is screened across two permeable water-bearing zones. Therefore, standard purge methods may not be appropriate for this well for characterization of the shallow water-bearing zone. In addition, MW-1, installed by North Coast Regional Water Quality Control Board (MW-1) should also be sampled.

The analytical report is due within 60 days of issuance of this letter. Please contact me in advance of the scheduled sampling event so I can conduct a site inspection during field activities and provide you with the key to MW-1.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

032905_JEF_Meadclarkwells

Cc: Fire Inspector Andrea Jensen, Santa Rosa Fire Department
Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Ms. Norma Jellison, Golden Gate Bridge Highway & Transportation District, 1011 Anderson Drive, San Rafael, CA 94901-5381
Mr. Brian Wingard, Winzler & Kelly, 495 Tesconi Circle, Santa Rosa, CA 95401-4696

SOUTHERN PACIFIC
TRANSPORTATION COMPANY
3RD STREET

From: Lynda Jacobsen
To: RB1-All Staff
Date: 1/28/05 9:03AM
Subject: New mailing address for Sonoma-Marin Area Rail Transit (SMART)

Sonoma Marin Area Rail Transit (SMART)
4040 Civic Center Drive, Suite 200
San Rafael, CA 94903
(415) 492-2857

From: Joan Fleck
To: Jellison, Norma
Date: 2/18/05 2:25PM
Subject: Re: FW: House keeping Item at SR Phased Closing parcel

I will talk to the consultant for Mead Clark Lumber Company regarding the abandonment of the wells north of Third Street.

>>> Norma Jellison <NJellison@goldengate.org> 02/17/05 12:22PM >>>
FYI

-----Original Message-----
From: MJGRANT@up.com [mailto:MJGRANT@up.com]
Sent: Wednesday, February 16, 2005 6:29 PM
To: Norma Jellison
Subject: Re: House keeping Item at SR Phased Closing parcel

Norma - UP is OK with the removal by Meade. They will need to permit the work and it will be inspected for compliance. I would not generally provide oversight of an abandonment.

Michael J. Grant
Union Pacific Railroad Company
49 Stevenson Street, Suite 1050
San Francisco CA 94105

415-541-7021 Office
415-254-0426 Mobile
415-254-0426 Instant Text Messaging @ www.nextel.com
415-541-7017 Fax
888-877-7267 24-Hour RR Emergency

Norma Jellison <NJellison@golden gate.org> 02/15/2005 06:31 PM

To: "Mike Grant (mjgrant@up.com)" <mjgrant@up.com>
cc: 'Joan Fleck' <JFleck@waterboards.ca.gov>
Subject: House keeping Item at SR Phased Closing parcel

Mike - In going over issues precedent to moving to close the Santa Rosa Phased Closing Parcel, one matter came to light. There are 2 wells that Meade Clark installed on the parcel, without approvals (UP or NWPRA) and without a License or Right of Entry Permit. They have not been monitored for some time/years, and I am told were previously ND. I believe these GWM wells should be abandoned and removed. It is probably a good idea to get this underway and completed, if possible, before Close of Escrow. I spoke to Joan Fleck, and she will, I believe, facilitate movement on the matter, although as current owner, UP should probably "monitor" their removal.

Norma

CC: MJGRANT@up.com

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Alan C. Lloyd, Ph.D.
Agency Secretary

http://www.waterboards.ca.gov/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

January 19, 2005

Mr. Mike Grant
Union Pacific Railroad
Manager, Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: Case Status – No Further Action For Soil Remediation
File: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1TSR196

Thank you for the September 9, 2004 submittal documenting the transport and disposal of excavated soil at the Altamont Landfill in Livermore, California. The disposal documentation completes our records for soil removal and disposal. Therefore, no further corrective action is required regarding soil remediation.

As you know, this case is now in the groundwater verification-monitoring phase, which is conducted to evaluate the effectiveness of the soil/product removal activities. According to the October 21, 2004 Third Quarter 2004 Groundwater Monitoring Report prepared by Kennedy/Jenks Consultants, the results are generally favorable; petroleum hydrocarbons in the diesel/motor oil range were detected in only one of seven groundwater monitoring wells installed in and down gradient of the discharge locations. Groundwater testing must continue quarterly through a normal hydrologic cycle.

We understand that property title may change in the near future followed by property development. The property is suitable for development at this time.

If you have any questions please call Joan Fleck of my staff at (707) 576-2675.

Sincerely,

for Catherine E. Kuhlman
Executive Officer

JEF:clh/011905_JEF_UPRR

Cc: Fire Inspector Andrea Jensen, Santa Rosa Fire Department

Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107

Ms. Sheryl Bratton, Chief Deputy County Counsel, 575 Administration Drive, Room 105A, Santa Rosa, CA 95403

Ms. Norma Jellison, 1011 Andersen Drive, San Rafael, CA 94901-5381

Ms. Lillian Hames, SMART, 520 Mendocino Avenue, Suite 240, Santa Rosa, CA 95401

Mr. John Mackie, Carle, Mackie, Power & Ross, LLP, 100 B Street, Suite 400, Santa Rosa, CA 95401

Mr. Jeffrey Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402-1678

Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404

Mr. Gerald J. Ramiza, 1999 Harrison Street, Suite 1300, Oakland, CA 94612

Ms. Susan McCue, City of Santa Rosa, P.O. Box 1678, Santa Rosa, CA 95402-1678

Ms. Laura Whiting, Project Director, Sonoma County Food and Wine Center, 131-A Stony Circle, #500, Santa Rosa, CA 95401

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: October 27, 2004

From: JEF

Subject: Southern Pacific Transportation Company, Third Street

On this day at 10:00 a.m. the persons on the attached list met to discuss this case. Norma Jellison requested the meeting.

Norma thanked everyone for attending and indicated that the purpose of the meeting was to find out 1) what kind of letter they can get from the Regional Water Board to allow for property transfer and 2) the Water Board's opinion on the status of the case.

I asked if the property transfer agreement between SMART and Union Pacific had changed to allow for something lesser than a No Further Action Letter. Norma said no. She asked if we could issue a no further action letter for soil with a contingency that any remaining soil issues could be addressed in a soil management plan. I said yes.

Mike asked Norma who would prepare the soil management plan. She thought that was a property development issue and could be taken care of by the developer. Mike indicated that he has ~~been~~ had this experience and it is not a complex document. They agreed to work out issues about who would be called if something was encountered etc. I suggested that they contact SRFD for recommendations; for example, a contractor that is not haz mat certified would not be able to remove impacted soil if there was an encounter.

Norma asked if a 30-day public notice period was required for the issuance of a soil no further action letter. I said no. We will complete a 30-day public notice at the time of case closure consideration.

We agreed that SRMW-10 would probably need to be removed to allow for development and would not need to be replaced. The new wells along the western property line are fine where they are. Also, SRMW-07 and SRMW-08 do not need analytical testing any more. Kennedy/Jenks will continue to use the wells for groundwater elevations.

I agreed to draft the letter and send it to them for review via e-mail.

SHERYL L. BRATTON
CHIEF DEPUTY COUNTY COUNSEL
COUNTY OF SONOMA

575 ADMINISTRATION DR., RM. 105A
SANTA ROSA, CA 95403

(707) 565-2421
FAX (707) 565-2624
EMAIL: sbratton@sonoma-county.org

NAME	WITH	PHONE
JOAN FLECIC	NCRWQCB	707 576-2675
Mjgrant@up.com Mike Grant	Union Pacific RR	415-541-7021
laurakennedy@kennedyjenks.com Laura Kennedy	Kennedy/Jenks	415-243-2405
sbratton@sonoma-county.org Sheryl Bratton	County Counsel (SMART)	707-565-2421
NORMA JELLISON	njellison@goldengate.org SMART	415 257 4554
Lelia Hames	SMART	415.492-2857

HHames@sonomamarintrain.org

MARGO M. RAMIREZ
LEGAL SECRETARY
DIRECT DIAL 415 995 5141
REPLY TO SAN FRANCISCO
E-MAIL mramirez@hansonbridgett.com

RWQCB
REGION 1

AUG 1 2 2004

☐ CK ☐ FCR ☑ DJE → JEF
☐ RLT ☑ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL

JEF
9/3/04

HANSON BRIDGETT
MARCUS VLAHOS RUDY-LLP

August 6, 2004

Ms. Joan Fleck
Engineering Geologist
California Regional Water Quality Control Board, North Coast Region
5550 Skyland Blvd., Suite A
Santa Rosa, CA 95403

Re: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1TSR196

Dear Ms. Fleck:

With respect to the above-referenced project please forward copies of all notices to Rory J. Campbell, and remove Leah S. Goldberg from your list.

Please feel free to call me if you have any questions.

Thank you.

Sincerely,

Margo Ramirez

Margo M. Ramirez

RWQCB
REGION 1

JUN 2 8 2004

☐ CK ☐ FCR ☐ DSE-JEP
☐ RLT ☒ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL 6/30/04 SP

Kennedy/Jenks Consultants
622 Folsom Street
San Francisco, CA 94107-1305
415-243-2150
415-896-0999 (Fax)
www.KennedyJenks.com

Transmittal

TO: Joan Fleck
Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

FROM: Laura J. Kennedy
DATE: 24 June 2004
K/J #: 032777.14
SUBJECT: Water Sampling Protocol for Santa Rosa Station

VIA: ☒ Mail ☐ Overnight ☐ Courier ☐ Fax _____ pgs. (inc. cover)

PLEASE FIND ENCLOSED:

Copies	Date	No.	Description
1			Water Sampling Protocol from TRC Customer-Focused Solutions, Inc.

THESE ARE SUBMITTED AS CHECKED BELOW:

☒ As requested
☐ For information and coordination
☐ Return material when review complete
☐ Return after loan to us
☐ For approval by: _____ Return to:
☐ For review and comment by: _____ Return to: _____
☐ Other: _____

REMARKS: Joan,

As you requested, please find enclosed the water sampling protocol that will be used by TRC Customer-Focused Solutions, Inc. (TRC) when collecting the groundwater samples from the additional monitoring wells proposed in the *Groundwater Well Installation and Monitoring Work Plan, Santa Rosa Station* (Work Plan). The Work Plan was submitted to the North Coast Regional Water Quality Control Board on 10 June 2004.

Please let me know whether you need anything else. When the Work Plan is approved, we will proceed with the monitoring well installations.

Laura

Signed: Laura J Kennedy

Copies to: FILE

Water Sampling Protocol

Decontamination Procedures:

-Equipment to be deconed. is submerged and scrubbed in a tap water and Liquinox solution of no less than 1 and 1/4 oz. per gallon
- Equipment is then rinsed thoroughly in tap water
-Equipment is rinsed again in deionized water
- Then Equipment is dried with paper towels

Monitoring Procedures:

-Latex gloves are worn at all times during monitoring, and changed between every well
-All wells are monitored using an interface probe and gauging paste before any well is purged or sampled
-Unocal, Chevron, Texaco, and non-program wells are monitored to TOC unless otherwise specified
-Mobil wells are monitored to grade unless otherwise specified
-When monitoring to TOC, always use surveyors mark
- Decon. procedures are to be followed between every well
-Well cap is always left on top of a paper towel, not on the ground

Calculations:

-Purge volumes are obtained by subtracting the water level from the total depth which gives you the water column.The water column is then multiplied by .16 for 2 in. wells, .37 for 3 in. wells, .65 for 4 in. wells, and 1.47 for 6 in. wells.This gives you one well volume. You then multiply the well volume by 3 to get a standard purge volume. .04 linear
-80% recharge levels are obtained by multiplying the water column by 0.8, then subtracting that number from the total depth of the well.

Purging Procedures:

-Latex gloves are worn at all times during purging, and changed between every well
-Appropriate pump with check valve is lowered until the top of the water column.
-Well is purged from the top down until a minimum of three well volumes is obtained.
-Temperature, pH, and specific conductance are measured after each casing volume has been removed. Parameters must not vary more than 10% from previous readings for purging to be complete. Otherwise continue purging another well volume.
-Groundwater is either pumped into a licensed vacuum truck, into DOT approved drums and temporarily stored on site, or pumped into the holding tank.

Sampling Procedures:

-Latex gloves are worn at all times during sampling
-Samples for lab analysis are collected when 80% of the water column is obtained. or after 2 hours.
-Samples are collected by lowering a 1.5 in. dia. disposable bailer just below the static water level in the well. Use a new bailer and fishing line with each well.
-The water is then transferred from the bailer to the appropriate container with minimal aeration and spilling.
-Each container is filled to zero head space.
-Each container is labeled with the site number, well number, sample date, and samplers initials. Then put directly on ice.

Paperwork:

-Paperwork is completed before leaving the site
-Tech is to QA/QC all paperwork and COC's
-Samples are then checked off individually into the holding fridge
-Paperwork is then turned in no later than the following morning to the supervisor
-Supervisor performs final QA/QC and forwards data to the program report group

Client :

Mobil:

-Wells are monitored, purged, and sampled
-Trace wells are monitored only, unless otherwise instructed by Project Manager.
-Product wells are monitored only.
-Dissolved oxygen is measured if specified on the Service Request Form.
-ORC wells are monitored, the ORC is then pulled and the well is purged prior to sampling.

6. For new wells or wells brought into monitoring for the first time, the first round of groundwater sampling performed at a site shall be with both non-purged and purged samples. The purging and sampling method used shall be documented. This shall include the rate of purge and sampling details. For these wells we require measurements of dissolved oxygen, specific conductance, pH, and temperature whether purged or not purged. Also, if biodegradation is being tracked at the well, our requirements do not preclude the measurement of other parameters.

7. Existing wells which have already been routinely purged in previous sampling events immediate to being switched to a non-purging mode do not require an initial duplicate non-purged and purged sample.

8. Monitoring data frequency shall be as required by the appropriate regulatory oversight agency.

9. Should site closure be requested where the non-purged approach has been used, the final confirmation sampling event shall include both non-purged and purged samples from each well or as agreed upon with the appropriate regulatory oversight agency.

PURGE METHOD:

Groundwater monitoring wells that do not qualify for the 'non-purge' method are purged and sampled in accordance with standard regulatory protocol. Typically, monitoring wells that contain no liquid-phase hydrocarbons are purged of groundwater prior to sampling so that fluids sampled are representative of fluids within the formation. Temperature, pH, and specific conductance are typically measured after each well casing volume has been removed. Purging is considered complete when these parameters vary less than 10% from the previous readings, or when four casing volumes of fluid have been removed. Samples are collected without further purging if the well does not recharge within 2 hours to 80% of its volume before purging.

The purged water is either pumped directly into a licensed vacuum truck or temporarily stored in labeled drums prior to transport to an appropriate treatment or recycling facility. If an automatic recovery system (ARS) is operating at the site, purged water may be pumped into the ARS for treatment.

Groundwater samples are collected by lowering a 1.5-inch-diameter, bottom-fill, disposable polyethylene bailer just below the static water level in the well. The samples are carefully transferred from the check-valve-equipped bailer to 1-liter and 40-milliliter glass containers. The sample containers are filled to zero headspace and fitted with Teflon-sealed caps. Each sample is labeled with the project number, well number, sample date, and sampler's initials. Samples remain chilled at approximately 4°C prior to analysis by a state-certified laboratory.

WELL PURGING AND GROUNDWATER SAMPLING PROTOCOL

FLUID-LEVEL MONITORING

Fluid-levels are monitored in the wells using an electronic interface probe with conductance sensors. The presence of liquid-phase hydrocarbons is verified using a hydrocarbon-reactive paste. The depth to liquid-phase hydrocarbons and water is measured to the nearest 0.01 foot relative to the well box top or top of casing. Well box or casing elevations are surveyed to within 0.02 foot relative to a county or city bench mark.

GROUNDWATER SAMPLING

Currently, 'pre-purge' and 'non-purge' methods of sampling both comply with regulatory standards.

NON-PURGE METHOD:

Alton Geoscience utilizes the 'non-purge' method of sampling for all qualifying groundwater monitoring wells. Groundwater samples are collected by lowering a 1.5-inch-diameter, bottom-fill, disposable polyethylene bailer just below the static water level in the well. The samples are carefully transferred from the check-valve-equipped bailer to 1-liter and 40-milliliter glass containers. The sample containers are filled to zero headspace and fitted with Teflon-sealed caps. Each sample is labeled with the project number, well number, sample date, and sampler's initials. Samples remain chilled at approximately 4°C prior to analysis by a state-certified laboratory.

The following criteria necessary for a well to qualify for 'non-purge' sampling are taken from a letter issued by San Francisco Bay Regional Water Quality Control Board on January 31, 1997:

1. The non-purging approach shall be used only for monitoring wells where groundwater has been impacted by petroleum hydrocarbons, BTEX, and MTBE.

2. Non-purge sampling shall be utilized for unconfined aquifers only.

3. The monitoring well shall be properly permitted, constructed (in this case, screened across the water table), and developed.

4. The well is presently in use for groundwater or soil vapor extraction.

5. The well does not contain free product.

Sampling Notes

Monitoring Check-List:

- ☐ Quarterly Maps
- ☐ Calculator
- ☐ Tech. Reports (last quarter's and this quarter's)
- ☐ Forms
  1. Fluid Measurement Field Form
  2. Groundwater Sampling Field Notes
  3. Mobil Unit Cost Field Form
  4. Monitoring Check Sheet
- ☐ Labels for Samples
- ☐ Sample Cases
- ☐ Safety vest, hardhat, glasses
- ☐ Fishing line
- ☐ Bailers
- ☐ Cooler w/ice
- ☐ Big zip-lock bags
- ☐ Traffic Controls
  1. Cones
  2. Signs
- ☐ Decon buckets
- ☐ D.I. water
- ☐ Well box repair kit
- ☐ Gloves
- ☐ Tools

Equipment

- ☐ Hydac (bring two if possible)

  1.Calibration: Make sure there are bubbles in the pH meter.
  Add pH seven solution to "cup", if reading is off adjust "zero".
  Add pH four solution to "cup", if reading is off adjust slope
  Add pH ten solution to "cup", if reading is off adjust slope.
  Make sure conductivity switch is X1000
  Add conductivity solution to "cup", if reading is off, pull off black knob and make adjustment inside with screwdriver.

  2. Put sample is "cup" and insert pH wand.
  3. Set switch to "temp." and hit read button. Then set knobs to proper temp.
  4. Take conductivity (make sure knob is "X1,000)
  5. Then take pH level.

- D.O. Meter
  1. Calibration: Hit arrows at same time to set altitude.
     Make sure in mg/L mode.
  2. Measure from in the well is possible. (If not measure from a cup)
  3. Wait till levels bottom out and use lowest reading.
  4. Decon after use.

Well Monitoring and Sampling

- Battle Plan
  1. Monitor and sample from lowest concentration to highest concentration. Mark order on Fluid Measurement Field form.
  2. Set up Decon. Fill one green bucket with water, one with soap and water
  3. Get out tools: sockets (3/4, 9/16, 15/16), allen head wrenches, needle nose pliers, screwdriver.
  4. Make sure labels are filled out.
- Monitoring
  1. Test water depth. (test using red button on side)
  2. Measure from surveyor's mark (black notch on side). If no surveyor's mark measure from true north.
  3. If water level is above screen interval, then must perform a purge.
     Ex: screen interval 20-36 ft. Water level 18.94 ft.
     1.06ft of stagnate water.
  4. If purge is not required take D.O., pull samples, and take Hydac.
- Purging (all wells must be monitored before purging)
  1. Take water depth reading.
  2. Take total depth reading of well (probe will bottom out).
  3. Mark well size (2inch, 4inch, & 6inch)
     Multipliers: 2inch: 0.17
     4inch: 0.67
     6inch: 1.5
  4. Calculations:
     Water column (feet) = Total Depth – Depth to Water
     1 Well Volume (gallons) = Water column X Multiplier (well size)
     80% Recharge depth = Total Depth – 80% of water column
  5. Must purge 3 well volumes
  6. Make sure pump and line are clean, then lower into well
  7. One end of beige hose goes into purge water tank other connects to pump unit
  8. Plug yellow extension cord into pump unit and control box
  9. Outlet of beige hose leans off side of truck
  10. Plug control box into generator
  11. Start generator: Push, knob under to rear of generator, away from you and hit start
  12. Turn control box on and set at 300 hertz for 5 gal./min., 150 hertz for 2.5 gal./min.
  13. Take three hydacs over course of purge
  14. Use Ground Water Sampling Field notes

15. To shut off turn control box off first then hit off on generator
16. Pull pump out and decon.
17. Wait till well is 80% recharged (Put depth meter at proper depth and tighten, alarm will go off when water hits that level)

- Samples
  1. Get containers out (Voas, Ambers, etc.)
  2. Get bailer and fishing string.
  3. Tie bailer off with string tight.
  4. Bob bailer up and down when hits water.
  5. Empty bailer into Voas (and hydac if no purge)
  6. Make sure no air in Voas
  7. Put samples in cooler.
  8. Note if you could smell product or if it was cloudy or clean

Terry Tamminen
Secretary for
Environmental
Protection

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold
Schwarzenegger
Governor

July 22, 2004

Mr. Mike Grant
Union Pacific Railroad
Manager, Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: June 10, 2004 Groundwater Well Installation and Monitoring Work Plan

File: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1TSR196

Regional Water Board staff have reviewed the June 10, 2004 *Groundwater Well Installation and Monitoring Work Plan, Santa Rosa Station* prepared by Kennedy/Jenks Consultants and the Water Sampling Protocol for TRC Customer-Focused Solutions (submitted on June 28, 2004) for the Southern Pacific Transportation Company, Third Street Property (Site) in Santa Rosa. The proposed scope of work is acceptable and we look forward work plan implementation.

For your information, filtering and reanalyzing samples with TPHd or TPHmo detections may be conducted at your discretion. Regional Board staff will not be using the data.

By copy of this letter, I have notified Sonoma County Environmental Health Services to enable the processing of monitoring well installation permits.

If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Engineering Geologist

JEF:js/072204_UnionPacific

cc: Ms. Andrea Jensen, Santa Rosa Fire Department
Ms. Laura Kennedy, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Ms. Leah S. Goldberg, Hanson Bridgett Vlahos & Rudy, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Ms. Norma Jellison, Golden Gate Bridge Highway & Transportation District, 1011 Andersen Drive, San Rafael, CA 94901-5381
Ms. Laura Whiting, Project Director, Sonoma County Food and Wine Center, 131-A Stony Circle, #500, Santa Rosa, CA 95401
Mr. John Mackie, Carle, Mackie, Power & Ross, LLP, 100 B Street, Suite 400, Santa Rosa, CA 95401
Ms. Lilian Hames, SMART, 520 Mendocino Avenue, Suite 240, Santa Rosa, CA 95401
Mr. Stephen Burke, P.O. Box 1806, Santa Rosa, CA 95402-1806
Mr. Wally Lowry, 5209 Honor Oak Court, Santa Rosa, CA 95405-7460
Mr. Jeffrey Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402-1678
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Gerald J. Ramiza, 1999 Harrison Street, Suite 1300, Oakland, CA 94612
Ms. Susan McCue, City of Santa Rosa, P.O. Box 1678, Santa Rosa, CA 95402-1678

F

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Terry Tamminen
Secretary for Environmental Protection

http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

Arnold Schwarzenegger
Governor

June 17, 2004

Mr. Mike Grant
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: ANNUAL ESTIMATION LETTER

File: Southern Pacific Railroad Transportation Company, 3rd Street, Santa Rosa, Case No. 1TSR196 (04-6200)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Board staff estimate that the following work will be performed during fiscal year 2004/2005 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Review reports, and any needed plan to complete investigation of the vertical and horizontal extent of groundwater contamination;
- Review revised remedial corrective action plan, if necessary;
- Review interim remedial corrective action plan, if necessary;
- Draft and implement public participation plan;
- Begin public participation process on final remedial action plan;
- Review risk assessment report(s);
- Initiate public participation on risk assessment findings and remedial corrective action plan;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific Railroad and other responsible third parties;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and reports;
- Complete initial public participation documents;
- Identify and fill data gaps needed to develop final remedial corrective action plan;
- Implement preferred remedial alternative;
- Ensure compliance with California Environmental Quality Act;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $90.00 per hour.

ESTIMATE OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 40 hours of work related to this site during fiscal year 2004/2005 (July 1, 2004 through June 30, 2005). Based on the average billing rate of $90 per hour, the estimated billing charge for this site during fiscal year 2004/2005 is about $3,600.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

JEF:js/061704_UPRR

Enclosure: Billing Rates Description

cc: Mike Harper, SWRCB, Division of Clean Water Programs 04-6200
Nancy Negley, NCRWQCB

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUPS (SLIC) PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification[1]	ABR.	SALARY SCALE
Student Assistant	SA	1594 - 2123
Student Assistant Engrng.	SAE	2085 - 3120
Office Assistant	OA	2160 - 2884
Office Technician	OT	2748 - 3341
Environmental Scientist	ES	3204 - 5946
Sanitary Engineering Technician	SET	3557 - 4962
Engineering Geologist	EG	3830 - 5324
Water Resources Control Engineer	WRCE	3830 - 6590
Associate Governmental Program Analyst	AGPA	4581 - 5568
Sanitary Engineering Associate	SEA	5165 - 6276
Associate Engineering Geologist	AEG	5169 - 6283
Staff Environmental Scientist	SES	5670 - 6846
Senior Environmental Scientist	SRES	5675 - 6849
Senior Water Resources Control Engineer	SWRCE	5952 - 7232
Senior Engineering Geologist	SEG	5952 - 7232
Supervising Water Resources Control Eng.,	SUWRCE	7224 - 7968
Principal Water Resources Control Eng.,	PWRCE	7940 - 8756

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	20% of salaries and benefits

Billing Example

Water Resources Control Engineer		
Salary:	$	6,590
Overhead:	$	6,590
Admin.: State Board	$	988
Regional Board	$	1,318
Total Cost per month	$	15,486

Divided by 176 hours per month equals per hour: $ 87.99
(Due to the various classifications that expend SLIC resources, an average of $ 90.00 per hour can be used for projection purposes.)

---

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

Kennedy/Jenks Consultants

Engineers & Scientists

622 Folsom Street
San Francisco, California 94107
415-243-2150
FAX 415-896-0999

10 June 2004

RWQCB
REGION 1
JUN 14 2004
CK
RLT
NPO
FCR
LGR
RSG
KAD
DSE TJE F
6/16/04

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Groundwater Well Installation and Monitoring Work Plan
Santa Rosa Station, Santa Rosa, California
K/J 032777.14

Dear Ms. Fleck:

The enclosed Groundwater Well Installation and Monitoring Work Plan (Work Plan) is submitted by Kennedy/Jenks Consultants on behalf of Union Pacific Railroad Company and Sonoma-Marin Area Rail Transit. The Work Plan describes the proposed groundwater monitoring well installation at the Santa Rosa Station (Site). The proposed groundwater monitoring wells will be used to evaluate if the source area removal actions and excavating below groundwater have impacted groundwater at the Site.

If you have any questions regarding this Work Plan, please call Laura Kennedy at (415) 243-2405 or Michael McLeod at (415) 243-2508.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Michael L. McLeod
Project Geologist

Laura Kennedy
Project Manager

Enclosure

cc: Mr. Michael Grant, Union Pacific Railroad Company
Ms. Norma Jellison, Sonoma-Marin Area Rail Transit
Mr. Lance Shoemaker, Hanson Bridgett

Kennedy/Jenks Consultants

622 Folsom Street
San Francisco, CA 94107-1305
415-243-2150
415-896-0999 (Fax)
www.kennedyjenks.com

Fax Transmittal

TO: Joan Fleck
North Coast Regional Water Quality
Control Board

FROM: Laura J. Kennedy
DATE: 27 May 2004
K/J JOB #: 032777.14
SUBJECT: Santa Rosa Station

Telephone: (707) 576-2675
Fax: (707) 523-0135

Total Number Of Pages (including this cover) 2

REMARKS: Joan,

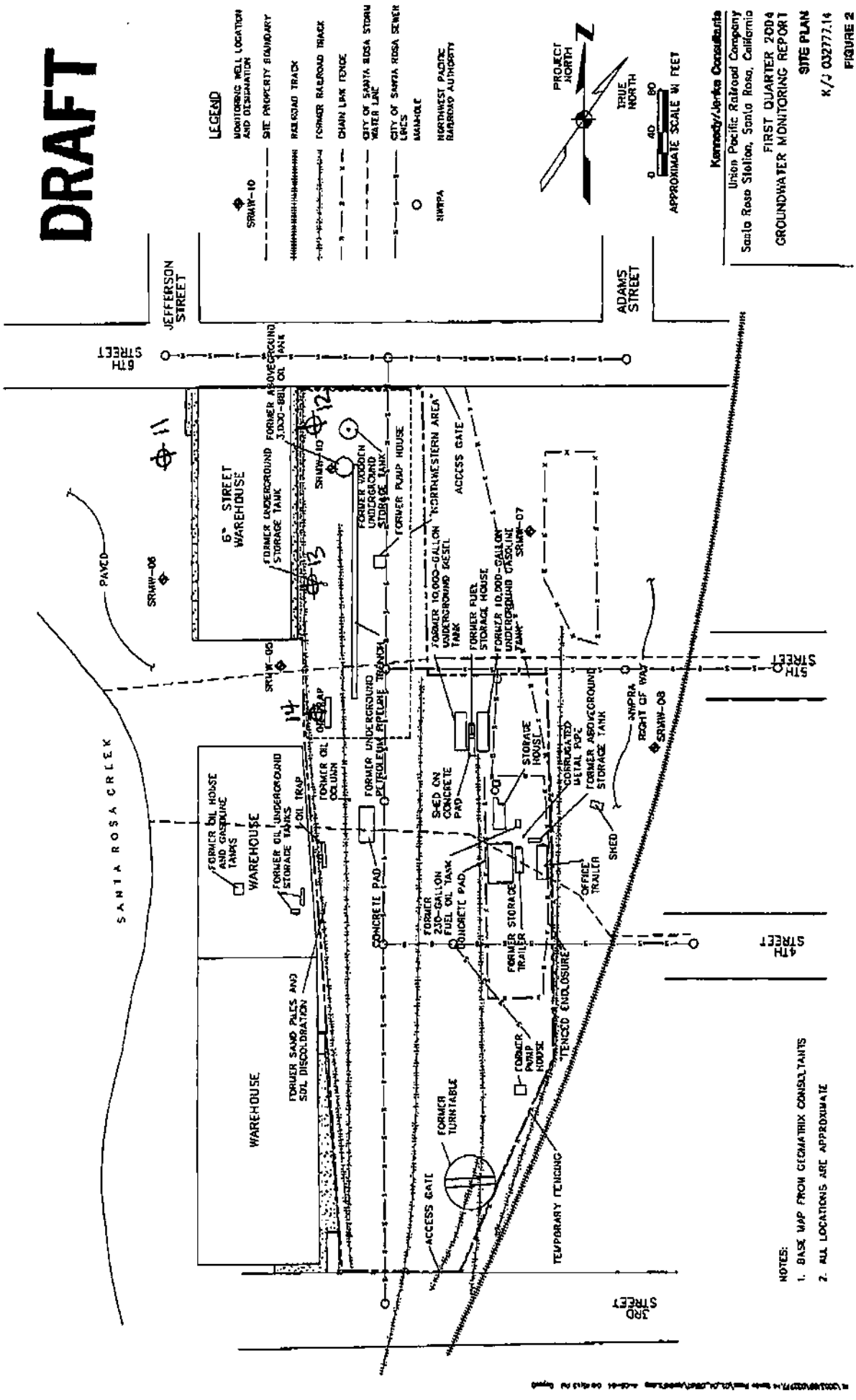
A draft figure showing the proposed locations of the new groundwater monitoring wells is enclosed (these locations are contingent on utility clearance and access). Please review and give me a call back at (415) 243-2405 to discuss at your convenience.

- Laura

5/28/04
I LEFT A MESSAGE WITH LAURA KENNEDY GENERAL WELL LOCATIONS ARE GOOD. JF

Signed: Laura J Kennedy

[KJC© 2004]


DRAFT
LEGEND
MONITORING WELL LOCATION AND DESIGNATION
SRMW-10
SITE PROPERTY BOUNDARY
RAILROAD TRACK
FORMER RAILROAD TRACK
CHAIN LINK FENCE
CITY OF SANTA ROSA STORM WATER LINE
CITY OF SANTA ROSA SEWER LINES
MANHOLE
NWPRA
NORTHWEST PACIFIC RAILROAD AUTHORITY
PROJECT NORTH
TRUE NORTH
APPROXIMATE SCALE IN FEET
Kennedy/Jenks Consultants
Union Pacific Railroad Company
Santa Rosa Station, Santa Rosa, California
FIRST QUARTER 2004
GROUNDWATER MONITORING REPORT
SITE PLAN
K/J 032777.14
FIGURE 2
JEFFERSON STREET
ADAMS STREET
6TH STREET
5TH STREET
4TH STREET
3RD STREET
SANTA ROSA CREEK
PAVED
6th STREET WAREHOUSE
FORMER UNDERGROUND STORAGE TANK
FORMER ABOVEGROUND OIL TANK
FORMER WOODEN UNDERGROUND STORAGE TANK
FORMER PUMP HOUSE
ACCESS GATE
NORTHWESTERN AREA
FORMER 10,000-GALLON UNDERGROUND DIESEL TANK
FORMER FUEL STORAGE HOUSE
FORMER 10,000-GALLON UNDERGROUND GASOLINE TANK
FORMER OIL HOUSE AND GASOLINE TANKS
WAREHOUSE
FORMER OIL UNDERGROUND STORAGE TANKS
OIL TRAP
FORMER OIL CULVERT
FORMER UNDERGROUND PETROLEUM PIPELINE TRENCH
SHED ON CONCRETE PAD
STORAGE HOUSE
CORRUGATED METAL PIPE
FORMER ABOVEGROUND STORAGE TANK
NWPRA RIGHT OF WAY
SHED
CONCRETE PAD
FORMER 250-GALLON FUEL OIL TANK
CONCRETE PAD
FORMER STORAGE TRAILER
OFFICE TRAILER
FORMER SAND PILES AND SOIL DISCOLORATION
FORMER TURNTABLE
FORMER PUMP HOUSE
FENCED ENCLOSURE
ACCESS GATE
TEMPORARY FENCING
SRMW-05
SRMW-06
SRMW-07
SRMW-08
SRMW-10
NOTES:
1. BASE MAP FROM GEOMATRIX CONSULTANTS
2. ALL LOCATIONS ARE APPROXIMATE

Terry Tamminen
Secretary for Environmental Protection

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

Arnold Schwarzenegger
Governor

FAX COVER

To: NORMA JELLISON

Fax: (415) 257-4516

Page: 3
Including the Cover Sheet

From: JOAN FLECK

Phone: (707) 576-2675

Date: May 14, 2004

Comment:

HERE YOU GO. HAVE A WONDERFUL WEEKEND

FAXED 5/14/04 LETTER TO UNION PACIFIC

Terry Tamminen
Secretary for Environmental Protection

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Arnold Schwarzenegger
Governor

May 14, 2004

Mr. Mike Grant
Union Pacific Railroad
Manager, Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: Source Area Removal Report

File: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1TSR196

Regional Water Board staff have reviewed the January 30, 2004 *Source Area Removal Report* prepared by Kennedy/Jenks Consultants for the Southern Pacific Transportation Company, Third Street Property (Site) in Santa Rosa. Regional Water Board staff comments include:

Source Removal

Kennedy/Jenks recommends that the remediation of site soils is complete and no further action to address impacts to soils is necessary or warranted. We concur that impacted soil was removed to the extent practicable associated with site remediation and source removal. Impacted soil remaining in place, including the soil in the vicinity of the power pole, can be removed during property development. A proposal to do so must be included in a soil management plan prepared as part of the grading/property development permit application process.

Documentation regarding proper disposal is required. We understand that soil disposal is currently underway.

We compliment Jim Curtis with Kennedy/Jenks and his crew for a job well done.

Groundwater

This case is now in the verification-monitoring phase to evaluate the effectiveness of the cleanup. To do so, a groundwater monitoring well network is necessary.

Kennedy/Jenks proposes the installation of two groundwater-monitoring wells located off-site to the west. We concur with the proposed locations to evaluate the down gradient extent of contamination.

Ground water quality information is also needed on-site and down gradient of the discharge locations to verify the effectiveness of the source removal activities. Separate phase hydrocarbons (oil) was present on groundwater in the vicinity of the wooden underground storage tank, the main pit area, and to a lesser extent, the GM area. Evidence of off-site migration at the property line was observed during source removal activities. Therefore, the work plan for the monitoring well installation must include on-site wells along the western portion of the property.

The work plan is due within 30 days of issuance of this letter. If you have any questions or would like to meet to discuss these comments and/or future property development issues, please call Joan Fleck at (707) 576-2675.

Sincerely,

David Evans

David Evans
Senior Water Resources Control Engineer

JEF:tab/unionpacific.doc

cc: Ms. Andrea Jensen, Santa Rosa Fire Department
Mr. Jim Curtis, Kennedy/Jenks, 622 Folsom Street, San Francisco, CA 94107
Ms. Leah S. Goldberg, Hanson Bridgett Vlahos & Rudy, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Ms. Norma Jellison, Golden Gate Bridge Highway & Transportation District, 1011 Andersen Drive, San Rafael, CA 94901-5381
Ms. Laura Whiting, Project Director, Sonoma County Food and Wine Center, 131-A Stony Circle, #500, Santa Rosa, CA 95401
Mr. John Mackie, Carle, Mackie, Power & Ross, LLP, 100 B Street, Suite 400, Santa Rosa, CA 95401
Ms. Lilian Hames, SMART, 520 Mendocino Avenue, Suite 240, Santa Rosa, CA 95401
Mr. Stephen Burke, P.O. Box 1806, Santa Rosa, CA 95402-1806
Mr. Wally Lowry, 5209 Honor Oak Court, Santa Rosa, CA 95405-7460
Mr. Jeffrey Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402-1678
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Mr. Gerald J. Ramiza, 1999 Harrison Street, Suite 1300, Oakland, CA 94612
Ms. Susan McCue, City of Santa Rosa, P.O. Box 1678, Santa Rosa, CA 95402-1678

SP TRANS. COMPANY

RWQCB
REGION 1

MAY 0 3 2004

☐ CK ☐ FCR ☐ JEF
☐ RLT ☐ LGR ☐ KAD
☐ NPO ☐ RSG ☐ EJL

JEF 5/6/04

CITY OF SANTA ROSA
FIRE DEPARTMENT
955 Sonoma Avenue
Santa Rosa, CA 95404
707-543-3500
Fax: 707-543-3520

April 28, 2004

Kennedy/Jenks Consultants
Mr. Jim Curtis, P.E.
3336 Bradshaw Rd, Suite 140
Sacramento CA 95827

RE: Union Pacific Railroad Source Area Removal Report
Santa Rosa Station, K/J 032777.14

Dear Mr. Curtis:

The City of Santa Rosa Fire Department received a copy of the Source Area Removal Report for the Union Pacific Railroad, Santa Rosa Station site located between Third and Sixth Streets, West of Wilson Street, in Santa Rosa, California, for review and/or approval. The source removal consisted of an underground storage tank (UST) removal and soil over-excavation during October and November of 2003.

Upon review of the final report, including sampling plan and analytical results, and with relation to Santa Rosa Fire Department permits for the UST removal and soil remediation, the following conclusions have been made:

1) Page 6, section 4.2, Fenced Enclosure – "the presence of an energized power pole located inside the Fenced Enclosure and just to the northeast of the trailer precluded sufficient excavation to remove TPHmo impacted soil from this immediate area."

   It has been concluded that soil remediation in the area of the energized power pole may be conducted during the development phase of the property when the power pole can safely be de-energized and adequate clearance can be provided.

2) It has been determined that all other identified locations with contaminated soil have been remediated to the City of Santa Rosa Fire Department's clean-up objectives of Non-Detect, to Background Levels, and/or to Extent Feasible.

3) No Further Action for soil remediation is required based on this work plan and under these permits. Additional soil remediation will be required as identified on Item 1 of this letter; however, additional work may not be limited to this area if additional contamination is discovered.

Coordinate with the Regional Water Quality Control Board to address groundwater contamination issues.

4) A soil and groundwater management plan must be submitted to the City of Santa Rosa Fire Department and the North Coast Regional Water Quality Control Board for review and approval prior to the commencement of site development.

5) Provide a final report for the soil and groundwater activities and the UST removal, including soil destination(s) and manifests sequence, to the City of Santa Rosa Fire Department.

I would like to thank you for your efforts during this remediation project. Please feel free to contact me at (707) 543-3542 if you have additional questions or concerns.

Sincerely,

Andrea P. Jensen

ANDREA P. JENSEN
Senior Fire Inspector

Cc: Joan Fleck, Regional Water Quality Control Board
Mark McCormick, City of Santa Rosa Fire Department
Mike Grant, Union Pacific Railroad
Norma Jellison, Golden Gate Bridge District
File

Kennedy/Jenks Consultants

Engineers & Scientists

3336 Bradshaw Road
Suite 140
Sacramento, CA 95827
916-362-3251
FAX 916-362-9915

RWQCB
REGION 1
FEB 02 2004
CK FCR JEF
RLT LGR KAD
NPO RSG EJL

30 January 2004

Ms. Joan Fleck
Engineering Geologist
North Coast Region
Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Source Area Removal Report
Santa Rosa Station
K/J 032777.14

Dear Ms. Fleck:

On behalf of the Union Pacific Railroad Company and the Northwestern Pacific Railroad Authority, Kennedy/Jenks Consultants is submitting the *Source Area Removal Report* (Report) for your review and comment. The Report documents the source area investigation and source area removal actions conducted at the Santa Rosa Station site in Santa Rosa in October and November 2003.

Please contact me at (916) 362-3251 if you have questions as you review the Report.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

Jim Curtis, P.E.
Program Director

Enclosure

cc: A. Jensen, Santa Rosa Fire Department
M. Grant, Union Pacific Railroad Company
N. Jellison, Golden Gate Bridge District
L. Goldberg, Esq., Hanson Bridgett
File 032777.14 / 6.01

RE[illegible]ONAL WATER QUALITY CON[illegible]OL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: ~~OCTOBER~~ NOVEMBER 3, 2003

From: JOHN

Subject: SP TRANSPORTATION COMPANY

ON AUGUST 12, 2003 LAURA KENNEDY CALLED TO DISCUSS THE SUBJECT CASE. I PROVIDED HER WITH THE REGION ONE CLEANUP APPROACH FOR HEAVY HYDROCARBON SITES INCLUDING SOURCE REMOVAL TO THE EXTENT PRACTICABLE.

WE MET ON AUGUST 14, 2003 (SEE MEETING MEMO).

I SPOKE WITH JIM CURTIS ON AUGUST 22, 2003. WE DISCUSSED THE PROS AND CONS OF SOIL REMOVAL TO THE WATER TABLE. HIS POSITION IS TO NOT DIG TO GROUNDWATER TO AVOID DISTURBING THE SOIL/WATER INTERFACE EQUILIBRIUM, WHICH COULD CAUSE DOWNGRADIENT DETECTIONS. I EXPRESSED OUR POSITION, WHICH IS SOURCE REMOVAL INCLUDING OIL ON WATER. HE PROPOSED TO DO THE PIPELINE/TANK AND SMALLER EXCAVATIONS FIRST.

ON SEPTEMBER 8, 2003, JIM CALLED — WORK PLAN ON ITS WAY. ON SEPTEMBER 16, 2003, LAURA KENNEDY CALLED. WE DISCUSSED THE WORKPLAN. SHE INDICATED NORMIT DELLESON NEEDED TO KNOW THE FIELD WORK SCHEDULE BECAUSE SHE WANTED TO LEASE THE PROPERTY OUT FOR A FUNCTION. I REVIEWED THE WORKPLAN AND CALLED HER BACK. MY COMMENTS INCLUDED:

Page 6, 4TH BULLET — NEED DRILLING PERMIT FROM SCEHS.
Page 7, 3RD PARAGRAPH — NEED TO DIG TO GROUNDWATER
Page 7, 5TH PARAGRAPH — SOIL TO REFUSE MUST BE SAMPLED ONE/20 CUBIC YARDS (DISCRETE SAMPLES)
Page 8, 2ND PARAGRAPH — WE REJECT 1,000 mg/kg CLEANUP LEVEL
Page 8, 3RD PARAGRAPH — PUMP GROUNDWATER AND PRODUCT
Page 9, SECTION 3.3 — NEED TO SCRAPE AND DO CLEANUP OF SURFACE SPILLS.
Page 10, 2ND PARAGRAPH — WE WON'T ACCEPT FILTERED WATER SAMPLES FOR TPH mo/TPH d.
Page 11, SAMPLES FROM FENCED ENCLOSURE MUST INCLUDE TPH g/BTEX
Page 12, Stockpiled soil MUST BE TESTED FOR PAHs, METALS

JIM (916) 362-3251 OFFICE
(916) 849-3253 CELL

RE[illegible]ONAL WATER QUALITY CON[illegible]OL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: NOVEMBER 3, 2003

From: JOHN

Subject: SP TRANS COMPANY (CONTINUED)

ON SEPTEMBER 23, 2003, JIM CURTIS CALLED. THEY (UNION PACIFIC) SWITCHED CONTRACTORS. HE WILL MEET NEW CONTRACTOR AT THE SITE ON THURSDAY THE 25TH.

JIM CURTIS AND I PLAYED PHONE TAG DURING THE LATER PART OF SEPTEMBER 2003, WE SPOKE AND AGREED I WOULD BE ON SITE WHEN THEY BEGAN WORK ON OCTOBER 13TH. HE AGREED TO DIG TO GROUNDWATER AND PURGE.
ON OCTOBER 3, 2003 LAURA KENNEDY CALLED AND REQUESTED ASSISTANCE WITH THE DRILLING PERMIT. I CALLED JOHN ANDERSON WITH SCETS TO ENABLE THE PROCESSING OF PERMITS.

ON OCTOBER 11, 2003 JIM LEFT ME A MESSAGE THAT THEY WOULD NOT BEGIN UNTIL THE 14TH.

Kennedy/Jenks Consultants
3336 Bradshaw Road, Suite 140
Sacramento, California 95827
916-362-3251; 916-362-9915 (Fax)

Transmittal

TO: Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

FROM: Juli Brady
DATE: 8 September 2003
K/J #: 032777.14
SUBJECT: Work Plan

VIA: ☐ Mail ☒ Overnight ☐ Courier ☐ Fax pgs. (inc. cover)

PLEASE FIND ENCLOSED:

Copies	Date	No.	Description
1	8 Sept. 2003	1	Limited Source Area Removal and Investigation Work Plan for Union Pacific Railroad – Santa Rosa Site

RWQCB
REGION 1
SEP - 9 2003
☐ CK ☐ FCR ☐ JEF
☐ RLT ☐ LGR ☐ KAD
☐ NPO ☐ RSG ☐ EJL

THESE ARE SUBMITTED AS CHECKED BELOW:

- ☐ As requested
- ☒ For information and coordination
- ☐ Return material when review complete
- ☐ Return after loan to us
- ☐ For approval by: Return to:
- ☐ For review and comment by: Return to:
- ☐ Other: _____

REMARKS: Ms. Fleck: On behalf of the Union Pacific Railroad Company, Kennedy/Jenks has enclosed the proposed 2003 Limited Source Area Removal and Investigation Work Plan for Union Pacific Railroad – Santa Rosa Site for your review. If you have any questions, please call Jim Curtis or me at the number above.

Signed: _____
Juli Brady
Staff Engineer

Copies to: Andrea P. Jensen – Santa Rosa Fire Department
Mike Grant – Union Pacific Railroad Company

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: August 22, 2003

From: JEF

Subject: Southern Pacific Transportation Company

On August 14, 2003 the persons on the attached list met to discuss the subject case. Mr. Mike Grant with Union Pacific requested the meeting.

Union Pacific changed consulting firms from Geomatrix to Kennedy/Jenks and the meeting was an opportunity to meet the Kennedy/Jenks staff people working on the case and discuss our regulatory requirements. A copy of the agenda is also attached.

We introduced ourselves.

We discussed soil cleanup goals. The Santa Rosa Fire Department goal is non-detect, however, recognizes that the property is a former fueling railroad yard and non-detect is not realistic. Their position is to remove impacted soil to the extent practicable.

Our position is soil cleanup must be protective of water quality by adequate source removal. In this case, there are circumstances that complicate the cleanup such as significantly impacted soil without any obvious signs of contamination and two areas were attempted to be defined by visual observations only. Union Pacific wanted a pre-agreed upon soil cleanup number.

We suggested a mobile lab for fast turn around field decisions based on visual observations, odors and the analytical results. Union Pacific's concern is, not knowing in advance what the size and cost of the excavation will be. They feel shoring is cost prohibitive They feel that the plume is stable and not a threat to water quality.

Andrea, with Santa Rosa Fire, and I emphasized that we cannot agree to a soil cleanup number or agree to eliminate shoring without seeing their plan. If they feel shoring is too costly they need to demonstrate to us the length of shoring actually needed. Perhaps they only need to shore in a limited area. If shoring is too costly, they need to submit a cost comparison of shoring verses leaving impacted in soil and the costs of additional long term cleanup and monitoring. Andrea pointed out that they might need the opinion of a structural engineer due to the age and construction of the adjacent buildings.

Mike Grant agreed to submit a revised plan. He was considering conducting the work in phases, as suggested by Luis Rivera.

14 August 2003

Meeting Agenda

To: Union Pacific Railroad Company
California Regional Water Quality Control Board
Golden Gate Bridge and Highway Transportation Department
Hanson Bridgett Vlahos & Rudy

From: Jim Curtis

Subject: Meeting Agenda

A meeting will be held at 10:00 a.m. on 15 August 2003 at the California Regional Water Quality Control Board's Santa Rosa office to discuss the Third Street Depot Property (Santa Rosa Station). The Regional Board's Santa Rosa office is located at 5550 Skylane Boulevard, Suite A, Santa Rosa, CA.

The meeting agenda is:

1. Introductions
2. Establish site soil cleanup criteria/goals
3. Site constraints
4. Post remedy construction issues
5. Other issues

8/15/03 10:

JOHN FLECK	NCRWQCB	576-2675
Andrea Jensen	SRFD	543-3542
Laura Kennedy	Kennedy/Jenks	415-243-2405
Jim Curtis	Kennedy/Jenks	916-362-3251
Mike Grant	UPRR	415-541-7021
NORMA JELLISON	NWPRA/GGBHTD	415 257 4564
Luis Rivera	NCRWQCB	707·570·3769
Leah Goldberg	Hanson Bridgett/NWPRA	415-995-5090

Kennedy/Jenks Consultants

Engineers & Scientists

622 Folsom Street
San Francisco, California 94107
415-243-2150
Direct Dial 415-243-2405
FAX 415-896-0999
LauraKennedy@KennedyJenks.com

Laura Kennedy
Project Scientist

Kennedy/Jenks Consultants

Engineers & Scientists

3336 Bradshaw Road, Suite 140
Sacramento, California 95827
916-362-3251
FAX 916-362-9915
JimCurtis@KennedyJenks.com

www.KennedyJenks.com

Jim Curtis, P.E.
Project Manager

UNION PACIFIC

Michael J. Grant
Manager Environmental Site Remediation
UNION PACIFIC RAILROAD
49 Stevenson Street, Ste. 1050, San Francisco, CA 94105
ph. (415) 541-7021 fx. (415) 541-7017
c. (415) 254-0426 pg. 1 (888) 731-3468
mjgrant@up.com

John C. Moe, P.E.
Program Director

Environmental Resources Management

1777 Botelho Drive, Suite 260
Walnut Creek, CA 94596
(925) 946-0455
(925) 946-9968 (fax)

Email: john.moe@erm.com

ERM

UNION PACIFIC RAILROAD COMPANY

M. J. Grant
Manager Environmental Site Remediation
mjgrant@up.com
415-541-7021 voice
888-731-3468 page

49 Stevenson Street, Suite 1050
San Francisco CA 94105

RWQCB
REGION 1

JUL 31 2003

☐ SAW ☐ FCR ☑ MJG
☐ RLT ☑ LGR ☐ KAD
☐ NPO ☐ RSG ☐ EJL

July 30, 2003

Ms. Joan Fleck
California Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa CA 95403

SUBJECT: **Third Street Depot Property**
Santa Rosa CA
Case No. 1TSR196

Dear Ms. Fleck:

This is in response to your July 2, 2003, letter regarding the subject property.

As we have briefly discussed, Union Pacific has changed consulting firms for this project. Geomatrix has been replaced with Kennedy/Jenks Consultants (KJC). This was a planned move as an element of an ongoing system-wide consultant consolidation process.

KJC is in the process of preparing a revised work plan but needs to solve several technical issues before they can complete it. The primary issue is establishing soil cleanup criteria/goals, particularly since the proposed numeric criteria have been rejected without a specific reason. I would like to meet with you at your earliest convenience to work-through the remaining issues so UP will be able to move this project to the implementation phase before the end of 2003. I also request that Luis Rivera attend the meeting.

Should you have any questions, please don't hesitate to give me a call at 415-541-7021.

Sincerely,

Michael J. Grant
Union Pacific Railroad Company

California Regional Water Quality Control Board

North Coast Region

William R. Massey, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

July 2, 2003

Mr. Mike Grant
Union Pacific Railroad
Manager Environmental Site Remediation
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: Proposed Action Plan

File: Southern Pacific Transportation Company, Third Street (north), Santa Rosa, Case No. 1TSR196

This letter serves as a written follow up of our June 10, 2003 on-site meeting at which time exploratory trenching was conducted in areas where petroleum hydrocarbon impact was previously reported. The findings included:

- The discovery of a large wooden underground storage tank in the vicinity of soil boring SRB-100.
- Significantly impacted soil in the vicinity of SRB-51.

On that day, you indicated that a revised site remediation plan was forthcoming. As you know, the wooden underground storage tank must be removed under permit and at the direction of the Santa Rosa Fire Department. You may contact Ms. Andrea Jensen at (707) 543-3542 regarding permit requirements.

In anticipation of the excavation project, I have enclosed a copy of the public notice for your use and information. The notice will be posted on the North Coast Regional Water Quality Control Board web page and will be made available at our front counter. We also require that you have the notice published one time as soon as possible in a local newspaper of general circulation and posted at the site at conspicuous locations. Please also provide us with proof of publication for our records.

As we discussed during our meeting held on March 25, 2003, we concur with the removal of impacted soil. However, we do not concur with the proposed soil cleanup goal of 1,060 parts per million (ppm) for TPHd and TPHmo. Soil cleanup goals are protective of water quality and must include adequate source removal to the extent practicable to address the areas of groundwater impact in the northwestern portion of the property. The verification-monitoring phase, with regards to sample locations and timing, is dependent upon the results of the cleanup.

The revised plan is due with 30 days of issuance of this letter. We expect this project to be completed in 2003. If you have any questions you may call me at (707) 576-2675.

Sincerely,

Joan Fleck
Engineering Geologist

JEF:js/UPRR_7-2-03

Enclosure: Public Notice

cc: Ms. Andrea Jensen, Santa Rosa Fire Department
Ms. Laura Whiting, Food and Wine Center, 131-A Stony Circle, #500, Santa Rosa, CA 95401
Mr. John Mackie, Carle, Mackie, Power & Ross, LLP, 100 B Street, Suite 400, Santa Rosa, CA 95401
Ms. Norma Jellisen, Real Estate Specialist, Golden Gate Bridge Highway and Transportation Department, 1011 Andersen Drive, San Rafael, CA 94901-5381
Ms. Lilian Hames, SMART, 520 Mendocino Avenue, Suite 240, Santa Rosa, CA 95401
Mr. Stephen Burke, P.O. Box 1806, Santa Rosa, CA 95402-1806
Mr. Wally Lowry, 5209 Honor Oak Court, Santa Rosa, CA 95405-7460
Mr. John Moe, ERM, 1777 Botelho Drive, Suite 260, Walnut Creek, CA 94596
Ms. Susan McCue, City of Santa Rosa, P.O. Box 1678, Santa Rosa, CA 95402-1678
Mr. Jeffrey Kolin, City Manager, P.O. Box 1678, Santa Rosa, CA 95402-1678
Ms. Cappie Garrett, 1104 McDonald Avenue, Santa Rosa, CA 95404
Ms. Leah Goldberg, Hanson Bridgett Vlahos & Rudy, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Ms. Susan Gallardo, Geomatrix, 2101 Webster Street, 12th Floor, Oakland, CA 94612
Mr. Gerald J. Ramiza, 1999 Harrison Street, Suite 1300, Oakland, CA 94612

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: www.swrcb.ca.gov."

California Environmental Protection Agency

Recycled Paper

July 2, 2003

Union Pacific Railroad
Formerly Southern Pacific Transportation Company
Third Street North
Santa Rosa Case No. 1TSR196

Notice of Proposed Corrective Action related to petroleum and metal discharges. Comment period ends August 2, 2003.

Problem Description: The property is a former Southern Pacific Railroad water and fueling yard. Petroleum hydrocarbons have impacted soil and groundwater beneath the subject site from historical railroad features and activities including above ground tanks, subsurface piping, oil traps and surface spillage. Groundwater is found approximately 20 feet below ground surface.

Interim Actions Completed: Soil borings have been drilled and groundwater-monitoring wells have been installed to define the extent of soil and groundwater impact.

Proposed Action: The proposed corrective action is the removal of impacted soil from various locations at the site. Impacted groundwater from petroleum hydrocarbons will also be removed from open excavations.

Corrective action will be implemented without further notice unless significant public comment is received prior to August 2, 2003. Please contact Joan Fleck at (707) 576-2675 or FlecJ@rb1.swrcb.ca.gov.

F

California Regional Water Quality Control Board

North Coast Region

William R. Massey, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

June 9, 2003

Mr. Mike Grant
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Grant:

Subject: **ANNUAL ESTIMATION LETTER**

File: Southern Pacific Railroad Transportation Company, 3rd Street, Santa Rosa
Case No. 1TSR196 (201-62)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Board staff estimate that the following work will be performed during fiscal year 2003/2004 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Review reports, and any needed plan to complete investigation of the vertical and horizontal extent of groundwater contamination;
- Review final remedial corrective action plan;
- Draft and implement public participation plan;
- Begin public participation process on final remedial action plan;
- Review risk assessment report(s);
- Initiate public participation on risk assessment findings and remedial corrective action plan;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific Railroad and other responsible third parties;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and report;
- Complete initial public participation documents;
- Identify and fill data gaps needed to develop final remedial corrective action plan;
- Implement preferred remedial alternative;
- Ensure compliance with California Environmental Quality Act;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and
- Address final corrective action plan.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $90.00 per hour.

ESTIMATE OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 60 hours of work related to this site during fiscal year 2003/2004 (July 1, 2003 through June 30, 2004). Based on the average billing rate of

$90 per hour, the estimated billing charge for this site during fiscal year 2002/2003 is about $5,400.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:tmk\costrecoveryUPRR.doc

Enclosure:
Billing Rates Description

cc: Mike Harper, SWRCB, Division of Clean Water Programs 201-56
Nancy Negley, NCRWQCB

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: www.swrcb.ca.gov."

California Environmental Protection Agency

Recycled Paper

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUPS (SLIC) PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification[1]	ABR.	SALARY SCALE
Student Assistant	SA	1594 - 2123
Student Assistant Engrng.	SAE	2085 - 3120
Office Assistant	OA	2160 - 2884
Office Technician	OT	2748 - 3341
Environmental Scientist	ES	3204 - 5946
Sanitary Engineering Technician	SET	3557 - 4962
Engineering Geologist	EG	3830 - 5324
Water Resources Control Engineer	WRCE	3830 - 6590
Associate Governmental Program Analyst	AGPA	4581 - 5568
Sanitary Engineering Associate	SEA	5165 - 6276
Associate Engineering Geologist	AEG	5169 - 6283
Staff Environmental Scientist	SES	5670 - 6846
Senior Environmental Scientist	SRES	5675 - 6849
Senior Water Resources Control Engineer	SWRCE	5952 - 7232
Senior Engineering Geologist	SEG	5952 - 7232
Supervising Water Resources Control Eng.,	SUWRCE	7224 - 7968
Principal Water Resources Control Eng.,	PWRCE	7940 - 8756

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	20% of salaries and benefits

Billing Example

Water Resources Control Engineer		
Salary:	$	6,590
Overhead:	$	6,590
Admin.: State Board	$	988
Regional Board	$	1,318
Total Cost per month	$	15,486

Divided by 176 hours per month equals per hour: $ 87.99
(Due to the various classifications that expend SLIC resources, an average of $ 90.00 per hour can be used for projection purposes.)

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: FEBRUARY 14, 2003

From: JOAN

Subject: SOUTHERN PACIFIC TRANSPORTATION COMPANY

ON THIS DAY I RECEIVED A CALL FROM JOHN MOE WHO TOLD ME THAT TODAY IS HIS LAST DAY WITH UNION PACIFIC.

HE WILL BE WORKING FOR A CONSULTING FIRM CALLED ERM. HIS NEW # IS 925 946-0455. HIS E-MAIL IS JOHN.MOE@ERM.COM.

HE WILL STILL BE INVOLVED TO TRANSITION THE U.P. REPLACEMENT REGARDING OUR PROJECTS.

FAX

from Geomatrix Consultants, Inc.
2101 Webster Street, 12th Floor, Oakland, CA 94612
www.geomatrix.com

GEOMATRIX

Date: 2/14/03

Number of pages including cover sheet: 9

The information in this telecopy is intended for the named recipient(s) only. It may contain privileged and confidential matter. If you have received this telecopy in error, please notify the sender immediately. Thank you.

To:

Joan Fleck

Fax Phone: 707-523-0135
Phone: 707-526-2675
cc:

From:

Charles Reme

Fax Phone: 510-663-4141
Phone: 510-663-4100
Direct dial: 510-663-4275
Email: creme@geomatrix.com
Project No.: 2770.005
Project Name: Santa Rosa Station

REMARKS:

☐ Hard copy to follow ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

Joan,

Happy Valentines Day! Here are the boring logs you requested (SRB-58 through SRB-61). I hope these help in your review. Look forward to speaking with you next week if not before. Let me know if you need anything else.

Chi

PROJECT: SANTA ROSA STATIC
Santa Rosa, California

Log of Boring No. SRB-58

BORING LOCATION: Across tracks from 4th Street

ELEVATION AND DATUM: Not surveyed; datum is ground surface

DRILLING CONTRACTOR: Precision Sampling, Incorporated

DATE STARTED: 9/25/01 | DATE FINISHED: 9/25/01

DRILLING METHOD: Direct push

TOTAL DEPTH (ft.): 19.0 | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: XD-3

DEPTH TO WATER (ft.) FIRST: NA | COMPL.: 17.2

SAMPLING METHOD: Enviro-core sampling system [3'x 1 5/8"]

LOGGED BY: B. Turner

HAMMER WEIGHT: NA | DROP: NA

RESPONSIBLE PROFESSIONAL: S. Gallardo, P.E. | REG. NO.: C38154

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: Not surveyed	
					AGGREGATE BASEROCK MATERIAL	
1				0	CLAYEY SAND with GRAVEL (SC): dark olive brown (2.5Y 3/5), moist, 60% fine to coarse sand, 20% low plasticity fines, 20% fine to coarse gravel	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
2						
3						
4				0	LEAN CLAY (CL): very dark gray (2.5Y 3/1), moist, 90% fines, 10% fine sand, trace coarse sand, low to medium plasticity, hard	
5				0		
6				0		
7				0	SANDY LEAN CLAY (CL): dark olive brown (2.5Y 3/3), moist, 70% fines, 30% fine to coarse sand, low to medium plasticity, hard	
8				0		
9				0	CLAYEY SAND (SC): dark olive brown (2.5Y 3/3), 60% fine to coarse sand, 40% low plasticity fines	
10				0	POORLY GRADED SAND with CLAY (SP-SC): brown (10YR 4/3), 90% fine to medium sand, 10% low plasticity fines	
11				0	SANDY LEAN CLAY (CL): dark yellowish brown (10YR 4/4), 70% fines, 30% fine to coarse sand, low plasticity, hard	
12				0	SANDY LEAN CLAY with GRAVEL (CL): very dark gray (10YR 3/1), moist, 55% fines, 30% fine to coarse sand, 15% fine gravel, low plasticity, firm	
13				0		
14				0	SANDY LEAN CLAY (CL): dark yellowish brown (10YR 4/4), moist, 60% fines, 40% fine to medium sand, low plasticity, firm	
15						

PROJECT: SANTA ROSA STATIC
Santa Rosa, California

Log of Boring No. SRB-58 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					SANDY LEAN CLAY (CL): Cont.	Grab groundwater sample SRB-58 collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.01-inch slot size) placed in borehole from 14 to 19 feet bgs. Enviro-core drive casing retracted from bottom of boring to 17 feet bgs to maintain surface seal.
17					CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), moist, 60% fine to coarse sand, 30% low plasticity fines, 10% fine to coarse sand	
18						
19					Bottom of boring at 19.0 feet	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
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PROJECT: SANTA ROSA STATION
Santa Rosa, California

Log of Boring No. SRB-59

BORING LOCATION: Across tracks from 4th Street

ELEVATION AND DATUM: Not surveyed; datum is ground surface

DRILLING CONTRACTOR: Precision Sampling, Incorporated

DATE STARTED: 9/24/01 | DATE FINISHED: 9/24/01

DRILLING METHOD: Direct push

TOTAL DEPTH (ft): 16.5 | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: XD-3

DEPTH TO WATER (ft): FIRST 13.0 | COMPL. NA

SAMPLING METHOD: Enviro-core sampling system [3'x 1 5/8"]

LOGGED BY: B. Turner

HAMMER WEIGHT: NA | DROP: NA

RESPONSIBLE PROFESSIONAL: S. Gallardo, P.E. | REG. NO. C38154

DEPTH (feet)	SAMPLES: Sample No.	Sample	Blows/ Foot	OVM READING (ppm)	DESCRIPTION: NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: Not surveyed	
					AGGREGATE BASEROCK	
1				0	CLAYEY SAND with GRAVEL (SC): dark olive brown (2.5Y 3/3), moist, 60% fine to coarse sand, 20% low plasticity fines, 20% fine gravel	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
2						
3						
4				0	LEAN CLAY (CL): bluish black (5BG 2.5/1), moist, 90% fines, 10% fine sand, low to medium plasticity, hard	
5				0		
					very dark gray (10YR 3/1)	
6					SANDY LEAN CLAY (CL): very dark gray (10YR 3/1), moist, 70% fines, 30% fine sand, low to medium plasticity, hard	
7						
8				0		
9				0	LEAN CLAY (CL): dark grayish brown (10YR 4/2), moist, 90% fines, 10% fine sand, low to medium plasticity, firm	
					CLAYEY SAND (SC)	
10					dark yellowish brown (10YR 4/4)	Grab groundwater sample SRB-59 collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.01-inch slot size) placed in borehole from 11.5 to 16.5 feet bgs. Enviro-core drive casing retracted from bottom of boring to surface to maintain surface seal.
11				0		
12				0	CLAYEY SAND (SC)?? SEE 9.25??	
					LEAN CLAY with SAND (CL): dark reddish brown (5YR 2.5/2), moist, 75% fines, 25% fine to coarse sand, low to medium plasticity, hard	
13					SANDY LEAN CLAY (CL): dark reddish brown (5YR 2.5/2), wet, 65% fines, 30% fine to coarse sand, 5% fine gravel, low plasticity, firm	
14				0	CLAYEY SAND (SC): dark yellowish brown (10YR 4/4), wet, 70% fine sand, 30% low plasticity fines	
					LEAN CLAY with SAND (CL): See page 2 for description	
15						

PROJECT: SANTA ROSA STATION
Santa Rosa, California

Log of Boring No. SRB-59 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					LEAN CLAY with SAND (CL): dark yellowish brown (10YR 4/4), moist, 75% fines, 25% fine sand, low to medium plasticity, firm CLAYEY SAND (SC): dark reddish brown (5YR 2.5/2), wet, 75% fine to coarse sand, 26% low plasticity fines	
17					Bottom of boring at 16.5 feet	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
18						
19						
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33						

PROJECT: SANTA ROSA STATION
Santa Rosa, California

Log of Boring No. SRB-60

BORING LOCATION: Across tracks from station

ELEVATION AND DATUM: Not surveyed; datum is ground surface

DRILLING CONTRACTOR: Precision Sampling, Incorporated

DATE STARTED: 9/24/01 | DATE FINISHED: 9/24/01

DRILLING METHOD: Direct push

TOTAL DEPTH (ft.): 25.0 | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: XD-3

DEPTH TO WATER (ft.) FIRST: 13.5 | COMPL.: NA

SAMPLING METHOD: Enviro-core sampling system [3'x 1 5/8"]

LOGGED BY: B. Turner

HAMMER WEIGHT: NA | DROP: NA

RESPONSIBLE PROFESSIONAL: S. Gallardo, P.E. | REG. NO. C38154

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: Not surveyed	
					AGGREGATE BASEROCK	
1				0	CLAYEY SAND with GRAVEL (SC): dark olive brown (2.5Y 3/3), dry, 60% fine to coarse sand, 20% low plasticity fines, 20% fine gravel	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
2						
3						
4						
5						
6						
7				0	SANDY LEAN CLAY (CL): very dark grayish brown (10YR 3/2), moist, 60% fines, 40% fine to medium sand, low to medium plasticity, firm	
8						
9						
10				0	LEAN CLAY with SAND (CL): very dark grayish brown (10YR 3/2), moist, 75% fines, 25% fine sand, medium plasticity, hard	
11				0		
12						
13					brown (10YR 4/3), 85% fines, 15% fine sand	
14					CLAYEY SAND (SC): dark brown (7.5YR 3/2), wet, 70% fine to coarse sand, 30% low plasticity fines, trace fine gravel	
15						

PROJECT: SANTA ROSA STATION
Santa Rosa, California

Log of Boring No. SRB-60 (cont'd)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					CLAYEY SAND (SC): Cont.	
17				0	LEAN CLAY (CL): very dark gray (N 3/), moist, 90% fines, 10% fine sand, low to medium plasticity, hard	Grab groundwater sample SRB-60 collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.01-inch slot size) placed in borehole from 20 to 25 feet bgs. Enviro-core drive casing retracted from bottom of boring to surface to maintain surface seal.
18				0		
19						
20				0	brown (10YR 5/3)	
21				0		
22					LEAN CLAY with SAND (CL): brown (10YR 5/3), moist, 75% fines, 25% fine sand, low to medium plasticity, firm	
23					LEAN CLAY (CL): grayish brown (2.5Y 5/2), moist, 90% fines, 10% fine sand, low to medium plasticity, hard	
24						
25					Bottom of boring at 25.0 feet	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA STATIOI
Santa Rosa, California

Log of Boring No. SRB-61

BORING LOCATION: Across tracks from 5th Street

ELEVATION AND DATUM: Not surveyed; datum is ground surface

DRILLING CONTRACTOR: Precision Sampling, Incorporated

DATE STARTED: 9/24/01 | DATE FINISHED: 9/24/01

DRILLING METHOD: Direct push

TOTAL DEPTH (ft.): 22.0 | MEASURING POINT: Ground surface

DRILLING EQUIPMENT: XD-3

DEPTH TO WATER (ft.) FIRST: 13.0 | COMPL.: 16.5

SAMPLING METHOD: Enviro-core sampling system [3'x 1 5/8"]

LOGGED BY: B. Turner

HAMMER WEIGHT: NA | DROP: NA

RESPONSIBLE PROFESSIONAL: S. Gallardo, P.E. | REG. NO. C38154

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM READING (ppm)	DESCRIPTION: NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: Not surveyed	
0					AGGREGATE BASEROCK	
1					NO RECOVERY	OVM = Thermo Environmental Instruments 580B PID calibrated with 100 ppm isobutylene standard.
2						
3						
4						From 1 to 4 feet, coarse rock in shoe, no recovery.
5						
6						
7				0	SANDY ELASTIC SILT with GRAVEL (CL): weak red (10YR 5/3), moist, 55% fines, 30% fine to coarse sand, 15% fine gravel, low plasticity, firm	
8				0		
9						
10				0	CLAYEY SAND (SC): dark brown (7.5YR 3/2), moist, 55% fine to coarse sand, 40% low plasticity fines, 5% fine gravel	
11				0		
12						
13				0	dark bluish gray (5PB 3/1), wet	Hydrocarbon odor detected.
14				0	moist	
15						

PROJECT: SANTA ROSA STATION
Santa Rosa, California

Log of Boring No. SRB-61 (cont'd)

DEPTH (feet)	SAMPLES Sample No.	SAMPLES Sample	SAMPLES Blows/ Foot	OVM READING (ppm)	DESCRIPTION NAME (USCS): color, moist, % by wt., plast. density, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					CLAYEY SAND (SC): Cont.	
17				0 1	60% fine to coarse sand, 35% low plasticity fines, 5% fine gravel, trace coarse gravel	Grab groundwater sample SRB-61 collected through 5 feet of 1-inch OD Sch. 40 PVC screen (0.01-inch slot size) placed in borehole from 17 to 22 feet bgs. Enviro-core drive casing retracted from bottom of boring to 17 feet bgs to maintain surface seal.
18						
19				0		
20					LEAN CLAY (CL): olive brown (2.5Y 4/4), moist, 95% fines, 5% fine sand, medium plasticity, firm	
21						
22					Bottom of boring at 22.0 feet	Borehole destroyed using Type I-II neat cement grout placed from total depth to ground surface with a tremie pipe.
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

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RWQCB
REGION 1
JAN 27 2003
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☐ RLT ☐ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL

GEOMATRIX

Transmittal

Sent Via: ☐ **Messenger** ☐ **U.S. Mail** ☒ **Overnight Mail**

Date: 1/24/03

To: Joan Fleck

From: Charles Rome

cc: Susan Gallardo
John Moe

Project Number: 2770.005
Project Name: Santa Rosa Station Phased Closing Property

Item	Description
1	Copy of field notes from 6/24/02 and 6/25/02
2	Schematic Block Diagram – Residual Product Area

Remarks

Hi Joan,

I am sending you a copy of our field notes that you requested from the drilling near the 3000-bbl aboveground storage tank, more specifically boring SRB-75 where free product was noted on the bailer and groundwater interface probe as well as the figure you requested. We were not able to find additional information from the previous investigation describing the visually-impacted soil.

Please let Susan or I know if you have any additional questions or comments.

Sincerely,

Chuck Rome

G:\2770.005 transl.doc

DAILY FIELD RECORD

GEOMATRIX

Project and Task Number: ~~# 1220 Task W~~ 2770.005	Date: 6/24/2002
Project Name: ~~Bay Road~~ Santa Rosa Station	Field Activity: Subsurface Soil Sample Collection / Grab groundwa
Location: ~~1990 Bay Road, East Palo Alto, CA.~~	Weather: Sunny, clear skies, 70s

PERSONNEL: Name	Company	Time In	Time Out
Brendan J. Mulholland (BJM)	Geomatrix Consultants (GMX)	0715	1710
~~Mathew Jonston~~ Sarah Mearon (SM)	Geomatrix Consultants	0715	1710
~~Israel Ramirez~~ Marcos	Precision Sampling	0730	1700
~~Gerardo Gutierrez~~ Geraldo	Precision Sampling	0730	1700
Joan Fleck	RWQCB	1045	1545

PERSONAL SAFETY CHECKLIST

X	Steel-toed Boots	X	Hard Hat	AV	Tyvek Coveralls
X	Rubber Gloves	X	Safety Goggles	AV	1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION

TIME	DESCRIPTION OF WORK PERFORMED
0715	GMX personnel on site; call Charlie Rome (CFR) leave message in regards to scope of work
0730	Precision on site, GMX directs them to set up at SRB-66
0745	Receive call from CFR; will do SRB-66 and SRB-95, then 3 boreholes around 3000 bbl AST (SRB-75 through SRB-77)
0750	BJM conducts tailgate health and safety meeting
0800	Calibrate PID with 100 ppm isobutylene = 99.0 ppm
0825	Begin direct push at SRB-66
0920	Finish direct push at SRB-66; hold off on grouting hole until hear from CFR as to whether to construct a temp. well; decide to move to SRB-95
0930	Put 6 soil samples collected in ice-chilled cooler; all samples have been capped with Teflon sheets / plastic end caps and sealed with duct tape, placed in Ziploc bags
0935	Drillers decon drilling equipment with steam cleaner and decon sampling equipment with Alconox + DI water wash and DI water rinse
0940	Move rig to SRB-95 location
0945	Start direct push at SRB-95; collect 6 soil samples at 0955 through 1020, put in

DAILY FIELD RECORD (continued)

GEOMATRIX

Project and Task Number: ~~# 1220 Task W~~ 2770.005 | Date: 6/24/2002

TIME	DESCRIPTION OF WORK PERFORMED
	ice-chilled cooler
1030	Finish direct push at SRB-95; grout SRB-66 and SRB-95; decon equipment
1045	Joan Fleck (RWQCB) on site; informed her of intent to put in well points w/ filter pack, as proposed by CFR, Susan Gallardo (SG), and John Moe (client); JF states she was not informed → directs field personnel to do well points as approved in addendum; BJM calls CFR and CFR speaks w/ JF about this issue
1115	Start direct push at SRB-76; collect samples at 1125 through 1200 (6 samples); put in ice-chilled cooler
1200	Finish direct push at SRB-76; set 1" PVC casing with 10-feet of 0.010-inch factory-slotted screen; JF directs us to move locations of SRB-75 and SRB-77
1230	Spoke with Todd at Chromalab regarding sample volume: says we need 2 ambers (1 liter each) for TPHd and TPHmo with silica gel clean-up
1245	Collect grab groundwater samples from SRB-76 (6 VOAs, 2 1-L ambers); put in cooler
1300	Drillers decon equipment, mobilize to SRB-75
1310	Start direct push at SRB-75; collect 8 soil samples between 1320 and 1430; put in ice-chilled cooler 1405 BJM collects pipeline sample
1430	Determine there is not sufficient water to take grab groundwater samples after setting 1" PVC casing with 5-feet of 0.010-inch factory-slotted screen at 17-22 feet ∴ will let aquifer recharge
1440	Cap SRB-75 and mobilize to SRB-77
1445	Start direct push at SRB-77; collect samples between 1550 and 1505 (7 samples); put in ice-chilled cooler 1545 JF offsite
1600	Finish direct push at SRB-77; set 1" PVC casing with 5-feet of 0.010-inch factory-slotted screen at 17-22 feet; take grab groundwater samples (6 VOAs and 4 1-L ambers → 4 at request of SG in order to have enough volume for both filtered and unfiltered samples
1615	Relinquish samples to lab courier
1620	Sound SRB-75; water level ~16-18 feet (fluctuating); cap well, decide to take grab groundwater 6/25/02 in the morning to allow for recharge
1630	Conversation w/ CFR and SG on phone: decide to reevaluate scope with client by 6/25/02 A.M.; GMX and Precision personnel start to clean up site
1650	Unload field equipment at kiosk in fenced enclosure
1700	Precision puts rig, steam cleaner within fenced enclosure; offsite
1710	GMX personnel offsite

DAILY FIELD RECORD

GEOMATRIX

Project and Task Number: 2770.005	Date: 6/25/2002
Project Name: Santa Rosa Station – Option Property	Field Activity: Soil borings/grab groundwater
Location: Santa Rosa, California	Weather: Sunny, clear; 70s

PERSONNEL: Name	Company	Time In	Time Out
Sarah Mearon (SAM)	Geomatrix Consultants (GMX)	0700	1850
Brendan J. Mulholland (BJM)	Geomatrix Consultants	0700	1850
Marcos	Precision Sampling, Inc.	0700	1845
Geraldo	Precision Sampling, Inc.	0700	1845
Kevin Bands (KB)	Subsurface Locating	0710	0750
Joan Fleck	RWQCB	0820	1135

PERSONAL SAFETY CHECKLIST

X	Steel-toed Boots	X	Hard Hat		Tyvek Coveralls
X	Rubber Gloves	x	Safety Goggles		1/2-Face Respirator

DRUM I.D.	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION
SRB602-1	Soil cuttings	Within fenced enclosure
SRB602-2	Decon water	Within fenced enclosure

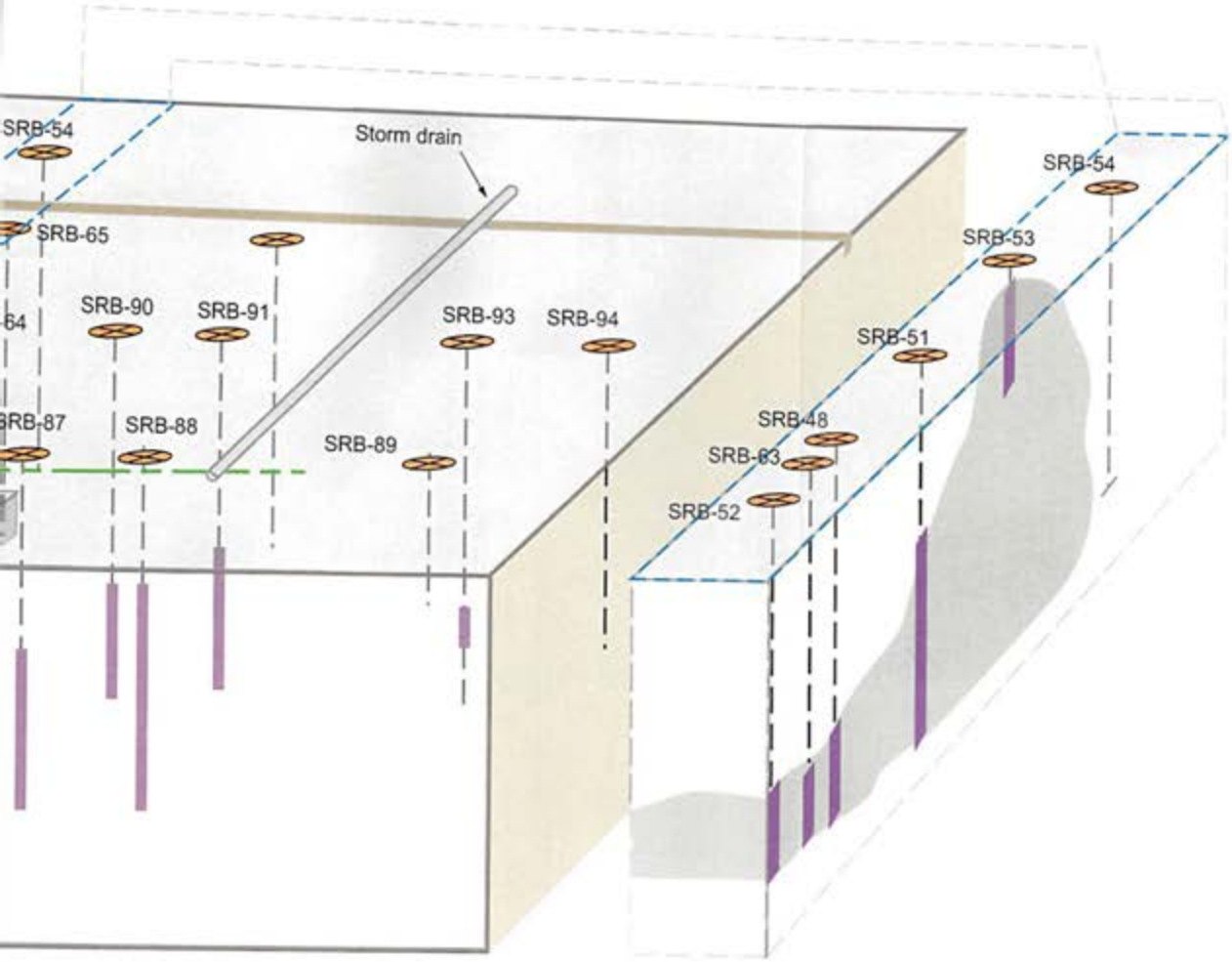
TIME	DESCRIPTION OF WORK PERFORMED
0700	GMX and Precision personnel on site; unload equipment from fenced enclosure
0710	GMX personnel set up for grab groundwater sampling at SRB-75; depth-to-water = 15.99 feet at 0715
0720	Notice that water from SRB-75 is smelly (smells like diesel) and probe used to measure depth-to-water is partially coated with free product, as is disposable bailer used to obtain samples
0815	Mobilize to SRB-74 within fenced enclosure; put grab groundwater samples in ice-chilled cooler
0825	Start direct push at SRB-74; collect 9 samples between 0840 and 0925; put in cool
0840	Calibrate PID with 100 ppm isobutylene standard = 100 ppm
0920	Finish direct push at SRB-74; set 1" PVC casing with 0.010-inch screen at 17-22'
0930	Drillers mobilize to SRB-75 to grout up hole
0955	Drillers decon sampling equipment with Alconox + DI water wash and DI water rinse, decon drilling equipment with steam cleaner
1000	No water at SRB-74 at 22.1' ∴ decide to pull casing and drill past 22'
1015	Drill 22-28' at SRB-74; very wet at 24.75-27' (base of boring)
1100	Put 2 more soil samples from SRB-74 in ice-chilled cooler

DAILY FIELD RECORD (continued)

GEOMATRIX

Project and Task Number: 2770.005 | Date: 6/25/2002

TIME	DESCRIPTION OF WORK PERFORMED
1105	Sound SRB-74; depth-to-water = 26.16 feet
1130	Collect grab groundwater samples from SRB-74 (6 VOAs, 4 1-L ambers); put in ice-chilled cooler; decon equipment
1145	Set up at SRB-97
1200	Lunch break; GMX personnel obtain more ice for cooler
1236	Start direct push at SRB-97; collect 6 samples at 1245 through 1310; put in cooler
1310	Finish direct push at SRB-97; grout hole; decon equipment
1315	Mark out SRB-98 with white paint
1320	Mobilize to SRB-98
1325	Start direct push at SRB-98; collect 6 samples at 1345 through 1410; put in cooler
1415	Finish direct push at SRB-98; grout hole; decon equipment
1425	Mobilize to SRB-99
1430	Start direct push at SRB-99; collect 6 samples at 1440 through 1505; put in cooler
1505	CFR calls; requests a 0.5-1.0 foot sample from SRB-75 (sample collected 6/24/02) was from depth of 1.0-1.2 feet → not at 1.0 feet precisely) as 3 Encores and 1 metal sleeve
1530	QA/QC samples in 2 coolers with COCs
1545	Relinquish samples to lab courier; collect 2 more samples from SRB-99 at 1550 and 1600
1600	Finish direct push at SRB-99; grout hole; decon equipment
1615	Mobilize to SRB-100
1620	Start direct push at SRB-100; collect 6 samples at 1640 through 1720; put in cooler
1720	Finish direct push at SRB-100; grout hole; decon equipment
1730	Load up equipment left in kiosk in fenced enclosure, collect cones from site
1745	Precision grouts SRB-74 within fenced enclosure
1800	GMX and Precision personnel clean up site / load up trucks
1835	Put 2 drums within fenced enclosure (one soil cuttings, one decon water)
1845	Precision offsite
1850	GMX offsite



ND

soil boring location

nterval of visually

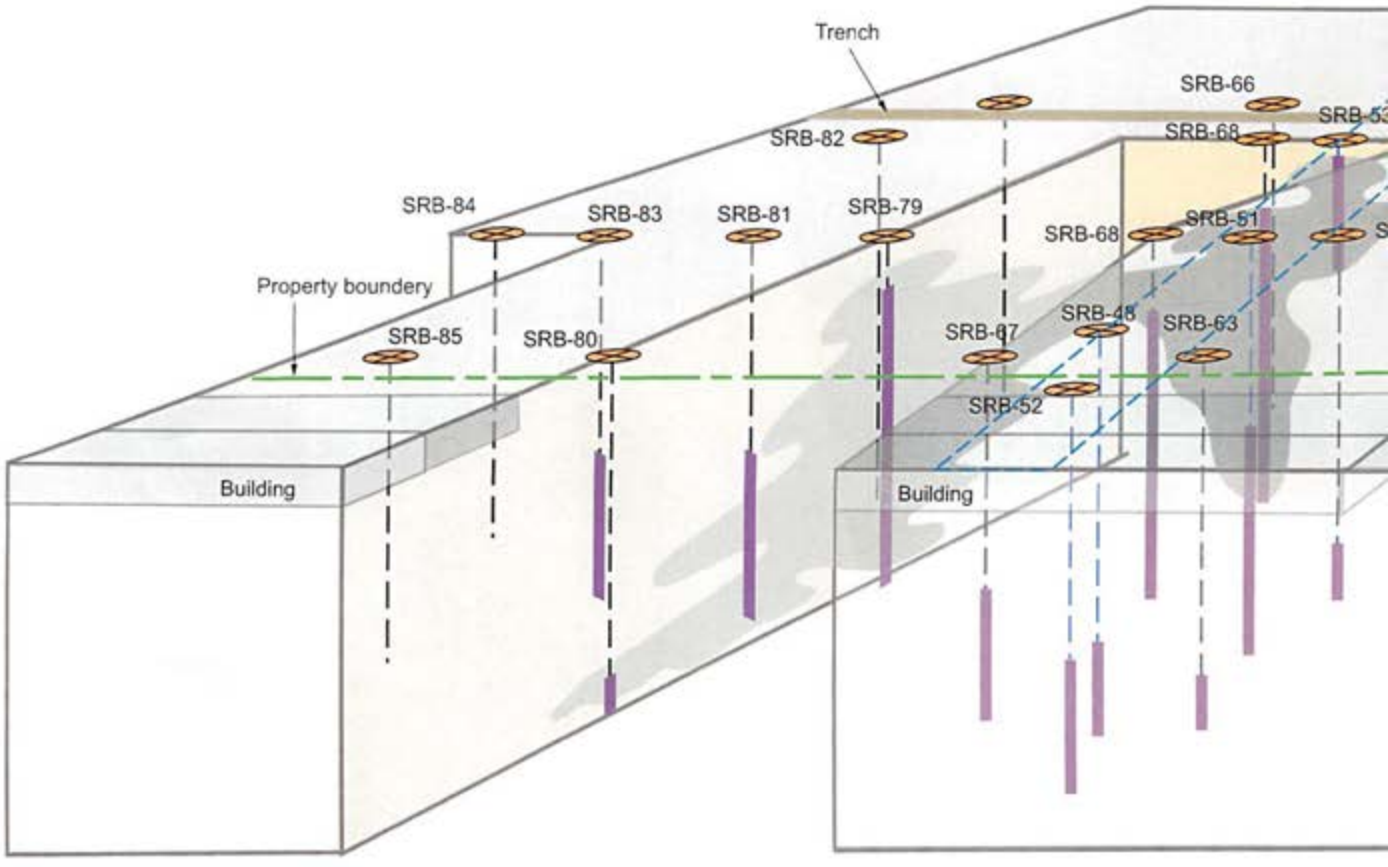
Not to scale

ogs; however, shading that illustrates the
o imply certainty.

SCHEMATIC BLOCK DIAGRAM-RESIDUAL PRODUCT AREA
Santa Rosa State Option Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure XX

DRAFT



LE

Approxima

Approxima
impacted s

Note: Impacted soil in each individual boring is depicted based on observations recorded in the borin
general distribution of the visually impacted soil is for illustrative puposes only and is not intede

R:\2000-2900\s2770\2770.05\3d_blockdiagram_002.ai

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RWQCB
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☐ RLT ☑ LGR ☐ KAD
☐ NPO ☐ RSG ☐ EJL
/JEF

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☐ U.S. Mail ☒ Overnight Mail

Date: January 24, 2003

To: Joan Fleck - RWQCB
John Moe - UPRR
Leah Goldberg - HBMVR
Norma Jellison – Golden Gate Brige
Peter Krasnoff – WEST

From: Charles F. Rome
Geomatrix Consultants, Inc.

cc: Susan Gallardo, Geomatrix

Project Number: 2770.005
Project Name: Santa Rosa Station Phased Closing Property

Item	Description
1.	Table 10 – Analytical Results for Grab Groundwater Samples
2.	Table 11 – Data Summary – Visually Impacted Soil

Remarks

Dear Group:

It has come to our attention that Tables 10 and 11 may not have made it into our recently submitted report titled Environmental Site Conditions and Proposed Action Plan. If your copy of the report does not include these tables, please insert the enclosed tables after Table 9.

Thank you. We apologize for the inconvenience.

LE 10

AB GROUNDWATER SAMPLES[1]

ased Closing Property

California

rograms per liter (µg/l)

no	TPHmo with silica gel cleanup	TPHmo(f)	TPHmo(f) with silica gel cleanup	PAHs	PAHs(f)	BTEX	MTBE	Other VOCs
0	--	--	--	--	--	--	--	ND
0	--	--	--	--	--	--	--	ND
0	--	--	--	--	--	--	--	ND
0	--	--	--	--	--	--	--	ND
0	--	--	--	--	--	--	--	Acetone = 300
0	--	--	--	--	--	--	--	ND
0	--	<250	--	<0.2	<0.2	--	<5	ND
250	--	<250/<250	--	<0.2/<0.2	<0.2/<0.2	--	<5/<5	ND/ND
0	--	<250	--	<0.2	<0.2	--	<5	ND
0	--	<250	--	<0.2	<0.2	--	<5	ND
0	--	<250	--	<0.2	<0.2	--	9.8	ND
0	--	<250	--	<0.2	<0.2	--	<5	ND
0	--	<250	--	<0.2	<0.2	--	<5	ND
	--	--	--	--	--	--	77	--
	--	--	--	--	--	--	75	--
	--	--	--	--	--	--	19	--
0	--	--	--	--	--	--	--	--
0	--	--	--	--	--	--	--	--
0	--	--	--	<10	--	<0.5	--	--
0	--	--	--	<9.4	--	<0.5	--	--
	--	--	--	--	--	--	11	--
	--	--	--	--	--	<1.0	2.8	--
	--	--	--	--	--	<5.0	120	--
	--	--	--	--	--	E = 1.7 X = 14.5	34	--
	--	--	--	--	--	E = 1.0 X = 9.4	9.6	--
	--	--	--	--	--	<1.0	6.5	--
	--	--	--	--	--	T = 1.5	7.6	--
	<71	<79	<79	--	--	<0.5[5]	33	--

TAB

ANALYTICAL RESULTS FOR GI

Santa Rosa Station Pl

Santa Rosa

Results reported in mi

Borehole	Sample Date	Sample Interval	TPHg	TPHd	TPHd with silica gel cleanup	TPHd(f)	TPHd(f) with silica gel cleanup	TPH
Sitewide								
SRB-20	11/15/1996	NS	--	<50	--	--	--	<2
SRB-21	11/15/1996	NS	--	<50	--	--	--	<2
SRB-26	11/15/1996	NS	--	<50	--	--	--	<2
SRB-29	11/15/1996	NS	--	<50	--	--	--	<2
SRB-30	11/15/1996	NS	--	<50	--	--	--	<2
SRB-31	11/15/1996	NS	--	<50	--	--	--	<2
SRB-32	3/7/2000	10 - 13	--	<50	--	<50	--	<2
SRB-36[2]	3/6/2000	17 - 22	--	67[3]/<50	--	<50/<50	--	<250/
SRB-37	3/7/2000	21 - 25	--	<50	--	<50	--	<2
SRB-38	3/6/2000	12 - 16	--	<50	--	<50	--	<2
SRB-39	3/7/2000	NS	--	<50	--	<50	--	<2
SRB-40	3/7/2000	16 - 21	--	<50	--	<50	--	<2
SRB-41	3/7/2000	11 - 16	--	<50	--	<50	--	<2
SRB-42	9/26/2000	16 - 21	--	--	--	--	--	--
SRB-42D[4]	9/26/2000	16 - 21	--	--	--	--	--	--
SRB-43	9/26/2000	23 - 28	--	--	--	--	--	--
SRB-45	9/25/2000	17 - 22	--	<50	--	--	--	<3
SRB-47	9/25/2000	17 - 22	--	<50	--	--	--	<3
SRB-49	9/25/2000	17 - 22	--	<50	--	--	--	<3
SRB-49D	9/25/2000	17 - 22	--	<50	--	--	--	<3
SRB-50	9/26/2000	23 - 28	--	--	--	--	--	--
SRB-55	9/25/2001	22 - 25	<50	--	--	--	--	--
SRB-58	9/25/2001	17 - 19	<50	--	--	--	--	--
SRB-59	9/25/2001	NS	<50	--	--	--	--	--
SRB-60	9/25/2001	NS	<50	--	--	--	--	--
SRB-61	9/24/2001	17 - 22	<50	--	--	--	--	--
Fenced Enclosure								
SRB-62	9/26/2001	22 - 25	<50	--	--	--	--	--
SRB-74	6/25/2002	24 - 28	<50	<71	<71	<79	<79	<7

E 10

AB GROUNDWATER SAMPLES[1]

sed Closing Property

California

ograms per liter (µg/l)

io	TPHmo with silica gel cleanup	TPHmo(f)	TPHmo(f) with silica gel cleanup	PAHs	PAHs(f)	BTEX	MTBE	Other VOCs
)	--	--	--	--	--	--	--	ND
)	--	--	--	--	--	--	--	ND
	--	<250	--	<0.2	<0.2	--	<5	ND
)	--	<250	--	<0.2	<0.2	--	<5	ND
0	--	**360**[6]	--	--	--	--	--	--
)	--	--	--	--	--	--	--	--
0	--	**950**[6]	--	<190	--	<0.5	--	--
)	--	--	--	<9.4	--	<0.5	2.3	--
)	**3,800**	<63	<63	--	--	<0.5[5]	**3.3**	--
	<58	--	--	--	--	<1	<5	--
)	**1,100**	<67	<67	--	--	<0.5[5]	**0.6**	--

letwork of Pleasant Hill, California; TPHd and TPHmo were analyzed using EPA Method 8015 following silica gel
) were analyzed by Entech Analytical, Inc. of Sunnyvale, California, and analyzed for TPHd and TPHmo using EPA
MTBE and other fuel oxygenates using EPA Method 8260. Samples that were collected in March 2000 for TPHd,
ber 2000 were analyzed by Curtis and Tompkins, Ltd. of Berkeley, California, for TPHd and TPHm using EPA Method
r PAHs using EPA Method 8270C. Samples collected in September 2001 were analyzed by Severn Trent Laboratories
mples collected in 2002 analyzed by STL San Francisco of Pleasanton, California and analyzed for TPHg, TPHd, and
8260B.

n and Bruya, Inc., of Seattle, WA. Samples were passed through a 0.7 micron glass fiber filter
nalysis of samples SRB-44 and SRB-48 was performed on October 17, and 24, 2000, respectively.

MTBE = methyl tertiary butyl ether
BTEX = benzene, toluene, ethylbenzene, and xylenes
VOCs = volatile organic compounds
ND = not detected above laboratory reporting limits (for VOCs: 5 to 100 µg/l).
-- = not analyzed

TABI

ANALYTICAL RESULTS FOR GR

Santa Rosa Station Ph

Santa Rosa

Results reported in mic

Borehole	Sample Date	Sample Interval	TPHg	TPHd	TPHd with silica gel cleanup	TPHd(f)	TPHd(f) with silica gel cleanup	TPH
Northwestern Area								
SRB-22	11/15/1996	NS	--	<50	--	--	--	<20
SRB-23	11/15/1996	NS	--	<50	--	--	--	<20
SRB-34	3/7/2000	NS	--	**160**[3]	--	<50	--	**42**
SRB-35	3/7/2000	9 - 13	--	<50	--	<50	--	<25
SRB-44	9/25/2000	17 - 22	--	**13,000**	--	**400**[6]	--	**12,0**
SRB-46	9/25/2000	16 - 21	--	<50	--	--	--	<30
SRB-48	9/25/2000	17 - 22	--	**46,000**	--	**1500**[6]	--	**38,0**
SRB-54	9/25/2000	17 - 22	--	<50	--	--	--	<30
SRB-75	6/25/2002	18 - 22	**76**	**4,100**	**3,700**	**180**	<63	**3,9**
SRB-76	6/24/2002	15 - 19	<50	<58	<58	--	--	<5
SRB-77	6/24/2002	18 - 22	<50	**950**	**960**	**180**	<67	**1,1**

Notes:

[1] Samples were collected by Geomatrix Consultants, Inc. Samples collected in 1996 were analyzed by American Environmental cleanup procedure EPA Method 3630C and VOCs were analyzed for using EPA Method 8240. Samples collected in March 20 Method 8015M following silica gel cleanup procedure per Method 3630C; PNAs using Method 8270SIM; and VOCs including TPHmo, and PAHs were analyzed before and after passing through a 0.7 micron glass fiber filter. Samples collected in Septe 8015M following silica gel cleanup procedure by EPA Method 3630M; for BTEX and MTBE using EPA Method 8260B; and f (STL), of Sacramento, California, for TPHg, TPHd, TPHmo by EPA Method 8015M and for MTBE by EPA Method 8260B. S TPHmo by EPA Method 8015M following a silica gel cleanup by EPA Method 3630 and for BTEX and MTBE by EPA Metho

[2] Results of sample/blind duplicate sample (labeled SRB46) are shown.

[3] Lab sheet indicates that result is quantified as diesel; chromatographic pattern not typical of fuel.

[4] A borehole identification number followed by "D" indicates that a blind duplicate sample was collected at this location.

[5] Detection limit for benzene, toluene, and ethylbenzene is 0.5 µg/l. Detection limit for xylenes is 1 µg/l.

[6] Samples were reanalyzed to quantify the dissolved concentrations of the chemicals listed. Analyses were performed by Friedm and analyzed according to EPA method 8015M following silica gel cleanup procedure by EPA Method 3630. Extraction and re

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHmo = total petroleum hydrocarbons quantified as motor oil
f = filtered with 0.7 micron glass fiber filter
PAHs = polynuclear aromatic hydrocarbons
NS = not specified

GEOMATRIX

TABLE 11

DATA SUMMARY - VISUALLY IMPACTED SOIL

Santa Rosa Station Phased Closing Property
Santa Rosa, California

Borehole	Sample Date	Total Depth (feet bgs)	Soil Sample Depths (feet bgs)	Depth to Water[1] (feet bgs)	Intervals of Visually Impacted Soil[2] (feet bgs)
Northwestern Area					
SRB-48	9/25/2000	22	NS	19	16 - 22
SRB-51	9/27/2000	22	19.5	20	10 - 22
SRB-52	9/27/2000	22	19.5	19.5	16.5 - 22
SRB-53	9/27/2000	7	NS	--[3]	1 - 7
SRB-54	9/27/2000	22	NS	21	---[4]
SRB-63	6/17/2002	19	NS	7.5	16 - 19
SRB-64	6/17/2002	19	NS	7	16 - 19
SRB-65	6/17/2002	19	NS	10	---
SRB-66	6/24/2002	19	NS	10.3	---
SRB-67	6/17/2002	19	NS	7	13.5 - 19
SRB-68	6/17/2002	19	NS	11	4 - 19
SRB-69	6/17/2002	19	NS	4	4 - 19
SRB-75	6/24/2002	22	1, 2, 5, 17, 19, 20	18	18.75 - 19
SRB-76	6/24/2002	19	NS	7.5	--
SRB-77	6/24/2002	22	NS	11	20.75 - 21.5
SRB-78	6/18/2002	19	NS	12.5	4 - 19
SRB-79	6/18/2002	19	12.5	12.5	3 - 19
SRB-80	6/18/2002	22	16, 21.5	10.5	19 - 21
SRB-81	6/18/2002	22	8.5, 15.5, 22	12	12-22
SRB-82	6/18/2002	22	NS	9.75	---
SRB-83	6/18/2002	22	9, 11, 14, 21	9.5	12 - 20.5
SRB-84	6/18/2002	19	NS	9.5	---
SRB-85	6/18/2002	19	NS	9.5	---
SRB-86	6/19/2002	22	NS	7.5	11 - 19.5
SRB-87	6/19/2002	22	NS	7	10.5 - 19
SRB-88	6/19/2002	22	6, 21	7	7 - 19
SRB-89	6/19/2002	19	NS	10	---
SRB-90	6/19/2002	no recovery 19 - 22	14, 17	13.25	13 - 19
SRB-91	6/19/2002	no recovery 18.5 - 22	11, 14	7.75	12 - 18.5
SRB-92	6/19/2002	19	NS	12.5	---
SRB-93	6/20/2002	19	14, 18	13	13 - 16
SRB-94	6/20/2002	18	NS	16	---
SRB-95	6/24/2002	19	NS	7.25	---
SRB-97	6/25/2002	19	NS	11	---
SRB-98	6/25/2002	19	NS	10.75	---
SRB-99	6/25/2002	25	14, 17, 20, 23	14.5	16 - 22
SRB-100	6/25/2002	22	5, 7.5, 11, 19, 20	12	7 - 10, 18.5 - 19

GEOMATRIX

TABLE 11

DATA SUMMARY - VISUALLY IMPACTED SOIL

Santa Rosa Station Phased Closing Property
Santa Rosa, California

Borehole	Sample Date	Total Depth (feet bgs)	Soil Sample Depths (feet bgs)	Depth to Water[1] (feet bgs)	Intervals of Visually Impacted Soil[2] (feet bgs)
SRB-101	7/10/2002	19	5, 8, 11, 17	8.5	---
SRB-102	7/10/2002	19	NS	12	---
SRB-103	7/10/2002	19	5, 8, 11, 17	11.5	---

Notes:

feet bgs = feet below ground surface

[1] Depth to grounwater as observed in borings at the time of drilling.

[2] The visually-impacted soil consisted of thread-like petroleum ganglia within the soil matrix.

[3] -- = no visually impacted groundwater detected.

[4] --- = no visually impacted soil detected.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: December 16, 2002

From: JEF

Subject: Southern Pacific Transportation Company

On this day I attended an update meeting regarding the soil and groundwater cleanup project at the former railroad yard between Third and Sixth Streets in Santa Rosa. In attendance were:

John Moe (Union Pacific),
Susan McCue (City of Santa Rosa Economic Development),
Norma Jellison (Northwestern Pacific Railroad Authority,
Jeff Colin (Santa Rosa City Manager),
Leah Goldberg (attorney for Northwestern Pacific Railroad Authority)
Stephen Burke (Redevelopment Agency),
Cabby (Food and Wine Marketplace,
John Mackey (Food and Wine Marketplace)
Laura Whiting (Food and Wine Marketplace, and
Dave Beaty (?) via phone.

John Moe explained that they were still working on the remedial action plan and it should be completed by January 15, 2003. He did not believe that the schedule will impact the development project because we are already in the rainy season. Stephen asked if I was aware of what is being proposed. John said that they plan to remove impacted soil and I was aware of that and admitted that they have not shared any details as of this date.

Jeff asked the same question in a different way. He said that he was aware that Union Pacific and NWPRA were negotiating the cleanup between themselves and are they negotiating with the Water Board. In other words, are the goals the same? The cleanup plan may satisfy the NWPRA but will it satisfy the Water Board.

I explained that the cleanup plan might be acceptable to Union Pacific and NWPRA and not us, or it might be. I also added that the Santa Rosa Fire Department will also need to approve it because we share regulatory oversight of impacted soil. I recommended that they submit the RAP to the SRFD at the same time it is submitted to us. That way, Jim Frank can be reviewing it concurrently. I explained to John that the RAP will be part of their excavation permit application. I was asked how fast the work could be conducted. I explained that at this point it is weather dependent.

John explained that more tests were conducted to help them come up with the cleanup proposal. Laura asked if more testing was needed. John said no.

The next meeting is scheduled for January 22, 2003 at 10:00. John and Norma scheduled a meeting with me on January 15, 2003 at 10:00 at which time they will hand deliver the cleanup plan.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE ~~Susan Gallardo~~ Date: January 18, 2002

From: Shannon Rake

Subject: Southern Pacific Transportation Co. Status Report.

Susan was not in, I left a message asking for a status report.

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

RWQCB
REGION 1

NOV - 7 2002

☐ SAW ☐ FCR ☐ MJB
☐ RLT ☑ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL

GEOMATRIX

November 6, 2002
Project 2770.005

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Via Fax and U.S. Mail
Fax: 707-523-0135 (4 pages)

Subject: Proposed Work Plan for Additional Evaluation of Petroleum in Soil
Former Santa Rosa Station—Phased Closing Property
Santa Rosa, California

Dear Ms. Fleck:

Geomatrix Consultants, Inc. (Geomatrix) has prepared this work plan for additional evaluation of petroleum in soil at the former Santa Rosa Station site (Phased Closing Property; previously referred to as "Option Property"). The purpose of the proposed work described herein is to collect additional data to further evaluate the potential for petroleum hydrocarbons detected in soil at the site to partition into groundwater. This work plan has been prepared on behalf of Union Pacific Railroad Company (UPRR), the current property owner, and the Northwestern Pacific Railroad Authority (NWPRA), the future property owner.

Analytical testing indicates that petroleum hydrocarbons characterized as diesel and motor oil (TPHd and TPHmo, respectively) are present in soil in the northwestern portion of the site along and near a former oil pipeline alignment and near a former aboveground oil tank. In four quarters of monitoring, no TPHd or TPHmo has been detected in samples from monitoring wells in or downgradient of the affected area.[1] Eleven grab groundwater samples from within the affected area had detectable TPHd and TPHmo. Testing was conducted on two samples to assess the leachability of TPHd and TPHmo from soil under the conditions of the California Waste Extraction Test (WET) procedure, modified using deionized water as the extractant. No TPHd or TPHmo was detected in extracts from these soil samples.

To further develop a strategy to mitigate TPHd and TPHmo in soil, we propose collecting additional soil samples containing TPHd and TPHmo, and subjecting these samples to the WET procedure, using deionized water as the extractant. Soil samples from six locations will be collected, as shown on the attached table and figure. The sample locations and depths have been selected based on the results of previous field characterization programs and are intended to be geographically diverse and represent a range in TPHd and TPHmo concentrations. Samples will be analyzed for total TPHd and TPHmo using EPA Method 8015. Subsequently,

1 TPHd was detected once in an upgradient monitoring well. This detection is considered an artifact as the equipment blank also contained TPHd.

these samples will be subjected to the WET procedure, modified using deionized water as the extractant. Additionally, because polynuclear aromatic hydrocarbons (PNAs) were detected in the shallow soil samples from PL-12, the 5-foot sample from this location also will be analyzed for these constituents to evaluate attenuation of PNAs in soil with depth. Analysis of total PNAs will be performed using EPA Method 8270 SIM.

We currently are applying for our soil boring permit with the Sonoma County Department of Health Services, Environmental Health Division, and anticipate collecting soil samples at the site during the week of November 11, 2002. Analytical test results will be available approximately two weeks following completion of the field program; these results will be incorporated into our evaluation of site conditions and a remedial strategy for the site.

Please call John Moe at (415) 541-7020 or either of the undersigned if you have any questions or comments.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Charles F. Rome
Project Geologist

Susan M. Gallardo, P.E.
Principal Engineer

Attachments: Table–Sampling and Analysis Plan
Figure–Northwestern Area Investigation Locations

cc: John Moe, UPRR
Norma Jellison, Golden Gate Bridge and Transportation District
Leah Goldberg, Esq., Hanson, Bridgett, Marcus, Vlahos & Rudy
Peter Krasnoff, West Environmental Services and Technology

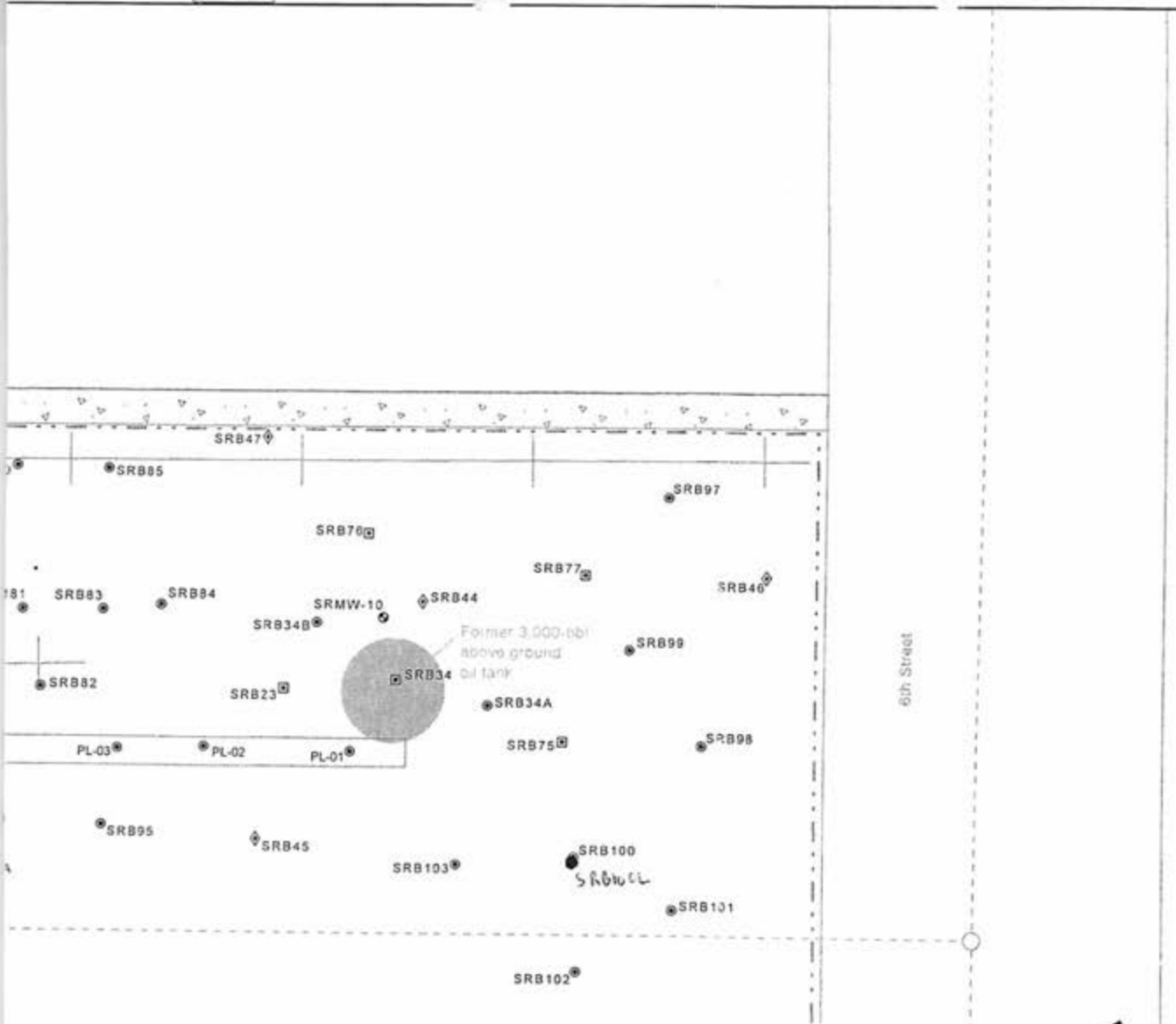
GEOMATRIX

TABLE

SAMPLING AND ANALYSIS PLAN
Santa Rosa Station Phased Closing Property
Santa Rosa, California

Boring Name	Depth (ft bgs)[1]	Total TPHd TPHmo[2]	WET-m TPHd TPHmo[3]	Total PNAs[4]
SRB-100L	4.5–5 7–7.5	X X	X X	
SRB-88L	7–7.5 9.5–10	X X	X X	
SRB-79L	4.5–5 9.5–10	X X	X X	
SRB-53L	4.5–5 9.5–10	X X	X X	
PL-12L	0.5–1 4.5–5	X X	X X	 X
PL-6L	0.5–1 4.5–5	X X	X X	

1. ft bgs = feet below ground surface
2. Total petroleum hydrocarbons (TPH) quantified as diesel and motor oil analyzed by Environmental Protection Agency (EPA) Method 8015M following a silica gel cleanup by EPA Method 3630.
3. TPH as diesel and motor oil analyzed following the California modified waste extraction test (WET) method using deionized water.
4. Polynuclear aromatics (PNAs) analyzed by EPA Method 8270 SIM.



DRAFT

EXPLANATION

Monitoring well location

Soil sampling location

Soil and grab groundwater sampling location

Grab groundwater sampling location

Site property boundary

Chain link fence

City of Santa Rosa storm water line

City of Santa Rosa sewer line

Manhole

SB8L Proposed boring location

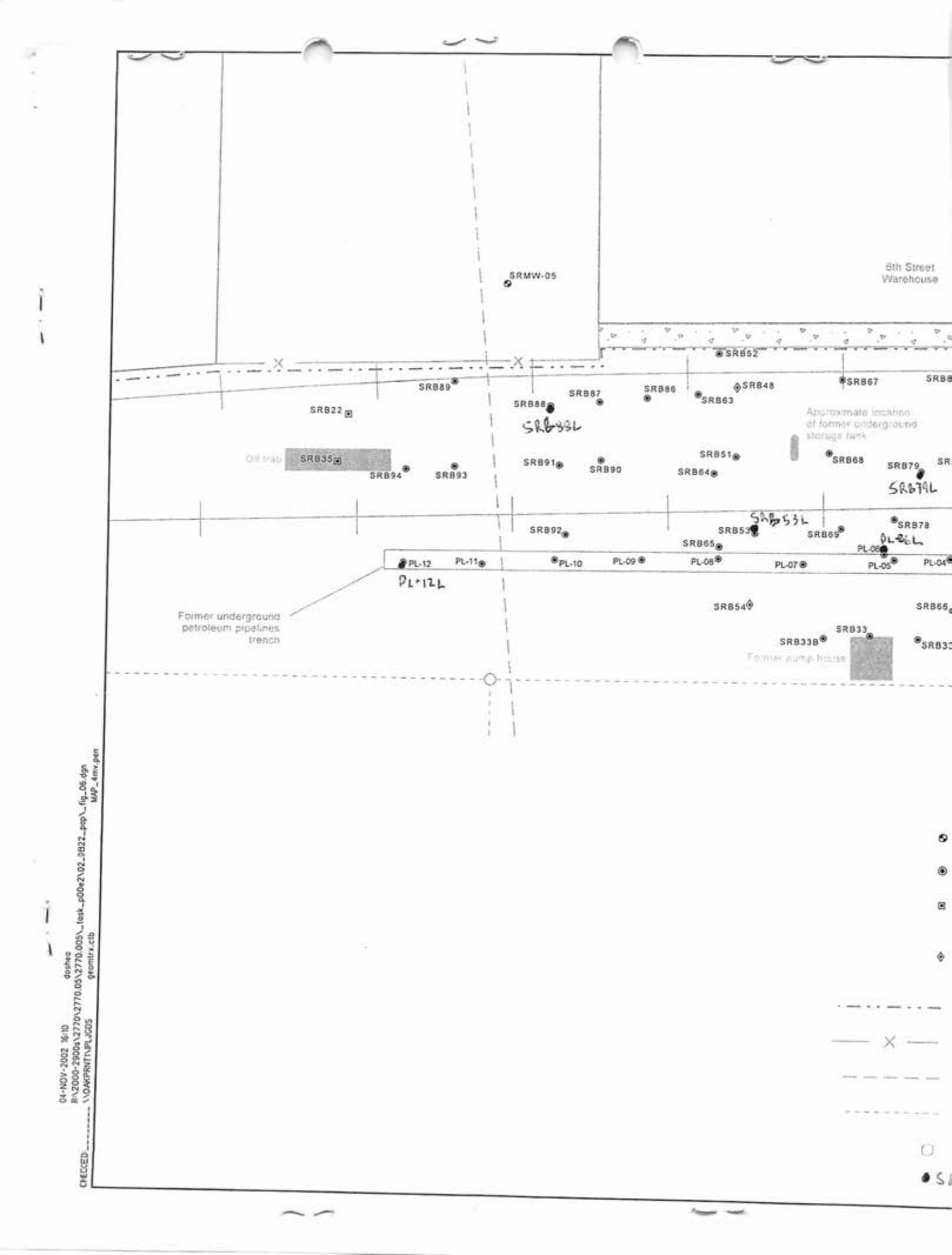
Project North

0 30

SCALE IN FEET

NORTHWESTERN AREA INVESTIGATION LOCATIONS
Santa Rosa Station Phased Closing Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 6


SRMW-05
6th Street Warehouse
SRB52
SRB89
SRB88
SRB87
SRB86
SRB48
SRB67
SRB63
SRB22
SRB88L
Approximate location of former underground storage tank
Oil trap
SRB35
SRB94
SRB93
SRB91
SRB90
SRB64
SRB51
SRB68
SRB79
SRB79L
SRB92
SRB53
SRB53L
SRB69
SRB78
SRB65
PL-06
PL-06L
PL-12
PL-11
PL-10
PL-09
PL-08
PL-07
PL-05
PL-04
PL-12L
Former underground petroleum pipelines trench
SRB54
SRB66
SRB33
SRB33B
SRB32
Former pump house
04-NOV-2002 16:10 dsshea
R:\2000-2900s\2770\2770.05\2770.005_task_p00e2\02_0B22_pep_fig_06.dgn
\\OAKPRINT\PLJOS geomtrx.ctb
MAP_4mw.pen
CHECKED

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

November 6, 2002
Project 2770.005

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Via Fax and U.S. Mail
Fax: 707-523-0135 (4 pages)

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1 TPHd was detected once in an upgradient monitoring well. This detection is considered an artifact as the equipment blank also contained TPHd.

GEOMATRIX

these samples will be subjected to the WET procedure, modified using deionized water as the extractant. Additionally, because polynuclear aromatic hydrocarbons (PNAs) were detected in the shallow soil samples from PL-12, the 5-foot sample from this location also will be analyzed for these constituents to evaluate attenuation of PNAs in soil with depth. Analysis of total PNAs will be performed using EPA Method 8270 SIM.

We currently are applying for our soil boring permit with the Sonoma County Department of Health Services, Environmental Health Division, and anticipate collecting soil samples at the site during the week of November 11, 2002. Analytical test results will be available approximately two weeks following completion of the field program; these results will be incorporated into our evaluation of site conditions and a remedial strategy for the site.

Please call John Moe at (415) 541-7020 or either of the undersigned if you have any questions or comments.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Charles F. Rome
Project Geologist

Susan M. Gallardo, P.E.
Principal Engineer

Attachments: Table–Sampling and Analysis Plan
Figure–Northwestern Area Investigation Locations

cc: John Moe, UPRR
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Peter Krasnoff, West Environmental Services and Technology

GEOMATRIX

TABLE

SAMPLING AND ANALYSIS PLAN
Santa Rosa Station Phased Closing Property
Santa Rosa, California

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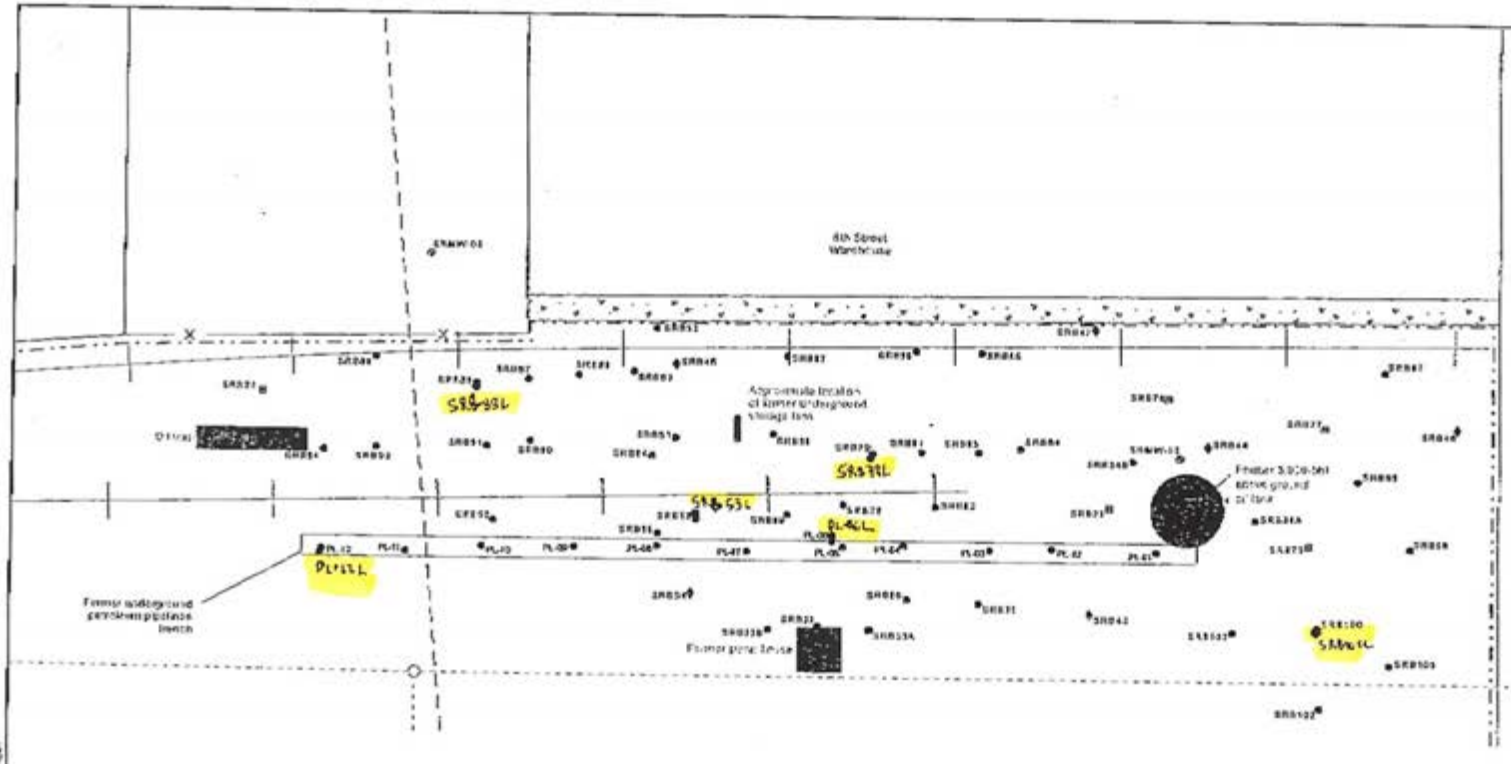
SRB-100L	4.5–5	X	X	
	7–7.5	X	X	
SRB-88L	7–7.5	X	X	
	9.5–10	X	X	
SRB-79L	4.5–5	X	X	
	9.5–10	X	X	
SRB-53L	4.5–5	X	X	
	9.5–10	X	X	
PL-12L	0.5–1	X	X	
	4.5–5	X	X	X
PL-6L	0.5–1	X	X	
	4.5–5	X	X	

1. ft bgs = feet below ground surface
2. Total petroleum hydrocarbons (TPH) quantified as diesel and motor oil analyzed by Environmental Protection Agency (EPA) Method 8015M following a silica gel cleanup by EPA Method 3630.
3. TPH as diesel and motor oil analyzed following the California modified waste extraction test (WET) method using deionized water.
4. Polynuclear aromatics (PNAs) analyzed by EPA Method 8270 SIM.



DRAFT

EXPLANATION

- Monitoring well location
- Soil sampling location
- Soil and grab groundwater sampling location
- Grab groundwater sampling location
- Site property boundary
- Chain link fence
- City of Santa Rosa storm water line
- City of Santa Rosa sewer line
- Manhole
- SB-38L Proposed boring location

Project North

0 30

SCALE IN FEET

NORTHWESTERN AREA INVESTIGATION LOCATIONS
Santa Rosa Station Phased Closing Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 6

TABLE 1

DATA SUMMARY - RESIDUAL PRODUCT AREA

Santa Rosa Station Option Property
Santa Rosa, California

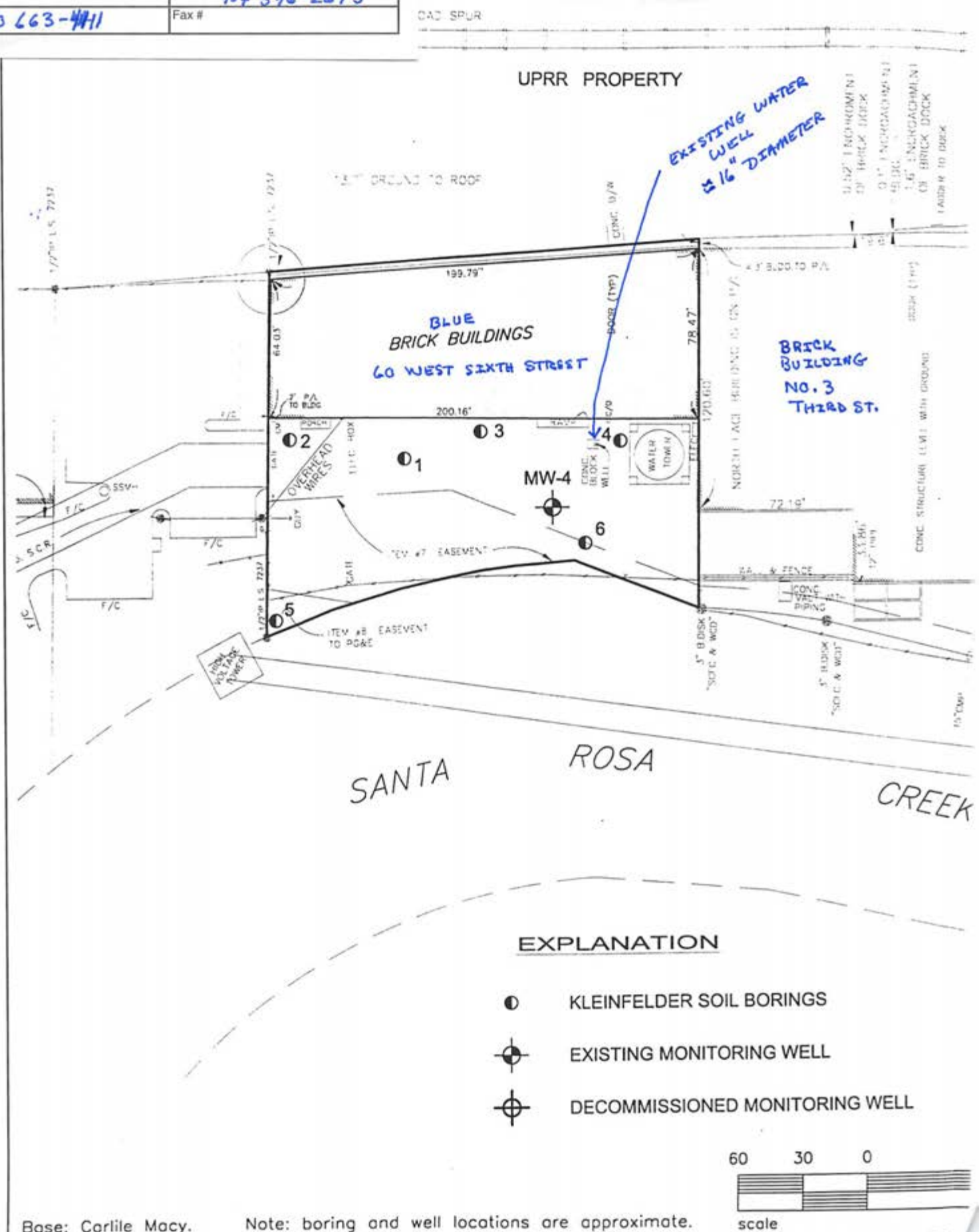
DRAFT

BORING ID	SAMPLE DATE	TOTAL DEPTH, ft	DEPTH TO WATER, ft	PRODUCT INTERVAL
SRB-48	9/25/00	22	19.0	16 - 22
SRB-51	9/27/00	22	20.0	10 - 22
SRB-52	9/27/00	22	19.5	16.5 - 22
SRB-53	9/27/00	7	--	1 - 7
SRB-54	9/27/00	22	21.0	--
SRB-63	6/17/02	19	7.5	16 - 19
SRB-64	6/17/02	19	7.0	16 - 19
SRB-65	6/17/02	19	10.0	--
SRB-66	6/24/02	19	10.5	--
SRB-67	6/17/02	19	7.0	13.5 - 19
SRB-68	6/17/02	19	11.0	4 - 19
SRB-69	6/17/02	19	4.0	4 - 19
SRB-75	6/24/02	22	18.0	18.75 19.0
SRB-76	6/24/02	19	7.5	--
SRB-77	6/24/02	22	11.0	20.75 - 21.5
SRB-78	6/18/02	19	12.5	4 - 19
SRB-79	6/18/02	19	12.5	3 - 19
SRB-80	6/18/02	22	10.5	19 - 21
SRB-81	6/18/02	22	12.0	12 - 22
SRB-82	6/18/02	22	9.75	--
SRB-83	6/18/02	22	9.5	12 - 20.5
SRB-84	6/18/02	19	9.5	--
SRB-85	6/18/02	19	9.5	--
SRB-86	6/19/02	22	7.5	11 - 19.5
SRB-87	6/19/02	22	7.0	10.5 - 19
SRB-88	6/19/02	22	7.0	7 - 19
SRB-89	6/19/02	19	10.0	--
SRB-90	6/19/02	no recovery 19 - 22	13.25	13 - 19
SRB-91	6/19/02	no recovery 18.5 - 22	7.75	12 - 19
SRB-92	6/19/02	19	12.5	--

SP TRANS COMPANY

Post-it® Fax Note 7671 | Date 8/23/[illegible] | # of pages ▶ 1

To CHARLIE ROMÉ	From JOHN FLECK
Co./Dept. GEOMATRIX	Co. NCRWQCB
Phone #	Phone # 707 576-2695
Fax # 510 663-4141	Fax #



Base: Carlile Macy. Note: boring and well locations are approximate.

SP TRANS COMPANY

California Regional Water Quality Control Board

North Coast Region

William R. Massey, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-877-721-9203 Office (707) 576-2220 FAX (707) 523-0135

F A X C O V E R

DATE: AUGUST 22, 2002

TO: CHARLIE ROMÉ

FAX NO: 510 663-4141

PAGES: 34 **(Including cover)**

CITY OF SANTA ROSA
UTILITY BILLING
SYSTEM
ACCOUNTS WITH WELLS

FROM: JOAN FLECK

Regional Water Quality Control Board

PHONE: 707 576-2675 **707-576-2220**

Comments:

IF YOU LOCATE WELLS IN YOUR AREA, YOU SHOULD CALL THE UTILITY DEPARTMENT IN SANTA ROSA TO CONFIRM. SOMETIMES IT TURNS OUT THAT THE WELL NO LONGER EXISTS OR [redacted] SOMETHING ELSE.

I WILL SEND YOU A MAP SHOWING THE WELL ON THE OTHER SIDE OF THE BLUE BUILDING.

..ANSMISSION VERIFICATION REPORT

TIME : 08/22/2002 08:35
NAME : CRWQCB REGION #1
FAX : 707-523-0135
TEL :

DATE,TIME	08/22 08:25
FAX NO./NAME	15106634141
DURATION	00:10:15
PAGE(S)	34
RESULT	OK
MODE	STANDARD ECM

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: August 12, 2002

From: John

Subject: SP Trans Company ITSR196

On August 7, 2002 I attended a meeting regarding the Food and Wine Center. The focus of the one hour meeting was the status of the environmental investigation and cleanup schedule.

John Moe of Union Pacific gave a good summary of the status. The investigation work has been completed and the report/cleanup plan is being prepared. The report/cleanup plan is to be submitted by September 1, 2002.

I indicated that our review will be expedited. John and I agreed that we would discuss the plan and work out changes together to avoid lengthy letter writing sessions. We would both work towards resolution and provide the opportunity for cleanup to proceed prior to this rainy season.

I explained the process of verification monitoring and how we generally coordinate well installation with development. And, the length of verification monitoring is site specific. The need for groundwater monitoring will not delay development.

John Moe and I were excused and another meeting continued. John and I spoke after the meeting. The cleanup plan will include the removal of impacted soil. He is concerned with the volume of soil to be removed. I told him that soil removal is source removal and that is what we will be looking for in the cleanup plan.

In order to keep the group informed, I will copy everyone on our letters to Union Pacific, including those that gave me business cards (attached).

The next meeting is scheduled for October 23, 2002 at 10:00 in the Major's meeting room.

CITY OF SANTA ROSA

Susan E. McCue
Economic Development Manager

Office of the City Manager
100 Santa Rosa Avenue
Post Office Box 1678
Santa Rosa, CA 95402-1678
707-543-3059
Fax: 707-543-3030
email: smccue@ci.santa-rosa.ca.us

LAURA WHITING
Food + Wine Center
131-A Stony Circle #500
Santa Rosa, CA
95401

Cappie Garrett

M L GARRETT DESIGN ASSOCIATES
1104 MCDONALD AVENUE · SANTA ROSA, CA 95404 · 707 542 8170 · FAX 707 542 0760

CMPR
CARLE, MACKIE, POWER & ROSS LLP

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REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: June 17, 2002

From: Joan

Subject: Southern Pacific Transportation Company (Third Street, North)

On this day at 10:35 a.m. I visited the subject site during field activities. John Moe with Union Pacific Railroad was onsite. Charlie Rome and Brendan Mulholland with Geomatrix were also onsite. Precision was doing the drilling. Work was being conducted in two areas. Charlie was overseeing the drilling to define the extent of the separate phase. Brendan was overseeing the pipeline removal.

According the Charlie, they were seeing oil in the soil but not to the degree that they saw it in the original borings. Two 4-inch pipes were found in the area of the 3000-barrel above ground tank. The pipes extended to the south and grew closer together as they moved south. A few lateral trenches had been dug to expose the pipes. In one trench, only one 4-inch pipe was found along with a 1.5-inch pipe and two one-inch pipes. The utility marker was tracing and marking the pipe locations. It was suggested that the smaller pipes were associated with the oil traps and/or pump houses.

We agreed that a few more lateral trenches would be dug between the area where they were working and Third Street. The number of trenches would depend on where they located additional pipes.

Charlie and I walked to the fenced enclosure area and I informed him that their location for SRB-56 was not in the right spot. I moved some pea gravel and exposed the stained/oily area where SRB-56 sample was collected. He agreed to move the sample location. We agreed to the above ground tank sample location (which is the same location that we agreed to in the past). I asked them to explore beneath the tank when it is no longer there to see if the stained area is larger that what we can see at this time. They will collect two samples beneath the storage trailer once it is removed. SRB-74 will be drilled adjacent to IC-6.

I left the site at 1200 hours. I agreed to return to the site later this afternoon. Work scheduled for the afternoon is a continuation of the work in progress and includes drilling in the area of the separate phase, locating and exposing the pipe(s) and removal of the above ground tank.

I returned to the site around 1530 hours. Drilling was still in progress and the pipes were being exposed. Brendan explained what they have found and showed me his drawing. The two 4-inch pipes had been cut where they met with the 3000-barrel above ground tank. At some point to the south, one 4-inch pipe ends and one continues to the south. Charlie showed me obviously stained soil from one of the borings. It did not appear that the product in soil was related to the pipe.

Brendan called on June 18, 2002 at 0820 hours. He said that he will be sampling Wednesday instead of today. He will coordinate with SRFD and I agreed to observe sample collection if SRFD cannot be there.

SPTRANS CO.
MEETING
7/17/02

PROPOSED AGENDA

SANTA ROSA OPTION PROPERTY
July 17, 2002

- Summary of recent site investigation
- Approach for proceeding with site mitigation
  - ✓ property subdivision
  - ✓ Designated Level Methodolgy
- Schedule

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SUMMARY REPORT AND RECOMMENDATIONS FOR SITE MITIGATION

SANTA ROSA OPTION PROPERTY

Santa Rosa, California

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SP TRANS CO.

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TABLE 1

SOIL ANALYTICAL RESULTS FOR PIPELINE TRENCH EXCAVATION - BTEX and TEPH[1]

Santa Rosa Option Property
Santa Rosa, California

Concentrations in milligrams per kilogram (mg/kg)

Sample ID	BTEX	TPHd[2]	TPHmo
PL-01	<0.0052[3]	780	5,700
PL-02	<0.0058	16	290
PL-03	<0.0056	3,900	10,000
PL-04	<0.0052	11	78
PL-05	<0.0059	120	1,200
PL-06	<0.0050	2,400	4,500
PL-07	<0.0058	150	<1000
PL-08	<0.0050	2,000	6,700
PL-09	<0.0050	<1.0	<50
PL-10	<0.0050	51	440
PL-11	<0.0055	<1.0	<50
PL-12	<0.0050	4,400	12,000

Notes:

1. BTEX = benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B. TEPH = total extractable petroleum hydrocarbons quantified as diesel (TPHd) and motor oil (TPHmo) analyzed using EPA Methods 3530 and 8015M. All samples analyzed by STL San Francisco of Pleasanton, California.
2. Hydrocarbon reported does not match the pattern of the analytical laboratory diesel standard.
3. "<" indicates constituent not detected above the laboratory detection limit shown.

TABLE 2

SOIL ANALYTICAL RESULTS FOR PIPELINE TRENCH EXCAVATION - PNAs[1]

Santa Rosa Option Property
Santa Rosa, California

Concentrations in micrograms per kilogram (ug/kg)

Sample ID	PNAs	
PL-01	Benzo(g,h,i)perylene	1,200
PL-02		NA[2]
PL-03		NA
PL-04		<5.0[3]
PL-05		NA
PL-06		NA
PL-07		NA
PL-08	Pyrene	630
	Chrysene	1,000
PL-09		NA
PL-10		NA
PL-11		NA
PL-12	Phenanthrene	11,000
	Anthracene	1,300
	Fluoranthene	2,700
	Pyrene	8,600
	Benzo(a)anthracene	4,800
	Chrysene	7,300
	Benzo(b)fluoranthene	1,300
	Benzo(a)pyrene	4,000
	Benzo(g,h,i)perylene	1,300

Notes:

1. Poly Nuclear Aromatics (PNAs) prepared by EPA Method 3550B and analyzed using EPA Method 8270CSIM. All samples were analyzed by STL San Francisco of Pleasanton, California.
2. NA = not analyzed.
3. "<" indicates constituent not detected above the laboratory detection limit shown.

TABLE 1

DATA SUMMARY

Santa Rosa Station Option Property
Santa Rosa, California

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BORING ID	SAMPLE DATE	TOTAL DEPTH (feet)	DEPTH TO WATER (feet)	VISUALLY IMPACTED SOIL INTERVAL (feet)
Sixth Street Warehouse Area				
SRB-48	9/25/00	22	19	16 - 22
SRB-51	9/27/00	22	20	10 - 22
SRB-52	9/27/00	22	19.5	16.5 - 22
SRB-53	9/27/00	7	--	1 - 7
SRB-54	9/27/00	22	21	--
SRB-63	6/17/02	19	7.5	16 - 19
SRB-64	6/17/02	19	7.0	16 - 19
SRB-65	6/17/02	19	10.0	--
SRB-66	6/24/02	19	10.3	--
SRB-67	6/17/02	19	7.0	13.5 - 19
SRB-68	6/17/02	19	11.0	4 - 19
SRB-69	6/17/02	19	4.0	4 - 19
SRB-78	6/18/02	19	12.5	4 - 19
SRB-79	6/18/02	19	12.5	3 - 19
SRB-80	6/18/02	22	10.5	19 - 21
SRB-81	6/18/02	22	12.0	12-22
SRB-82	6/18/02	22	9.75	--
SRB-83	6/18/02	22	9.5	12 - 20.5
SRB-84	6/18/02	19	9.5	--
SRB-85	6/18/02	19	9.5	--
SRB-86	6/19/02	22	7.5	11 - 19.5
SRB-87	6/19/02	22	7.0	10.5 - 19
SRB-88	6/19/02	22	7.0	7 - 19
SRB-89	6/19/02	19	10.0	--
SRB-90	6/19/02	no recovery 19 - 22	13.25	13 - 19
SRB-91	6/19/02	no recovery 18.5 - 22	7.75	12 - 19
SRB-92	6/19/02	19	12.5	--
SRB-93	6/20/02	19	13	13 - 16
SRB-94	6/20/02	18	16	--
Fenced Enclosure				
SRB-72	6/20/02	5	--	--
SRB-73	6/20/02	5	--	--

SRB-74	6/25/02	28	11.0	--
SRB-96	6/20/02	5	--	--
3000-Barrel Aboveground Storage Tank Area				
SRB-75	6/24/02	22	18.0	18.75 - 19.0
SRB-76	6/24/02	19	7.5	--
SRB-77	6/24/02	22	11.0	20.75 - 21.5
SRB-95	6/24/02	19	7.25	--
SRB-97	6/25/02	19	11	--
SRB-98	6/25/02	19	10.75	--
SRB-99	6/25/02	25	14.5	16 - 22
SRB-100	6/25/02	22	12	7 -10, 18.5 -19

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TABLE 1

SOIL ANALYTICAL RESULTS - BTEX and TEPH

Santa Rosa Option Property
Santa Rosa, California

Concentrations in micrograms per kilogram (ug/kg) except where indicated

SAMPLE ID	SAMPLE INTERVAL (feet bgs)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TPHd (mg/kg)	TPHd[1] (mg/kg)	TPHmo (mg/kg)	TPHmo[1] (mg/kg)	TPHg (mg/kg)	Bunker-C fuel oil (mg/kg)
Sixth Street Warehouse Area												
SRB-79	12.0 - 12.5	<250[2]	<250	<250	<500	NA[3]	NA	NA	NA	NA	NA	NA
SRB-80	15.5 - 16.0	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
	21.0 - 21.5	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
SRB-81	8.0 - 8.5	<5	**15**	<5	<5	<5	<1	NA	<50	NA	NA	<50
	15.0 - 15.5	<5	**16**	<5	<5	<5	**160**	NA	**230**	NA	NA	<100
	21.5 - 22.0	<5	<5	<5	<5	<5	<1	NA	<50	NA	NA	<50
SRB-83	8.5 - 9.0	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
	10.5-11.0	<5	<5	<5	<5	NA	NA	NA	NA	NA	NA	NA
	13.5-14.0	<5	**19**	<5	<5	NA	NA	NA	NA	NA	NA	NA
	20.5 - 21.0	NA	NA	NA	NA	NA	**4.9**	NA	<50	NA	NA	NA
SRB-88	5.5 - 6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	20.5 - 21.0	<5	**20**	<5	<5	<5	**4**	NA	<50	NA	NA	<50
SRB-90	13.5 - 14.0	NA	NA	NA	NA	NA	**21**	NA	<50	NA	NA	NA
	16.5 - 17.0	NA	NA	NA	NA	NA	**150**	NA	**210**	NA	NA	NA
SRB-91	10.5 - 11.0	<5	**21**	<5	<5	<5	**8.8**	NA	<50	NA	NA	<50
	13.5 - 14.0	<5	**25**	<5	<5	<5	**73**	NA	**91**	NA	NA	<50
SRB-93	13.5 - 14.0	NA	NA	NA	NA	NA	**87**	NA	**130**	NA	NA	NA
	17.5 - 18.0	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
Fenced Enclosure												
SRB-72	0.0 - 0.5	<5	<5	<5	<5	<5	**10**	**6.8**	<50	<50	<1	NA
	2.5 - 3.0	<6.5	<6.5	<6.5	<6.5	<6.5	**130**	**170**	**350**	**260**	<1.3	NA
	4.5 - 5.0	<5	<5	<5	<5	<5	<1	**1**	<50	<50	<1	NA
SRB-73	0.0-0.5	<5	<5	<5	<5	<5	**180**	**120**	**360**	**260**	<1	NA
	2.5-3.0	<5	<5	<5	<5	<5	**440**	**410**	**610**	**570**	**2.5**	NA
	4.5-5.0	<9.4	<9.4	<9.4	<9.4	<9.4	**11**	**8.8**	<50	<50	<1.9	NA

SAMPLE ID	SAMPLE INTERVAL (feet bgs)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TPHd (mg/kg)	TPHd[1] (mg/kg)	TPHmo (mg/kg)	TPHmo[1] (mg/kg)	TPHg (mg/kg)	Bunker-C fuel oil (mg/kg)
SRB-74	0.5 - 1.0	<5	<5	<5	<5	<5	8	7.2	87	74	<1	NA
	4.5 - 5.0	<8.1	<8.1	<8.1	<8.1	<8.1	<1	<1	<50	<50	<1.6	NA
	8.5 - 9.0	<5	<5	<5	<5	<5	NA	NA	NA	NA	<1	NA
	10.5 - 11.0	NA	NA	NA	NA	NA	<1	<1	<50	<50	NA	NA
	14.5 - 15.0	<5	<5	<5	<5	<5	<1	<1	<50	<50	<1	NA
SRB-96	0.0 - 0.5	<5.3	<5.3	<5.3	<5.3	<5.3	2700	2400	3300	2800	13	NA
	2.5 - 3.0	<5	<5	<5	<5	<5	<1	<1	<50	<50	<1	NA
	4.5 - 5.0	<5	<5	<5	<5	<5	<1	<1	<50	<50	<1	NA
3000-Barrel Aboveground Storage Tank Area												
SRB-75	0.5 - 1.0	<5	<5	11	51	<5	6.3	4.9	57	<50	<1	NA
	1.5 - 2.0	NA	NA	NA	NA	NA	6.7	6.7	54	60	NA	NA
	4.5 - 5.0	NA	NA	NA	NA	NA	<1	<1	<50	<50	NA	NA
	16.5 - 17.0	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
	18.5 - 19.0	NA	NA	NA	NA	NA	1200	990	1200	840	NA	NA
	19.5 - 20.0	NA	NA	NA	NA	NA	310	NA	340	NA	NA	NA
SRB-99	13.5 - 14.0	<5	19	<5	<5	<5	10	8.4	<50	<50	NA	<50
	16.5 - 17.0	NA	NA	NA	NA	NA	120	NA	130	NA	NA	NA
	19.5-20.0	<500	<500	<500	<500	<500	1300	1100	1300	940	NA	<500
	22.5-23.0	NA	NA	NA	NA	NA	<1	NA	<50	NA	NA	NA
SRB-100	4.5-5.0	<5	27	<5	<5	<5	130	120	1200	930	NA	<500
	7.0-7.5	<5	42	<5	<5	<5	1800	2300	5100	6600	NA	<2500
	10.5-11.0	NA	NA	NA	NA	NA	96	NA	520	NA	NA	NA
	19.5-20.0	NA	NA	NA	NA	NA	51	NA	59	NA	NA	NA

Notes:
1. TPH analyzed following silica gel cleanup using EPA Method 3630.
2. "<" indicates analyte not detected above the laboratory detection limit shown.
3. "NA" = not analyzed.

Abbreviations:
BTEX = benzene, toluene, ethylbenzene, and total xylenes
TEPH = total extractable petroleum hydrcarbons characterized as diesel (TPHd), motor oil (TPHmo), and gasoline (TPHg)
MTBE = methyl tertiary butyl ether

TABLE 2

GRAB GROUNDWATER ANALYTICAL RESULTS - BTEX and TEPH

Santa Rosa Option Property
Santa Rosa, California

Concentrations in micrograms per liter (ug/L)

SAMPLE ID	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TPHd	TPHd[1]	TPHmo	TPHmo[1]	TPHg	State
Fenced Enclosure											
SRB-74	<0.5[2]	<0.5	<0.5	<1	33	<71	<71	<710	<710	<50	Unfiltered
	NA[3]	NA	NA	NA	NA	<79	<79	<790	<790	NA	Filtered
3000-Barrel Aboveground Storage Tank Area											
SRB-75	<0.5	<0.5	<0.5	<1	3.3	4100	3700	3900	3800	76	Unfiltered
	NA	NA	NA	NA	NA	180	<63	<630	<630	NA	Filtered
SRB-76	<1	<1	<1	<1	<5	<58	<58	<580	<580	<50	Unfiltered
SRB-77	<0.5	<0.5	<0.5	<1	0.6	950	960	1100	1100	<50	Unfiltered
	NA	NA	NA	NA	NA	180	<67	<670	<670	NA	Filtered

Notes:
1. TPH analyzed following silica gel cleanup using EPA Method 3630.
2. "<" indicates analyte not detected above the laboratory detection limit shown.
3. "NA" = not analyzed.

Abbreviations:
BTEX = benzene, toluene, ethylbenzene, and total xylenes
TEPH = total extractable petroleum hydrcarbons characterized as diesel (TPHd), motor oil (TPHmo), and gasoline (TPHg)
MTBE = methyl tertiary butyl ether

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Santa Rosa
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Concentrations in mic

SAMPLE ID	SAMPLE INTERVAL (feet bgs)	Naphthalene	Acenaph-thylene	Acenaph-thene	Fluorene	Phenan-threne	Anthracene	F
Sixth Street Warehouse Area								
SRB-79	12.0 - 12.5	<10	24	51	16	220	150	
SRB-80	15.5 - 16.0	<5	<5	<5	<5	<5	<5	
	21.0 - 21.5	<5	<5	<5	<5	<5	<5	
SRB-81	8.0 - 8.5	<5	<5	<5	<5	<5	<5	
	15.0 - 15.5	<25	<25	43	<25	<25	<25	
	21.5 - 22.0	<5	<5	<5	<5	<5	<5	
SRB-83	8.5 - 9.0	<5	<5	<5	<5	<5	<5	
	10.5-11.0	<5	<5	<5	<5	<5	<5	
	13.5-14.0	<25	39	32	<25	<25	330	
	20.5 - 21.0	<5	<5	<5	<5	<5	<5	
SRB-88	20.5 - 21.0	<5	<5	<5	<5	<5	<5	
SRB-90	13.5 - 14.0	<5	<5	<5	<5	<5	<5	
	16.5 - 17.0	<5	<5	<5	<5	<5	62	
SRB-91	10.5 - 11.0	<5	<5	<5	<5	<5	<5	
	13.5 - 14.0	<5	<5	<5	<5	<5	<5	
SRB-93	13.5 - 14.0	<5	<5	<5	<5	<5	<5	
	17.5 - 18.0	<5	<5	<5	<5	<5	<5	
3000-Barrel Aboveground Storage Tank Area								
SRB-75	16.5 - 17.0	<5	<5	<5	<5	<5	<5	
	19.5 - 20.0	<5	<5	<5	<5	<5	<5	
SRB-99	13.5 - 14.0	<5	<5	<5	<5	<5	<5	
	16.5 - 17.0	<5	<5	<5	<5	<5	8.2	
	19.5-20.0	<10	<10	<10	<10	<10	22	
	22.5-23.0	<5	<5	<5	<5	<5	<5	
SRB-100	4.5-5.0	<50	<50	<50	<50	<50	<50	
	7.0-7.5	<50	<50	<50	<50	<50	<50	
	10.5-11.0	<25	<25	<25	<25	<25	<25	
	19.5-20.0	<5	<5	<5	<5	<5	<5	

Notes:
1. "<" indicates analyte not detected above the laboratory detection limit shown.
2. "NA" = not analyzed.

Abbreviations:
PNAs = polynuclear aromatic hydrocarbons

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ABLE 3

CAL RESULTS - PNAs
ı Option Property
osa, California

rograms per kilogram (ug/kg)

luoranthene	Pyrene	Benzo(a)-anthracene	Chrysene	Benzo(b)-fluor-anthene	Benzo(k)-fluor-anthene	Benzo(a)-pyrene	Indeno-(1,2,3-c,d)-pyrene	Dibenzo-(a,h)anthra-cene	Benzo(g,h,i) perylene
19	230	33	97	20	<10	25	<10	<10	11
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<25	110	<25	55	<25	<25	<25	<25	<25	<25
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
74	460	89	220	41	<25	52	<25	<25	25
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
<5	5.4	<5	<5	<5	<5	<5	<5	<5	<5
<5	25	<5	9.4	<5	<5	<5	<5	<5	<5
18	76	35	48	9.1	<5	14	<5	<5	7.3
<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
6.7	42	6.9	20	<5	<5	5	<5	<5	<5
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FAX

from **Geomatrix Consultants, Inc.**
2101 Webster Street, 12th Floor, Oakland, CA 94612
www.geomatrix.com

GEOMATRIX

The information in this telecopy is intended for the named recipient(s) only. It may contain privileged and confidential matter. If you have received this telecopy in error, please notify the sender immediately. Thank you.

Date: 6/14/02 **Number of pages including cover sheet:** _____

To:

Ms. Joan Fleck

Fax Phone: 707-576-2675
Phone: 707-523-935
cc:

From:

Charles Rome

Fax Phone: 510-663-4141
Phone: 510-663-4100
Direct dial:
Email:
Project No.: 2770.005
Project Name: Santa Rosa Station, Option Property

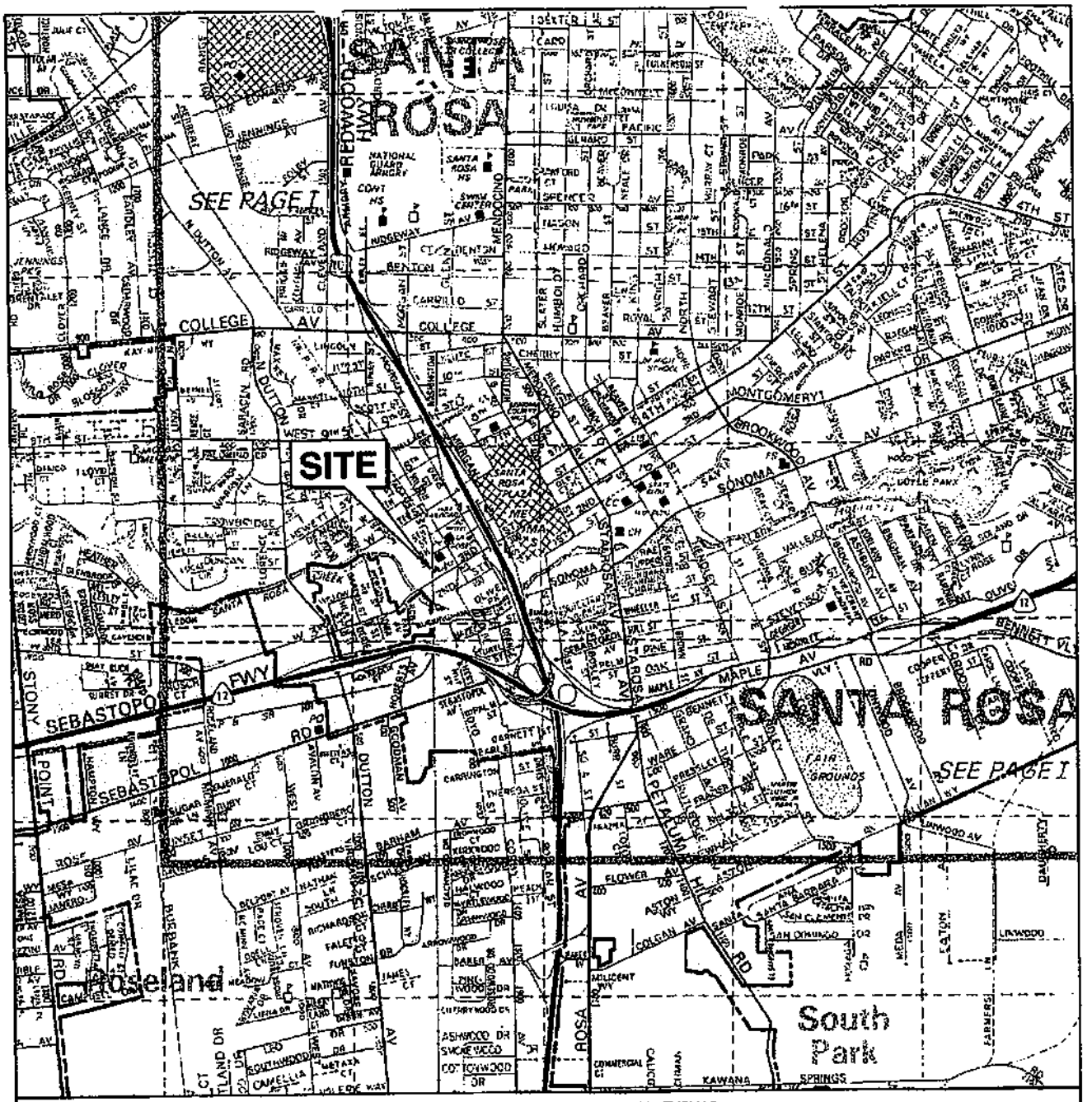
REMARKS:

☐ Hard copy to follow ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Hi Joan,

Here is a faxed copy of the Addendum to Work Plan for Exploratory Borings. We will send the hard copy overnight mail. Let me know if you have any questions or comments.

Thanks,
Chi



Base map from *The Thomas Bros. Guide, Sonoma County, 1998 Edition*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

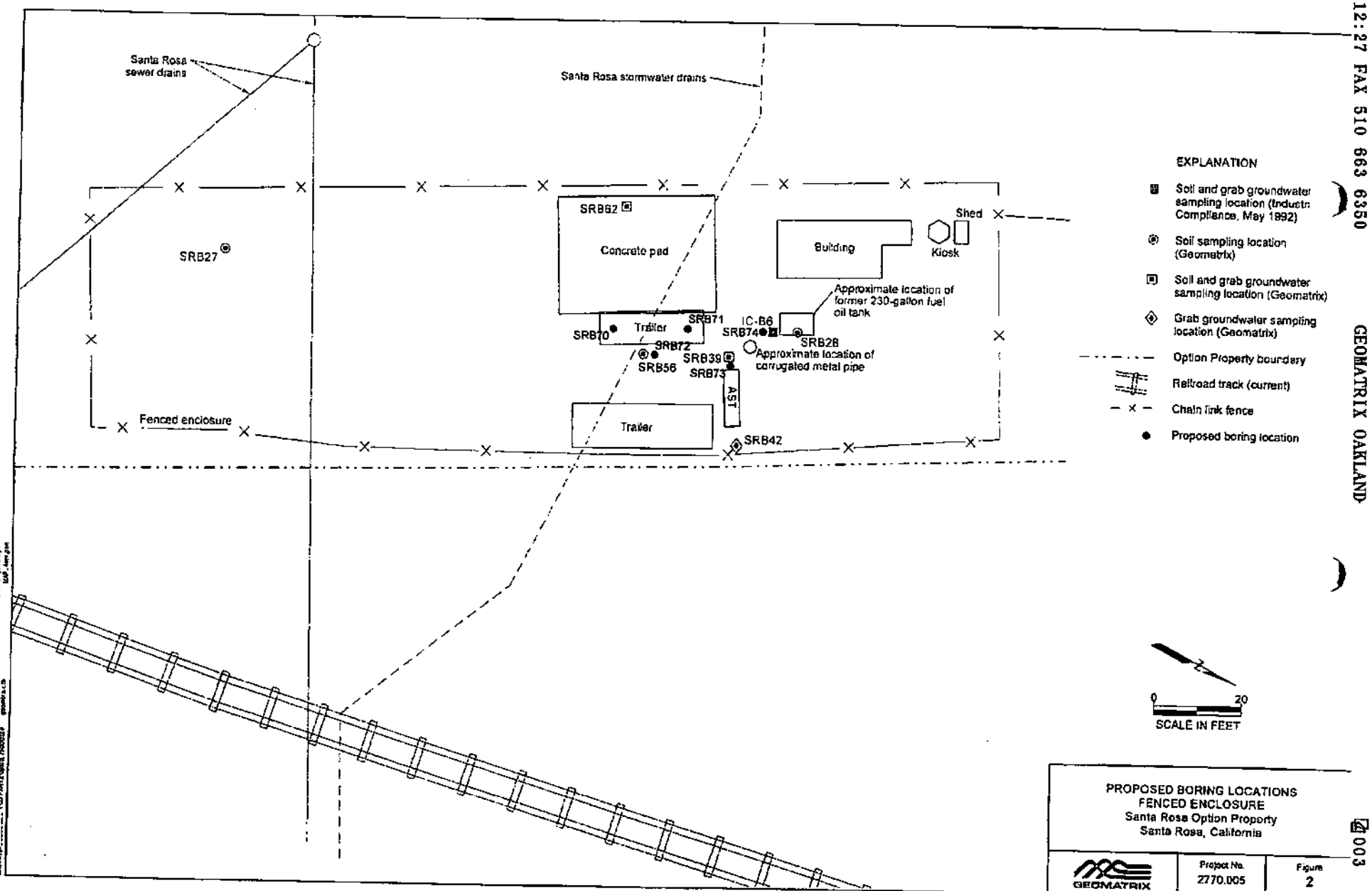
F:\2000-2900\2770\2770.005\2770.005_site location map_fig_01.ai

GEOMATRIX

SITE LOCATION MAP
Santa Rosa Station - Option Property
Santa Rosa, California

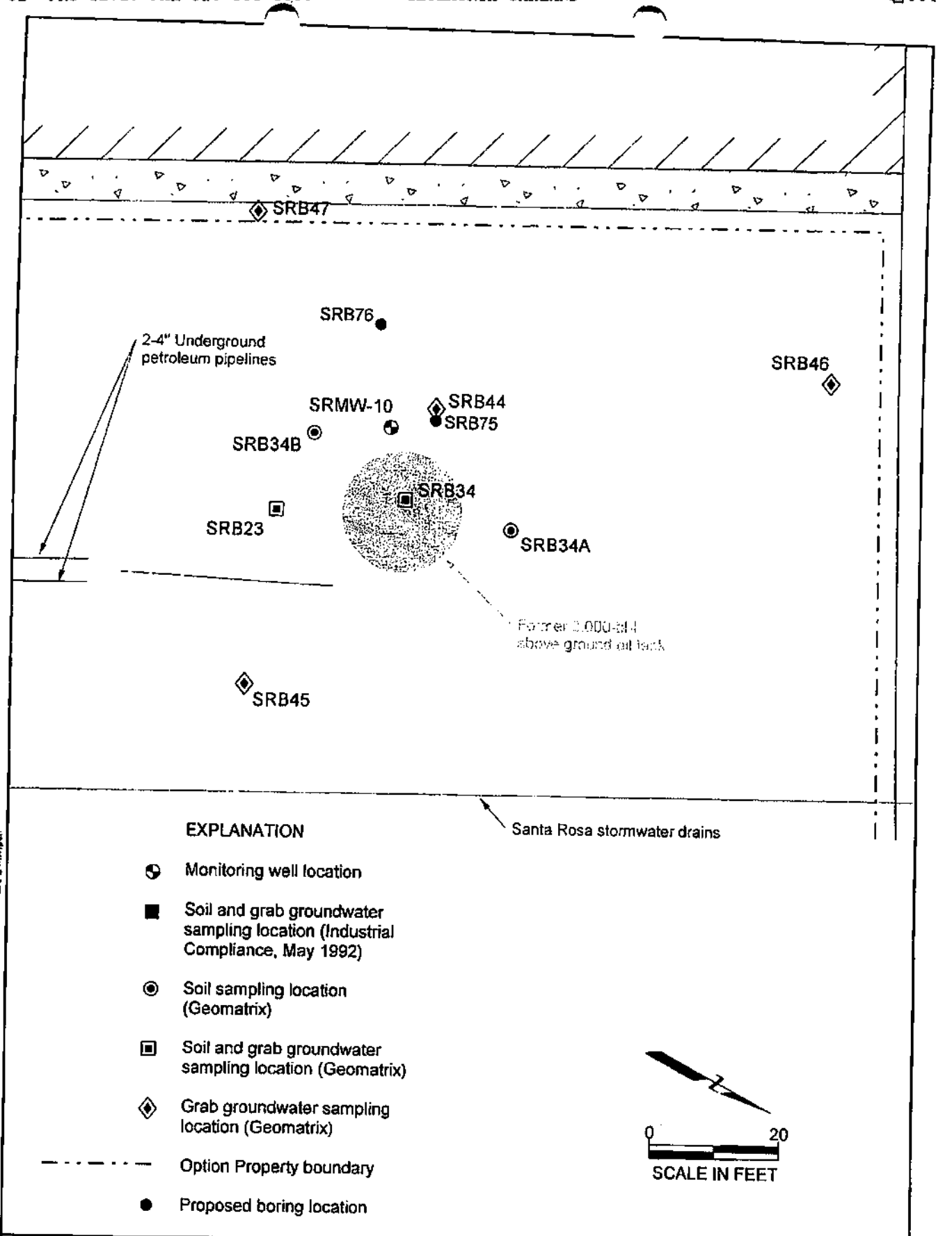
Project No. 2770.005

Figure 1



PROPOSED BORING LOCATIONS
FENCED ENCLOSURE
Santa Rosa Option Property
Santa Rosa, California

GEOMATRIX	Project No. 2770.005	Figure 2



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CHECKED:

GEOMATRIX

PROPOSED BORING LOCATIONS
3000-BBL ABOVEGROUND STORAGE TANK
Santa Rosa Option Property
Santa Rosa, California

Project No.
2770.005

Figure
3

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: JUNE 13, 2002

From: JOAN

Subject: SPTRANSPORTATION COMPANY

ON THIS DAY I SPOKE TO CHARLIE ROME WITH GEOMATRIX. HE E-MAILED TWO MAPS AND REQUESTED THAT I CALL TO DISCUSS.

I REQUESTED ADDITIONAL WORK IN THE AREA OF SR84 TO DEFINE THE EXTENT. HE WILL REVISE THE WORK PLAN TO INCLUDE WORK IN THIS AREA.

NORMA JELLISON
Real Estate Specialist

njellison@goldengate.org
www.goldengate.org

tel 415•257•4564
fax 415•257•4536

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

1011 ANDERSEN DRIVE • SAN RAFAEL, CA 94901-5381 • USA

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: June 11, 2002

From: JEF

Subject: Southern Pacific Transportation Company

On May 8, 2002 the persons on the attached list met to discuss the subject site. The meeting was requested by City of Santa Rosa staff. Stephen Burke began the meeting by thanking everyone for attending. He explained that it was Alan Zahradnik's May 2, 2002 letter that prompted the meeting.

Laura Whiting provided a summary of the history and how it began with the City Vision project. She discussed the plans for the site. Jeff Kolin indicated that he is a supporter and partner of the project.

Luis and I discussed the environmental issues at the site. Susan Gallardo and John Moe were under the impression that the MtBE issue had been resolved and no further work was required. I explained that there were some items that still needed to be addressed and I would work directly with Susan Gallardo to resolve them. I gave them verbal acceptance of the drilling work plan to define the extent of oil where the 4-inch pipeline was found. We also discussed the need to remove impacted soil prior to property development. Susan expressed her opinion that the property is now ready for commercial development. Luis and I explained that property development in Santa Rosa includes the removal of impacted soil and the development must not interfere with groundwater remediation, if necessary.

Alan encouraged Union Pacific Railroad to complete the environmental work.

We agreed to meet again on August 7, 2002 at 10:00 a.m. at the City Hall annex.

CITY OF SANTA ROSA

FAX COVER SHEET

City Manager's FAX (707) 543-3030

Date: 5-17-02

PLEASE DELIVER THE FOLLOWING 2 PAGES (INCLUDING COVER SHEET) TO:

NAME: Joan Fleck

FIRM:

FAX #: 523-0135

FROM: Susan McCue

DEPT:

FAX #: TELEPHONE #: 543-3059

COMMENTS:

FAX Numbers

City Manager (707) 543-3030 Administrative Services (707) 543-3139 Human Resources (707) 543-3064
Fire (707) 543-3520 Police (707) 543-3589 MSC-N (707) 543-3723 City Attorney (707) 543-3055
Public Works (707) 543-3801 Utilities (707) 543-3936 Laguna Treatment Plant (707) 543-3399
Transit & Parking (707) 543-3328 Housing & Redevelopment (707) 543-3317
Community Dev. Engineering/Planning (707) 543-3218 Community Dev. Building (707) 543-3219

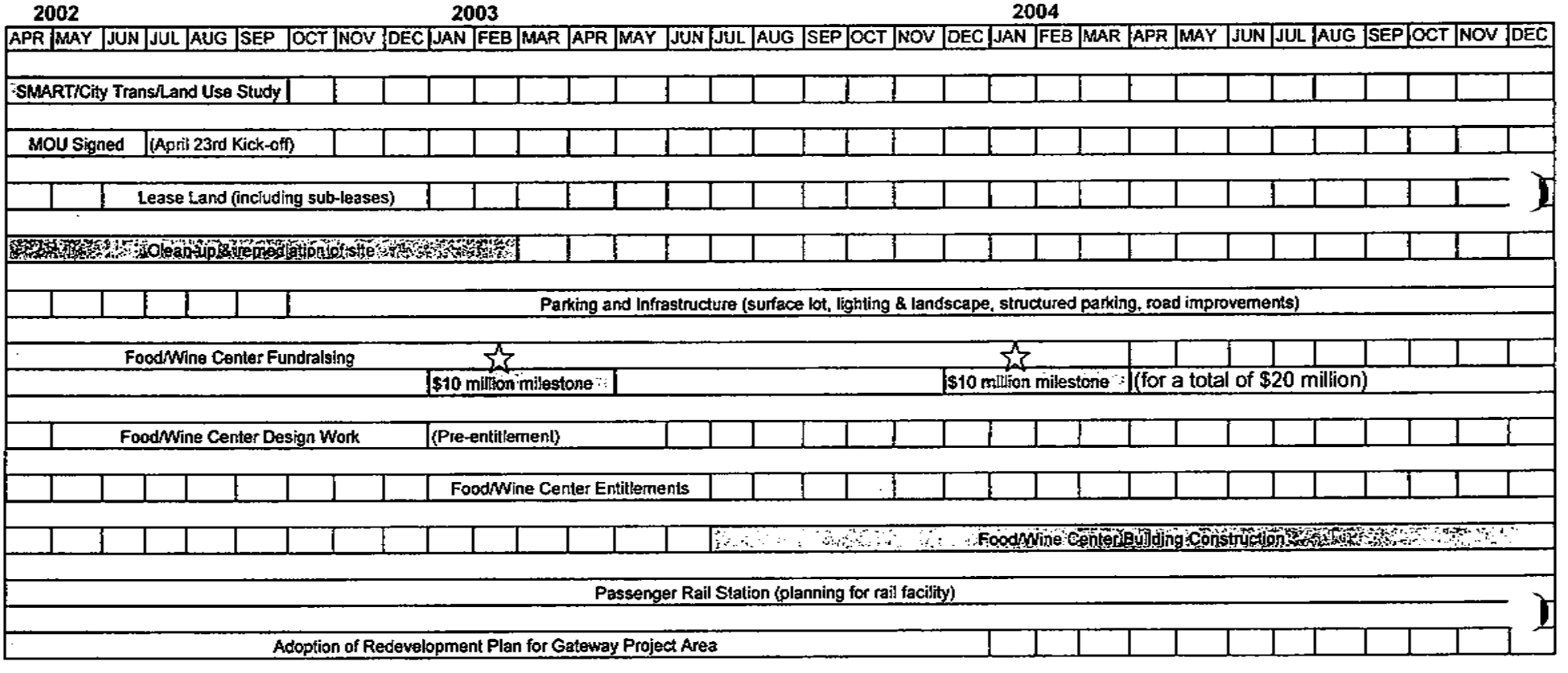
SIGN-UP LIST

May 8, 2002

	NAME	ORG./AGENCY	E-MAIL
1.	SUSAN McCUE	CITY OF SANTA ROSA	SMCCUE@CI.SANTA-ROSA.CA.US
2.	JOHN FLECK	NCRWQCB	FleaJ@rb1.swrcb.ca.gov
3.	Luis Rivera	"	rivel@rb1.swrcb.ca.gov
4.	LAURA WHITING	Food & Wine Center	Whiting@callatg.com
5.	CAPPIE GARRETT	So Co. Food & Wine	MCGARR@PACBELL.NET
6	NORMA JELLISON	NWPACIFIC RR AUTH	njellison@goldengate.org
7	Leah Goldberg	NWPRA/HANSON BRIDGETT	lgoldberg@hansonbridgett.com
8	Alan Zakvadnuk	NWPRA	azakvadnuk@goldengate.org
9.	STEVE BURKE	CITY OF SANTA ROSA	SBURKE@CI.SANTA-ROSA.CA.US
10.	JOHN MACKIE	SO CO. FOOD & WINE	jmackie@lmaclaw.com
11.	Dave Beatty	Counsel to Agency	dbeatty@mhalaw.com
12	JOHN MOE	UNION PACIFIC RR	JCMOE@UP.COM
13.	Susan Gallardo	Geomatrix	sgallardo@geomatrix.com
14.	Jeff Kolin	City of S.R.	jkolin@ci.santa-rosa.ca.us

TIMELINE

Santa Rosa Transit-Oriented Village



CITY OF
SANTA ROSA

CITY COUNCIL
100 Santa Rosa Avenue
Post Office Box 1678
Santa Rosa, CA 95402-1678
707-543-3010
Fax: 707-543-3030

March 5, 2002

Wallace Lowry, Chair
City of Santa Rosa Redevelopment Agency
5209 Honor Oak Court
Santa Rosa, CA 95405-7460

Mike Kearns, President
Sonoma County Board of Supervisors
575 Administration Drive, Room 100-A
Santa Rosa, CA 95403

John Kress, Chair
Northwestern Pacific Railroad Authority
P.O. Box 9000
San Francisco, CA 94129-0601

John Kress, Co- Chair
Sonoma Marin Area Rail Transit
520 Mendocino Avenue, Suite 240
Santa Rosa, CA 95401

Tim Smith, Co-Chair
Sonoma Marin Area Rail Transit
520 Mendocino Avenue, Suite 240
Santa Rosa, CA 95401

Cappie Garrett, Chair
So. Co. Food & Wine Steering Committee
131-A Stony Circle
Santa Rosa, CA 95401

Dear Sirs and Madame:

It is my pleasure to forward the attached draft Memorandum of Understanding to begin discussion among the City's strategic partners on transit oriented development adjacent to Santa Rosa's historic rail depot. This letter follows a presentation to our City Council about this exciting opportunity to build quality, transit oriented development around the Santa Rosa rail station.

The draft Memorandum and site diagram illustrate this area's potential to deliver transit oriented development that will generate rail ridership, create an exciting destination for rail passengers, and provide quality housing, retail and office development. The City has been working closely with the Sonoma Food and Wine Center to develop the Sonoma County Food/Wine Marketplace, designed to showcase Sonoma County's fine wines, fresh produce and promote the principles of sustainable agriculture. Santa Rosa's Junior College plans to locate their highly-regarded Culinary Academy on site, bringing an important educational component to the Marketplace.

I have asked staff in the City Manager's Office to contact you by phone to find the best time for an initial meeting to move forward on the draft Memorandum. On behalf of the Mayor and City Council, I invite you to join the City of Santa Rosa in moving forward on this exciting opportunity.

Sincerely,

Sharon Wright
Vice Mayor

c: Jeffrey C. Kolin, City Manager
Stephen Burke, Executive Director, Santa Rosa Redevelopment Agency
Mike Crystal, Sonoma County Chief Administrative Officer
Lillian Hames, Project Director, SMART Commission
Celia Kupersmith, Executive Director, Golden Gate Bridge Authority/NWPRA
Laura Whiting, Project Director, Sonoma County Food and Wine Center

McDonough, Holland & Allen
A Professional Corporation
ATTORNEYS
555 Capitol Mall, Suite 950
Sacramento, CA 95814
(916) 444-3900

DRAFT MEMORANDUM OF UNDERSTANDING

DATE: **March 6, 2002**

RE: **Santa Rosa Railroad Square Station/Transit Oriented Village**

The City of Santa Rosa ("City"), the Santa Rosa Redevelopment Agency ("Agency"), the County of Sonoma ("County"), the Northwestern Pacific Railroad Authority ("Railroad"), the Sonoma Marin Area Rail Transit ("SMART"), and the Sonoma County Food and Wine Center ("Food and Wine Center") all desire to work together to develop the Sonoma County Food and Wine Center ("Center") on a portion of the two parcels adjacent to Railroad Square within the City and shown on the Site Map attached hereto as Attachment No. 1. ("Site"). The purpose of the Center is to educate the public about the production and use of the foods and wines of Sonoma County and to provide a public location to experience and appreciate these products. The Center would include on site parking. In addition the City and Agency intend to work with the Railroad and with adjacent property owners to plan for and implement development that is consistent with the Center. This could include uses such as housing. The purpose of this memo is to outline possible objectives for each party and a process for determining if development of the site and a Center are feasible. This memo also forms the framework for a memorandum of understanding among the various entities listed above.

A portion of the site is presently owned by Union Pacific and a portion by Northwestern Pacific Railroad Authority. The Golden Gate Bridge District, representing the Railroad, has a contract to purchase the Site if the hazardous materials are remediated. A consultant is determining the extent of the contamination.

Objectives

1. City and Agency

   A. Adoption of a redevelopment plan for the Gateway Project Area.

   B. Removal of contamination on the Site.

   C. Development of a transit oriented development and development on the site of a Food and Wine Center, if feasible.

   D. Promote development on a key site to further the goals, such as parking, for both the surrounding transit uses and for transit oriented development.

2. County

   A. Adoption of a Redevelopment Plan for the Gateway Project Area.

   B. Encourage development around rail nodes.

   C. Increase use of railroad by passengers.

   D. Development on the site of a Food and Wine Center, if feasible.

   E. Promote development on a key site to further the goals such as parking, for both the surrounding transit uses and for transit oriented development.

3. Northwestern Pacific Railroad Authority (and any successor operating entity)

   A. Upgrade capital improvements: rails and cars.

B. Increase use of railroad by passengers.

C. Interest in producing income from the Site.

D. SMART will work with the City to do initial planning as part of the feasibility studies.

4. Sonoma County Food and Wine Center

A. Fund raising and development of Food and Wine Center on the Site as a location which is accessible to producers, consumers, tourists and students.

B. Stimulation of tourism to area wineries, restaurants, etc.

C. Participation in the Center by the Santa Rosa Junior College Culinary Program.

D. Participation in the Center by Sonoma County wineries.

E. Form a nonprofit and secure 501(c)(3) status.

Authority and Powers

1. City and Agency have ability to:

A. Adopt a redevelopment plan that could ultimately provide tax increment assistance to the Site.

B. Adopt an EIR in conjunction with the redevelopment plan that includes analysis of the Site and Center.

C. Plan and implement land use controls that assure development consistent with the Center and transit oriented development.

D. Assist in remediation: work with regulatory boards and seek grants and other forms of financial assistance.

E. Control the assembly and disposition of the site, including lease or purchase.

F. Assist in obtaining entitlements.

G. Collaborate with the Food and Wine Center to develop a development concept that is financially feasible.

H. Assist other uses as part of the project e.g., transit oriented development.

I. Work with SMART to do initial planning as part of feasibility studies.

2. County has ability to:

A. Approve a redevelopment plan that includes the Site adjacent property and additional land within both the City and unincorporated areas of the County.

B. Assist in obtaining regulatory approval of remediation.

C. Assist in encouraging rail service.

3. Food and Wine Center has ability to:

A. Raise funds for development and construction of Center.

B. Own and operate the Center.

4. Railroad and SMART have the ability to:

   A. To acquire the Site from Union Pacific.

   B. Sell, lease or assign acquisition rights to the Site.

   C. Provide rail service to Sonoma County.

   D. Perform initial planning as part of feasibility studies.

Process

The parties could enter into a MOU in which the general goals of the parties are enumerated as well as specific steps that each party agrees to take to accomplish the goals.

For example:

1. Agency, City and County agree to:

   Cooperate on adoption of the Gateway Redevelopment Project Area.

2. Agency agrees to:

   A. Make the site and the Center a priority project of the Agency within the Project Area, assuming a Redevelopment Plan is adopted, and will do environmental analysis of the Center, as part of the EIR on the Redevelopment Plan.

   B. To assist with remediation including some or all of:

      (1) Technical assistance, working with regulatory board and consultant and use of Polanco Act powers if Plan is adopted;

      (2) Financial assistance.

   C. Work with Food and Wine Center to develop a feasible development concept.

   D. Work with all Parties to develop specific business terms for the development of the Center.

3. Food and Wine Center agrees to:

   A. Form a nonprofit for ownership and operation of Center.

B. Raise funds for pre-construction, construction and operation of the Center.

4. Railroad and SMART agree to:

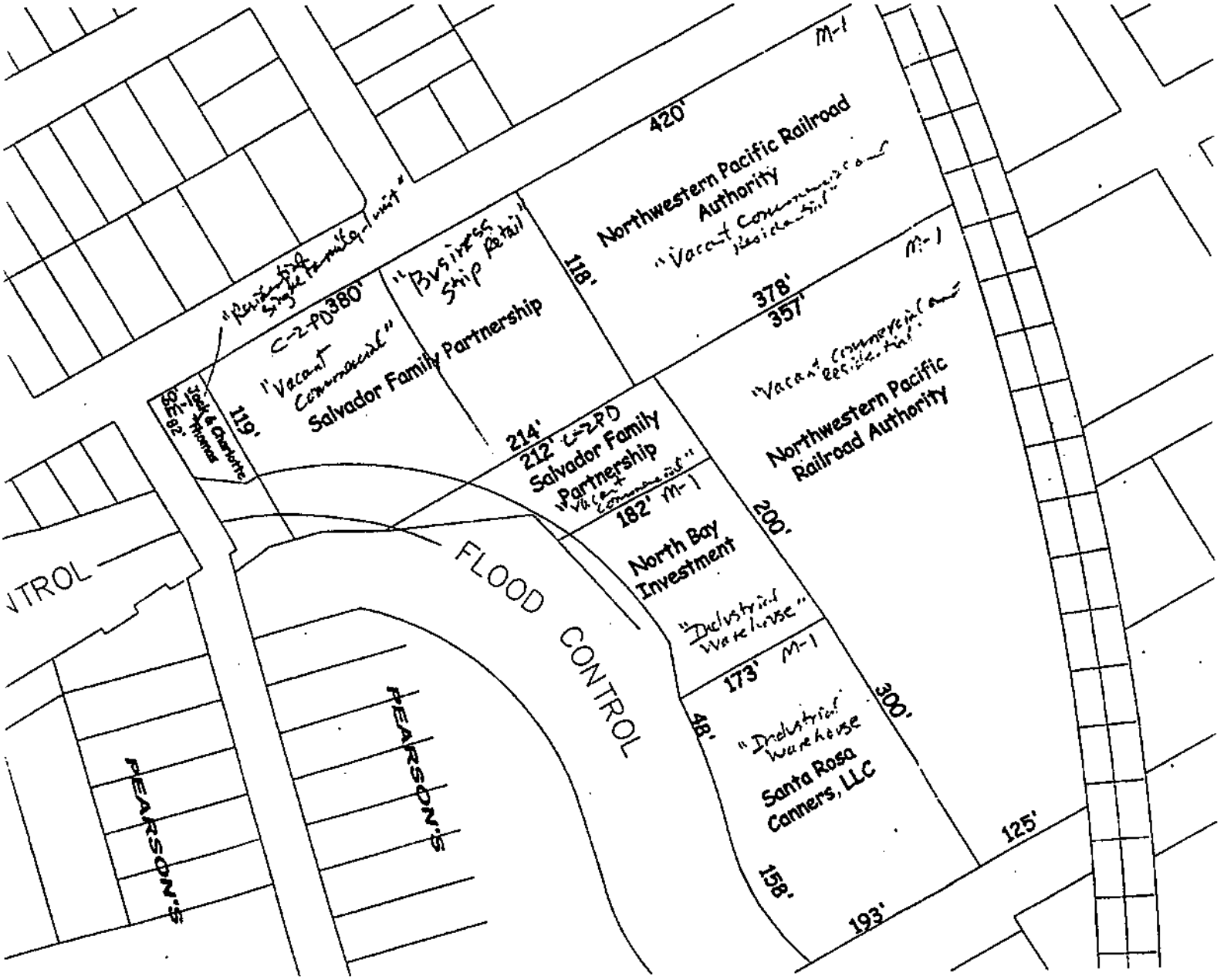
A. Assign the purchase agreement to or lease the Site, exclusive of the portion needed for rail station service to the Center or, if appropriate, the Agency if certain conditions are met

B. Take certain steps with regard to remediation of site.

DFB:dc

ATTACHMENT NO. 1

SITE MAP



RECEIVED

MAY 0 6 2002

CITY OF SANTA ROSA
CITY MANAGER'S OFFICE

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

May 2, 2002

Mr. Jeffrey C. Kolin
City Manager
City of Santa Rosa
100 Santa Rosa Avenue
Santa Rosa CA 95402-16787

Dear Mr. Kolin:

Re: **Santa Rosa Railroad Station – Transit Oriented Village Meeting**

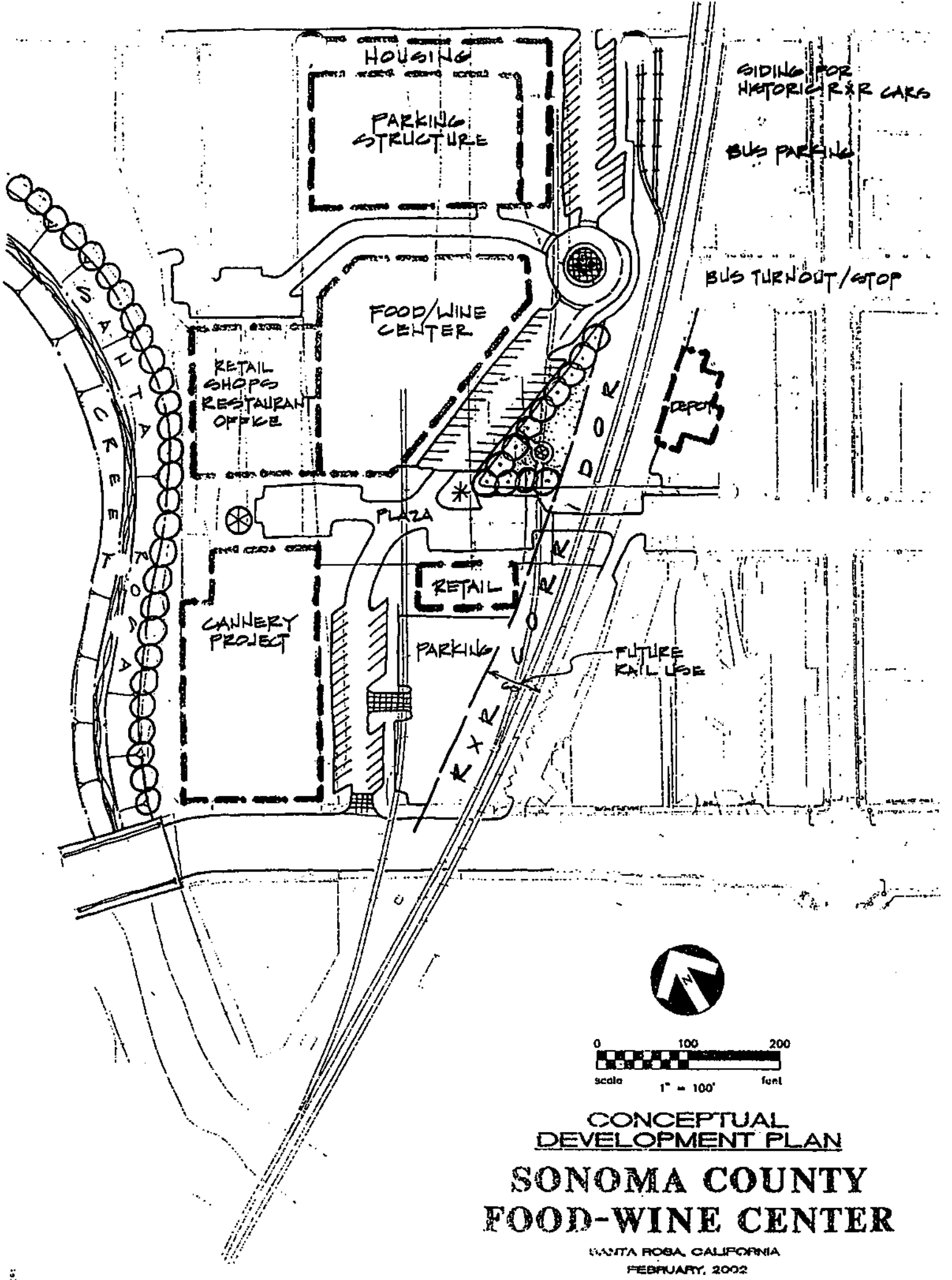
This letter is to thank you for hosting the meeting on April 23, 2002 bringing together key stakeholders to discuss how to move forward with transit oriented development plans for the 6.7 acre parcel adjacent to Northwestern Pacific Railroad Authority (NWPRA) tracks in Railroad Square. Progress was made and much remains to be accomplished. The attendees agreed to cooperate in plans to realize the mutual goals of providing a multi modal transit center – ensuring both the continuance of freight and the introduction of commuter rail – along with a transit-oriented, mixed use development focused on the food and wine base of the Sonoma County economy.

The next steps agreed to were as follows:

1) Memorandum of Understanding (MOU) draft will be emailed by City Attorney Dave Beatty to Sonoma Marin Area Rail Transit (SMART) and NWPRA for review and markup. Comments are due back to City Redevelopment Agency Attorney.
2) Set up Meeting with Union Pacific, its consultant GeoMatrix, and Regional Water Quality Control Board (RWQCB) to discuss plans/timeline for redevelopment of the site and remediation in light of the plans/timeline. Tentative dates are May 8 or 15.
3) Plan to take MOU between City and NWPRA to the June NWPRA Board Meeting and concurrently seek authorization for NWPRA staff to begin lease negotiations with City staff.

We are currently reviewing the draft MOU and will coordinate our comments with our legal counsel from Hanson Bridgett et al to forward to the City Attorney. Union Pacific has agreed to attend a meeting on May 8, 2002 at 2:30 p.m. with the City, NWPRA, and SMART. The City has invited RWQCB, and I look forward to a productive meeting.

At the NWPRA Board meeting on April 29, 2002, I advised the Board members of our meeting and that the MOU and associated items would be coming to them in the near future. The next NWPRA Board meeting is scheduled for June 10, 2002 at 10 a.m.



CONCEPTUAL DEVELOPMENT PLAN

SONOMA COUNTY FOOD-WINE CENTER

SANTA ROSA, CALIFORNIA

FEBRUARY, 2002

SP TRANS COMPANY

SECTION B | SATURDAY, MAY 4, 2002

THE PRESS DEMOCRAT
SANTA ROSA, CALIFORNIA

OBITUARIES B2
AROUND THE EMPIRE B3
EDITORIALS B6

Empire News

AIRPORTS Passengers find shorter lines at Bay Area terminals **B8**

WWW.PRESSDEMOCRAT.COM

EPA grant to fund wine center site cleanup

$1 million from federal agency will create perpetual toxic cleanup fund in SR

By TOM CHORNEAU
THE PRESS DEMOCRAT

Plans to open a regional food and wine center in Santa Rosa's Railroad Square received a major boost Friday from the U.S. Environmental Protection Agency, which promised $1 million to clean up toxic waste on the project site.

The Sonoma County Food and Wine Center, expected to attract up to 37,000 customers and tourists a week, is planned to be under construction by 2004. The pavilion, culinary arts school and farmers market would cost about $20 million to build.

A major hurdle for the project, however, is the cleanup of old deposits of petroleum and other chemicals left over from when the 6.5-acre parcel was used as a maintenance yard by the Union Pacific Railroad.

Union Pacific still owns about half the property needed for the center. City officials said they hope to loan the EPA grant money to the company for the cleanup.

Once repaid, the grant money will be used again to help pay for other contamination cleanup projects elsewhere in the city.

"Any time you can get a million dollars out of the federal government, you take the money and run," said Santa Rosa Mayor Mike Martini. "This is fantastic news."

The grant to Santa Rosa was one of 23 announced Friday by the EPA under a program aimed at giving state and local officials more options in getting problem sites cleaned up. The city has the option now of awarding no-interest or low-interest loans to property owners such as Union Pacific as incentives for site cleanups.

Susan McCue, economic development manager for the city, said that there have been no formal talks with Union Pacific about the potential loan, but the company is interested in selling the land and expectations

TURN TO EPA, PAGE B3

KENT PORTER / The Press Democrat

Visitors to Railroad Square survey the vacant land — now tainted by chemicals from its days as a rail yard — where the planned $20 million Sonoma County Food and Wine Center will be built. The Cannery Building is in the background.

California Regional Water Quality Control Board
North Coast Region
William R. Massey, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone 1-887-721-9203 Office (707) 576-2220 FAX (707) 523-0135

June 25, 2002

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: ANNUAL ESTIMATION LETTER

File: Southern Pacific Transportation Company, 3rd Street Property, Santa Rosa
Case No. 1TSR196 (201-62)

The California Water Code (Porter-Cologne), Section 13304, allows the Regional Water Board to recover reasonable expenses from a responsible party for overseeing site investigation and cleanup of unregulated discharges adversely affecting or threatening to affect State's waters. The Regional Water Board intends to continue to recover costs for regulatory oversight work conducted at this site in accordance with our prior correspondence on this matter. In compliance with AB2057, our agency is obligated to inform you every year of the following information regarding our recovery of oversight costs:

1. A detailed estimate of the work to be performed or services to be provided;
2. A statement of the expected outcome of that work;
3. The billing rates of all individuals and classes or employees expected to engage in the work; and
4. An estimate of all expected charges to be billed to you by this agency.

ESTIMATE OF WORK TO BE PERFORMED

Regional Water Board staff estimate that the following work will be performed during fiscal year 2002/2003 on the Southern Pacific Transportation Company site:

- Evaluate the site status to assess compliance with Regional Water Board requirements and California Water Code;
- Review quarterly monitoring reports;
- Review work plans and reports to complete investigation of the horizontal and vertical extent of contamination;
- Meet with and provide written correspondence and telephone communication with representatives of Union Pacific and other responsible third parties;
- Review remedial corrective action plan;
- Draft and implement public participation plan;
- Review risk assessment report(s);
- Coordinate with Office of Environmental Health Hazard Assessment (OEHHA) on site risk assessment reports and risk evaluation;
- Conduct internal communications (i.e., meetings, memos, etc.) regarding the project; and
- Conduct site inspections.

STATEMENT OF EXPECTED OUTCOME

- Confirm appropriate groundwater monitoring parameters;
- Written comments on workplans and report;
- Complete initial public participation documents;
- Identify and fill data gaps needed to develop draft and final remedial action plan;
- Implement preferred remedial alternative;
- Ensure compliance with California Environmental Quality Act;
- Ensure consistency with California Water Code, regulations, and policies;
- Continue evaluation of threats to water quality from site contaminants;
- Verify adequacy of reports and plans;
- Prepare meeting summaries, telephone conversation summaries, etc. to document the file record and site progress; and
- Address final corrective action plan.

BILLING RATES

Enclosure 1 is a summary of the billing rates for employees expected to perform the work. The names and classifications of employees that charge time to this site will be listed on the invoices. The average billing rate is about $80.00 per hour.

ESTIMATE OF EXPECTED CHARGES

Regional Water Board staff expects to charge about 60 hours of work related to this site during fiscal year 2002/2003 (July 1, 2002 through June 30, 2003). Based on the average billing rate of

$80 per hour, the estimated billing charge for this site during fiscal year 2002/2003 is about $4800.00.

If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:tmk\costrecoverysptransco201-62.doc

Enclosure: Billing Rates Description

cc: Mike Harper, SWRCB, Division of Clean Water Programs 201-62
Nancy Negley, NCRWCB

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.swrcb.ca.gov."

California Environmental Protection Agency

Recycled Paper

SPILLS, LEAKS, INVESTIGATIONS, AND CLEANUP PROGRAM
BILLING COST EXPLANATION

Employee Salary and Benefits by Classification[1]	ABR.	SALARY SCALE
Student Assistant	SA	1594 - 2123
Student Assistant Engrng.	SAE	2085 - 3120
Office Assistant	OA	2160 - 2884
Office Technician	OT	2748 - 3341
Environmental Specialist I	ESI	3204 - 3850
Sanitary Engineering Technician	SET	3557 - 4962
Engineering Geologist	EG	3830 - 5324
Water Resources Control Engineer	WRCE	3830 - 6590
Environmental Specialist II	ESII	3893 - 4690
Associate Governmental Program Analyst	AGPA	4581 - 5568
Environmental Specialist III	ESIII	4925 - 5946
Sanitary Engineering Associate	SEA	5165 - 6276
Associate Engineering Geologist	AEG	5169 - 6283
Environmental Specialist IV	ESIV	5670 - 6846
Senior Water Resources Control Engineer	SWRCE	5952 - 7232
Senior Engineering Geologist	SEG	5952 - 7232
Supervising Water Resources Control Eng.,	SUWRCE	7224 - 7968

Indirect Charges[2]

Indirect costs	100% of salaries and benefits
Accounting administrative costs	15% of salaries and benefits
Regional Board administrative costs	10% of salaries and benefits

Billing Example

Sanitary Engineering Associate		
Salary:	$	5,165
Overhead:	$	5,165
Admin.: State Board	$	775
Regional Board	$	516
Total Cost per month	$	11,621

Divided by 176 hours per month equals per hour: $ 66.03
(Due to the various classifications that expend SLIC resources, an average of $80.00 per hour can be used for projection purposes.)

[1] The name and classification of employees performing oversight work will be listed on the invoice you receive.
[2] The examples are estimates based on recent billings. Actual charges may be slightly higher or lower.

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

RWQCB
REGION 1

JUN 17 2002

☐ SAW ☐ FCR ☐ CARLSON
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GEOMATRIX

June 14, 2002
Project 2770.005

Ms. Joan Fleck
Regional Water Quality Control Board – North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Addendum to Work Plan for Exploratory Borings
Santa Rosa Station, Option Property
Santa Rosa, California

Dear Ms. Fleck:

Geomatrix Consultants, Inc. (Geomatrix), has prepared this addendum to the Work Plan for Exploratory Borings[1] for the Santa Rosa Station, Option Property (the site, Figure 1), on behalf of Union Pacific Railroad (UPRR) and the Northwestern Pacific Railroad Authority (NWPRA). This addendum addresses the additional boring locations that were identified during our meeting at your office on June 6, 2002 and in a telephone conversation on June 13, 2002.

OBJECTIVES AND SCOPE OF WORK

The objective of the proposed work is to investigate additional locations that were discussed in our June 6, 2002 meeting and June 13, 2002 telephone conversation. Seven additional boring locations were added to the scope of work for exploratory borings that was orally approved by the Regional Water Quality Control Board – North Coast Region (RWQCB). Five borings are located within the fenced enclosure (Figure 2) and two borings were added near the 3000-barrel (bbl) aboveground storage tank (Figure 3). The rationale for the sample locations is presented in Table 1.

FIELD METHODS

Prior to fieldwork, Geomatrix will obtain boring permits from Sonoma County Department of Environmental Health Services. Boring locations will be marked with white paint and Underground Service Alert (USA), a regional sub-surface utility notification center, will be notified at least 48-hours prior to commencing field work. Prior to drilling, all boring locations will be cleared by a private utility locator.

Borings will be advanced at the approximate locations shown on Figure 2. Continuous soil cores will be collected using the Enviro-core discrete-depth sampling system (Enviro-core) and a core barrel lined with brass, stainless steel, or new butyrate liners for each boring.

[1] Geomatrix Consultants, Inc. (Geomatrix), 2002, Work Plan For Exploratory Borings, Santa Rosa Station, Option Property, Santa Rosa, California, January.

Recovered soil will be described and logged by a Geomatrix geologist using the American Society Testing and Material (ASTM) Standard D2488-90 and Munsell color designations. A photoionization detector (PID) as well as visual observation will be used to screen soil samples.

Soil samples will be collected from borings SRB70 through SRB75 at depths of approximately 1, 2, and 5 feet below ground surface (bgs) using the Enviro-core. At location SRB75 deeper samples will be collected from approximately 10 and 15 feet bgs or where staining and/or elevated PID readings are observed. Immediately after sample collection, a sub sample will be collected from the sample tube using the EnCore® sampling system or equivalent in accordance with Environmental Protection Agency (EPA) method 5035 at locations to be sampled for volatile components (BTEX, MTBE, and total petroleum hydrocarbons (TPH) characterized as gasoline). The remaining sample in the sample tube will be sealed at the ends with Teflon® sheeting and plastic end caps. The caps will be sealed to the sample tube with silicon tape or equivalent. The samples will labeled, placed in a sealed plastic bag and stored in a chilled ice chest for transportation using Geomatrix chain-of-custody procedures to the analytical laboratory.

Grab groundwater samples will be collected from boring SRB74 through SRB76 by installing a 1-inch-diameter temporary polyvinyl chloride (PVC) casing inside the drive casing approximately 5 feet below first encountered water. Grab groundwater samples will be collected from within the temporary well point with a new disposable bailer and by using a bottom-emptying device to decant the sample directly into laboratory-supplied containers. Groundwater samples will be stored in a chilled ice chest for transportation to the analytical laboratory.

Upon completion of the borings temporary casings will be used as tremie pipes to backfill the borings from total depth to ground surface with neat cement grout. Each boring location will be surveyed by a licensed surveyor.

All equipment will be either steam-cleaned or decontaminated using distilled water and Alconox followed by two distilled water rinses, between each boring. Drill cuttings and equipment wash water generated during the sampling program will be temporarily stored on site in labeled drums pending appropriate disposal.

All samples, both soil and water, will be analyzed by a state of California certified analytical laboratory for:

- TPH characterized as diesel by EPA method 8015M following a silica gel cleanup by EPA method 3630;

- TPH characterized as motor oil by EPA method 8015M following a silica gel cleanup by EPA method 3630;
- TPH characterized as gasoline by EPA method 8015M;
- benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8260; and
- methyl tert butyl ether (MTBE) by EPA method 8260.

REPORTING

The observations from this soil boring program will be documented with the report for exploratory borings within four weeks of completion of the soil boring program. This report will include boring logs and a figure that illustrates the extent of the residual product. A plan for mitigating the residual product also will be included in the report.

Geomatrix is scheduled to commence with field work on June 17, 2002, as such, we greatly appreciate your expeditious review and approval of this work plan. Please contact either of the undersigned or John Moe of UPRR (415-541-7020) if you have any questions or comments relating to this work plan.

Sincerely,
GEOMATRIX CONSULTANTS, INC.

Charles F. Rome
Project Geologist

Susan M. Gallardo, P.E.
Principal Engineer

CFR/SMG/ldu
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Enclosure: Table 1: Proposed Boring Locations
Figure 1: Site Location Map
Figure 2: Proposed Boring Locations – Fenced Enclosure
Figure 3: Proposed Boring Locations – 3000-bbl Aboveground Storage Tank

cc: John Moe, Union Pacific Railroad Company
Norma Jellison, Golden Gate Bridge and Transportation District
Leah Goldberg, Esq., Hanson, Bridgett, Marcus, Vlahos & Rudy
Peter Krasnoff, World Environmental Services & Technology

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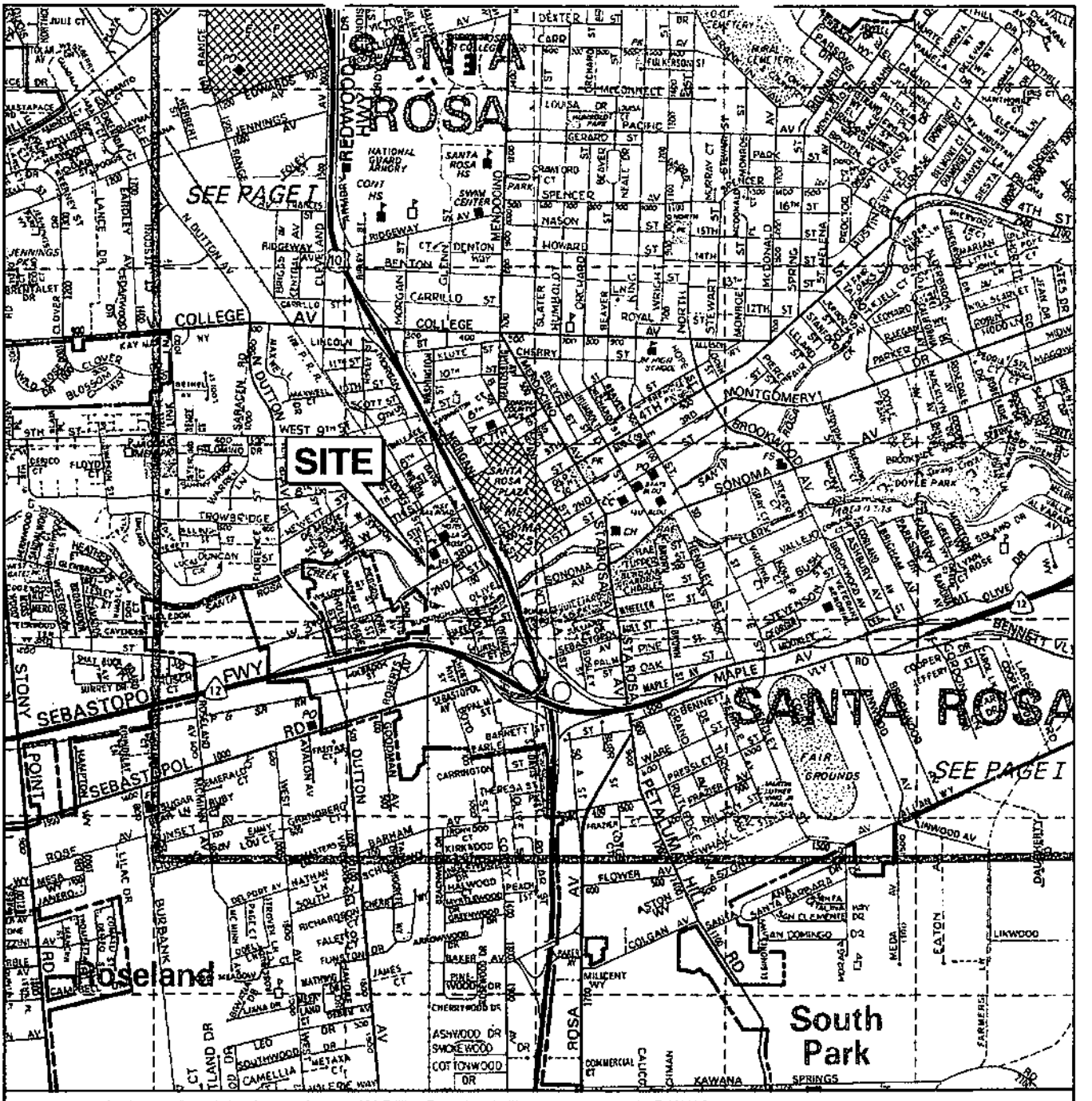
TABLE 1

PROPOSED BORING LOCATIONS[1]
Addendum to Work Plan for Exploratory Borings
Santa Rosa Station – Option Property
Santa Rosa, California

Sample Designation	Sample Matrix	Location	Purpose
SRB70, SRB71	Soil	Fenced enclosure	To investigate soil quality under the trailer.
SRB72	Soil	Fenced enclosure	Confirm the results of boring SRB56.
SRB73	Soil	Fenced enclosure	To investigate soil quality under the spigot of the aboveground storage tank and investigate the area near the corrugated metal pipe.
SRB74	Soil/groundwater	Fenced enclosure	To further investigate the area around the former location of the 230-gallon fuel oil tank and boring IC-B6 as well as having a sample located down gradient of the corrugated metal pipe.
SRB-75	Soil/groundwater	3000 – bbl aboveground storage tank	Investigate the results of boring SRB-44
SRB-76	Groundwater	3000 – bbl aboveground storage tank	To investigate groundwater quality downgradient of boring SRB-44

[1] Proposed boring locations are shown on Figure 2.



Base map from *The Thomas Bros. Guide, Sonoma County, 1998 Edition.* Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

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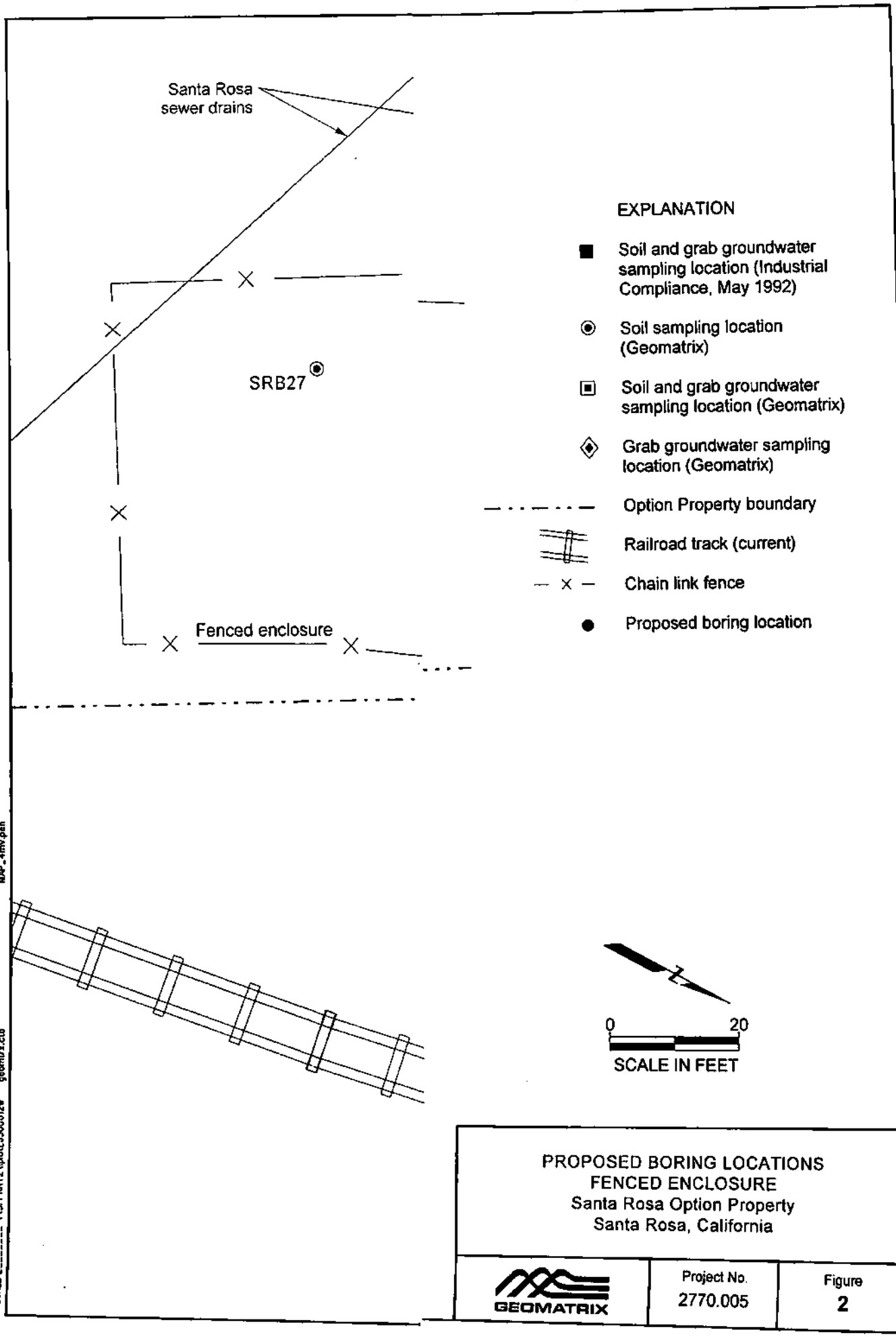
SITE LOCATION MAP
Santa Rosa Station - Option Property
Santa Rosa, California

Project No.
2770.005

Figure
1



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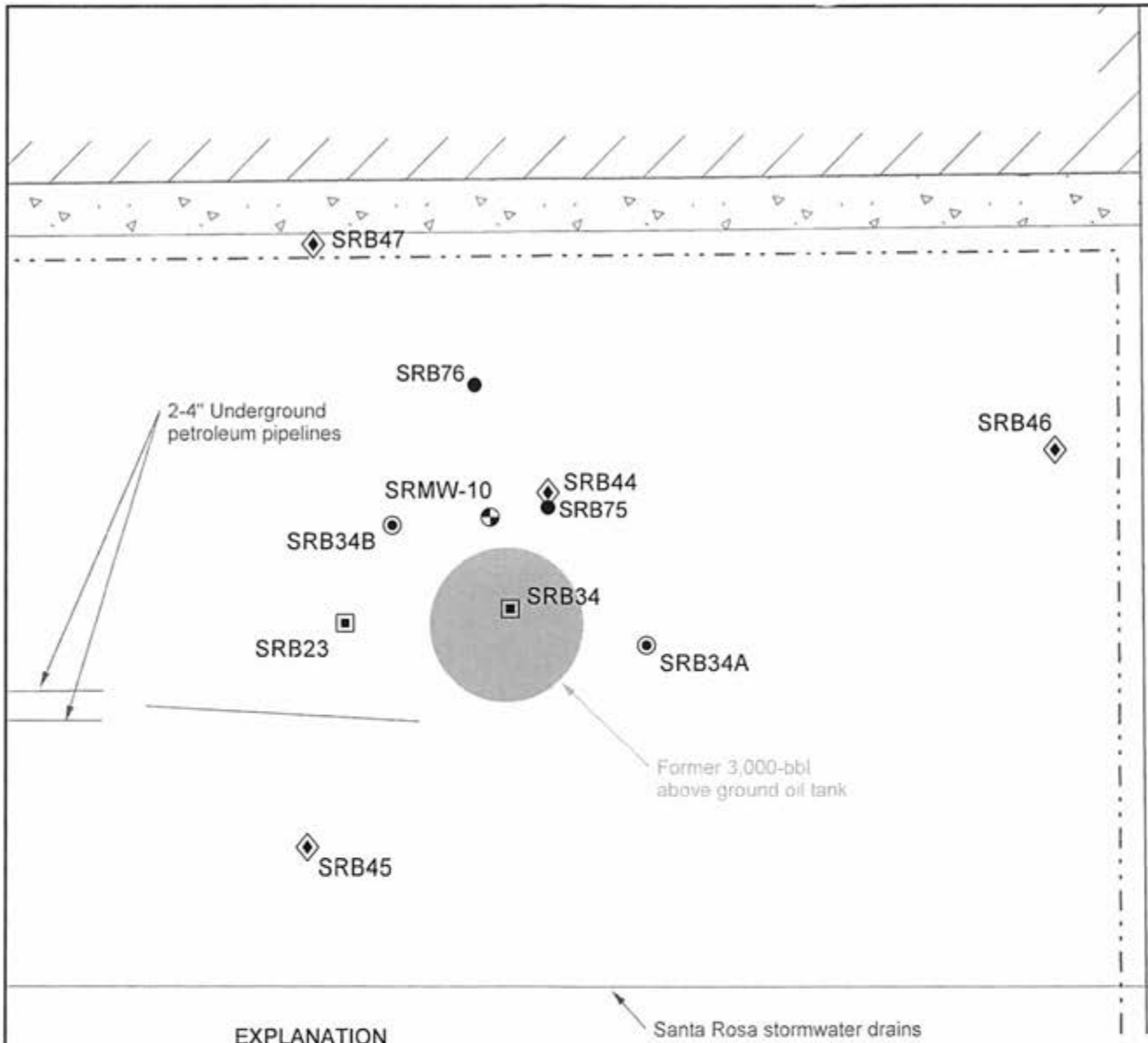
PROPOSED BORING LOCATIONS
FENCED ENCLOSURE
Santa Rosa Option Property
Santa Rosa, California

GEOMATRIX

Project No.
2770.005

Figure
2



EXPLANATION

- Monitoring well location
- Soil and grab groundwater sampling location (Industrial Compliance, May 1992)
- Soil sampling location (Geomatrix)
- Soil and grab groundwater sampling location (Geomatrix)
- Grab groundwater sampling location (Geomatrix)
- Option Property boundary
- Proposed boring location

0 20
SCALE IN FEET

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PROPOSED BORING LOCATIONS
3000-BBL ABOVEGROUND STORAGE TANK
Santa Rosa Option Property
Santa Rosa, California

Project No.
2770.005

Figure
3

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REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: June 7, 2002

From: Joan

Subject: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1TSR196
Southern Pacific Transportation Company, Third Street Property (South), Santa Rosa, Case No. 1TSR196

On June 6, 2002 the persons on the attached list met to discuss the subject site. The meeting was requested by Union Pacific Railroad to discuss the next phase of work. The agenda is attached.

John Moe of Union Pacific began by explaining that they are scheduled to conduct drilling in two weeks and wanted to know if any other work is required so they can complete the work while they are mobilized. He wants to keep the project moving due to the proposed development plans (Food and Wine Center). He is interested in any data gaps that might exist and wants to finish the investigative phase and move into the corrective action phase.

Susan provided a summary of work that has been completed. I spoke next and discussed the following:

MtBE

I explained that an upgradient MtBE source exists that is currently under investigation. The results show that the MtBE plume extends to the railroad yard. Although there were some non-detect results, it appears that the plume is large. I also explained that we need sufficient information to eliminate Union Pacific Railroad as a possible contributor and that means we need soil samples at potential source areas. Some work was conducted and some deficiencies exist, including:

- The proposed scope of work (as described in the June 22, 2001 "Addendum to the January 2001 Work Plan" comment No. 2) included identifying the presence of utilities near the known MTBE site (210 Fifth Street) that may traverse near the Option Property and act as a preferential pathway for MTBE migration.

  However, the January 19, 2002 "Results of Grab Groundwater and Soil Sampling" Report, did not contain the utility information. It also did not mention the information regarding the drop inlet and corrugated pipe discovered in the fenced enclosure area during utility surveying during the September 2001 fieldwork. The presence of this subsurface feature is important due to its size, depth and potential to act as a conduit for contaminant migration and preferential pathway. Luis added that subsurface structures have been the location of waste disposal. We will need more information.

  We agreed that they would research this feature and report its location and use. With that information, we would decide what needed to be done such as soil sampling.

- The work plan addendum (comment No. 2) proposed to investigate the vicinity of the above ground storage tank and the box-like gasoline storage container located within the fence enclosure area. I reminded them that on September 19, 2001, I met Geomatrix staff at the site while boring/sample locations were selected and marked. It was agreed at that time that a boring would be drilled at the above ground tank location, which would be labeled SRB-57. Two soil samples would be collected; one each from the stained shallow soil and one from about 4 feet below ground surface. In addition, on September 25, 2001 I inspected the site during fieldwork and at the time of my departure, Geomatrix staff informed me that they would be leaving for the day after they completed the sampling at SRB-57. However, the report lacks information regarding SRB-57 other than being shown on Figure 2.

  In addition, during the September 19, 2001 onsite meeting, Susan Gallardo indicated that she would investigate whether gasoline was stored in the box-like structure. If not, it would not be a suspected source. If it did store gasoline, it would be investigated with a boring labeled SRB-56.

  On September 25, 2001 I visited the site during sampling/drilling activities and the box-like structure was open. Mr. Brendan Mulholland of Geomatrix was in the process of taking photographs and documenting its contents. The structure contained gasoline, tools, equipment and two, empty 55-gallon drums and two, 55-gallon drums containing oil. The floor of the storage container was oily, revealing that petroleum hydrocarbon spills had occurred inside the structure. It had also recently rained and it appeared that the structure was not weather-tight. Geomatrix staff and I agreed at that time that the appropriate place to sample would be beneath the structure. Therefore, arrangements would be made to complete the work when the structure could be moved.

  On that same day, I observed obviously stained soil southeast of the box-like structure and requested an additional shallow soil sample to characterize the contaminants in that area. Even though Geomatrix staff labeled the shallow soil sample as SRB-56, in the report, this sample does not eliminate the need to investigate a potential gasoline/oil discharge inside the storage container. In addition, the soil sample labeled SRB-56 collected from 1-foot below ground surface contained gasoline range hydrocarbons at 330 parts per million. The sample was not analyzed for MtBE. Therefore, the investigation within the fenced enclosure area is incomplete.

  Susan agreed that they would conduct additional work in this area and did not intend for SRB-56 to be the storage box sample.

<u>3000 Barrel Above Ground Tank</u>

- A detailed map for the northwest portion of the property was not provided. In the past, we requested and Geomtrix proposed to submit a detailed map to scale to better evaluate boring and well locations in relationship to one another for example, the distance between MW-10 and SRB-44. We would review the map and determine if additional work is necessary for that area. A soil source may need to be located and removed.

<u>Four-Inch Pipeline</u>

- This is being addressed. I informed them that we suspect the pipeline to extent to Third Street and beyond due to historical PG&E gas plant records. I also explained that we only expect

them to remove the pipe to their property line. We provided verbal acceptance of the drilling work plan to Geomatrix staff on May 10, 2002.

Additional Comment

- On September 24, 2002, Geomatrix staff informed me that petroleum hydrocarbon odors were noted in the water collected from SRB-61 and they observed a slight staining in the soil. However, this information was not included in the report. In addition, the work plan indicated that continuous soil columns will be collected and soil will be described and logged by a Geomatrix geologist. The report did not include the boring logs for SRB58 – SRB61. I explained that we are interested in the petroleum hydrocarbon odors for another investigation not related to them.

Southern Pacific Railroad, Third Street (south)

- On April 19, 1999, Geomatrix submitted a work plan proposing a joint sampling event with the Mead Clark Lumber Company representatives. The purpose of the joint sampling event is to compare analytical results of groundwater samples collected on the same day to resolve prior analytical discrepancies and characterize groundwater contaminants in the general area. As you may recall, total petroleum hydrocarbons as diesel (TPHd) were reported in 1992. Total petroleum hydrocarbons as gasoline (TPHg) were not. At a later time, TPHg was detected during a Geomatrix phase of work and TPHd was not. As of this date, the joint sampling event has not been conducted.

  On April 23, 2002, Mead Clark Lumber Company representatives verbally requested our concurrence regarding the abandonment of groundwater monitoring wells 22, 26A, 29 and 35. These wells are located on Northwestern Pacific Railroad Authority property. Wells 22 and 29 are included in the wells proposed for the joint sampling event. Therefore, prior to our concurrence with abandonment, we request that the joint sampling event be conducted. Another alternative is for Union Pacific Railroad to conduct its own groundwater investigation to resolve the discrepancy.

  We have notified Mead Clark Lumber Company representatives of the need to conduct a sampling event prior to well abandonment. Ms. Leah Goldberg explained the access agreement needs and indicated that they have not completed their application. I indicated that once our letter goes out to the Mead Clark people, they will need to get in touch with her and hopefully they can work it out.

Property Development

- Regional Water Board staff can concur with property development when the sources of contamination have been adequately treated or removed and the developer demonstrates that development will not interfere with groundwater remediation. We require source removal and/or treatment and evaluate groundwater impacts relative to water quality objectives. The source is identified as the impacted soil and separate phase in soil and on groundwater. Since property development appears eminent, we expect the source to be removed to the extent feasible.

- The fenced enclosure area will also need to be addressed. We acknowledge the MtBE upgradient source. However, the potential onsite sources must be adequately investigated and impacted soil must be removed.

- A soil and groundwater management plan must be prepared due to the potential for an encounter with subsurface features (such as oil pipes) and impacted soil and groundwater. We expect additional subsurface pipes exist regarding the oil stops. Therefore, they can have a plan to remove them during development or conduct a geophysical survey and identify them in advance. Shallow soil also contains detectable levels of polynuclear aromatic hydrocarbons (PAHs). Any soil removed from the site must be characterized, managed and disposed of properly. The soil and groundwater management plan will avoid delays during development.

- Prior to construction, a human health risk assessment must be prepared addressing exposure issues for workers.

It was agreed that Geomatrix would provide me with the detailed map for the fenced enclosure area and the 3000-barrel tank area. They would also investigate the corrugated metal drop inlet and revised the work plan to include the fenced enclosure area.

On June 7, 2002, Charlie Rome and Brendan Mulholland called. They asked that I contact Sonoma County Environmental Health Services to allow the issuance of the drilling permit and they let me know they were working on the maps. They also inspected the corrugated drop inlet after our meeting and found that a sewer line runs through the corrugated pipe. I suggested they call the City to find out if they know anything about its construction or purpose. They will propose some additional sampling in that area including the area of IC-6.

MEETING AGENDA
Former Santa Rosa Station Property

June 6, 2002, 10:00 a.m.

SITE HISTORY

CHRONOLOGY OF INVESTIGATIONS

- Industrial Compliance
- Regional Water Quality Control Board
- Geomatrix Consultants

INVESTIGATION RESULTS

- **Specific Features**
  Underground Storage Tanks
  Turntable
  Pump Houses
  Oil Column
  Oil Traps
  3000-bbl Oil Aboveground Storage Tank
  Fenced Enclosure

- **General**
  Northwestern Property Area
  Upgradient Groundwater Quality
  Downgradient Groundwater Quality

PLANNED UPCOMING WORK

- Pipeline removal
- Investigation of extent of residual petroleum
- Removal/disposal of debris within fenced enclosure
- Groundwater monitoring

SCHEDULE

- Investigation and pipeline removal
- Development and implementation of remediation plan
- Site Closure

6/6/02

NAME	REPRESENTS	PHONE
JOHN FLECK	NCRWQCB	707 576-2675
CHARLES ROME	GEOMATRIX	510 663-4100
Susan Gallardo	"	" "
PETER KRASNOFF	WEST	415.485.1660
Luis Rivera	NCRWQCB	707.570.3769
Leah Goldberg	NWPRA	415-995-5090
NORMA JELLISON	NWPRA	415 257 4564
JOHN MOE	UPRR	415 541-7020

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Provided by Susan Gallardo for 6/6/02 meeting

SAMPLING SUMMARY
Santa Rosa Option Property
Santa Rosa, California

Feature	Boring Identification	Soil Sample	Grab Groundwater	Other
Southern Oil Trap	21	X	X	
	36	X	X	Leachability testing
	40	X	X	Leachability testing
	41	X	X	
	49		X	
Northern Oil Trap	22	X	X	
	35	X	X	
3000-bbl Oil AST	23	X	X	
	34	X	X	
	44		X	
	45		X	
	46		X	
	47		X	
Turntable	24	X		
	25	X		
	38		X	
Oil Column	26	X	X	
Fenced Enclosure • Surface staining	27	X		
• Fuel storage house	28	X		
• Abandoned gasoline AST	39[b]	X	X	(See 230-gallon fuel UST)
• Eastern fence line (upgradient)	42		X	
• Northern fence line	43		X	
• Western fence line	56	X		
	62	X	X	
230-gallon fuel oil UST	29[a]		X	
	30[a]		X	
	39[b]	X	X	
	ICB-6[c]	X	X	
Two, 10,000-gallon diesel and gasoline underground storage tanks	55		X	
	ICB-1[c]	X	X	
	ICB-2[c]	X	X	
	ICB-3[c]	X	X	
	ICB-4[c]	X	X	
Southern Pump House	33	X		
Northern Pump House	32	X	X	Leachability testing

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SAMPLING SUMMARY
Santa Rosa Option Property
Santa Rosa, California

Feature	Boring Identification	Soil Sample	Grab Groundwater	Other
Other				
Northern Track and Down-gradient Property Boundary	20	X	X	
Adjacent to former RWQCB well RBMW-2 and Downgradient of fenced enclosure	31		X	
Downgradient Property Boundary (southwest)	37		X	
Downgradient Property Boundary (northwest)	48		X	
Upgradient Property Boundary	58		X	
	59		X	
	60		X	
	61		X	
General Site Groundwater Quality	Geomatrix wells MW-05 – MW-08 and MW-10			Groundwater samples
	RWQCB wells RBMW-1 and RBMW-2	X		Groundwater samples
	Mead-Clark Wells GW-24 and GW-27			Groundwater samples
General Site Soil Quality	RWQCB borings RBB-1 and RBB-2	X		
TPH-Impacted Soil – Northwest Portion of Site	50		X	
	51	X		
	52	X		
	53			Visual Observation
	54		X	

Notes:

a. Geomatrix borings 29 and 30 (SRB-29 and SRB-30) were placed at locations that initially were thought to be directly at and southwest of former Industrial Compliance boring B-6 (ICB-6) and the 230-gallon UST. Upon further field review, it appeared that borings 29 and 30 were placed approximately northwest and downgradient of ICB-6. Geomatrix boring SRB-39 subsequently was drilled adjacent to ICB-6.
b. Geomatrix boring SRB-39 was drilled to replicate results from ICB-6 and was field-located with Ms. Joan Fleck of the RWQCB; this boring also is located immediately west of the abandoned aboveground tank within the fenced enclosure.
c. Borings ICB-1 through 4 and ICB-6 were drilled by Industrial Compliance in 1992 to evaluate the possible environmental impacts from former underground storage tanks.

1. Borings SRB-20 through SRB-31 were advanced in November 1996 as part of the due diligence environmental characterization for the property transfer between Union Pacific Railroad Company (successor to Southern Pacific Railroad Company) and the Northwestern Pacific Railroad Authority.
2. Borings SRB-32 through SRB-41 were advanced in March 2000 in response to the August 1999 request from the Regional Water Quality Control Board, North Coast Region (RWQCB) for leachability testing, additional grab groundwater sampling, and evaluation of potential environmental impacts from the two on-site pump houses.
3. Borings SRB-42 through SRB-54 were advanced in August 2001 in response to the July 2000 request from the RWQCB to evaluate the source of MTBE, further characterize the area near the former 3000-barrel aboveground storage tank, and further evaluate the southern oil trap.
4. Monitoring wells SRMW-05 through SRMW-08 and SRMW-10 were installed in September 2001 in accordance with Geomatrix's January 2001 work plan, as amended in response to the RWQCB's April 2001 review comments.

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TABLE 1

HISTORICAL ANALYTICAL RESULTS FOR TOTAL PETROLEUM HYDROCARBONS IN SOIL[1]

Santa Rosa Station, Option Property

Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg), unless otherwise noted

Borehole	Depth[2]	Date Collected	TPHg	TPHd	TPHm	TPHd (WET)[3] (µg/l)	TPHm (WET)[3] (µg/l)
SRB20	c[4]-1.0, 4.0, 6.5	11/15/96	--	<20	900	--	--
	4.0	11/15/96	--	---	69	--	--
	6.5	11/15/96	--	---	<5	--	--
	c-9.0, 11.5, 14.0	11/15/96	--	<1	56	--	--
SRB21	c-1.5, 4.0	11/14/96	--	130	510	--	--
	7.0	11/14/96	--	1600	<100	--	--
	9.0	11/14/96	--	960	<50	--	--
	11.0	11/14/96	--	150	<5	--	--
	13.5	11/14/96	--	<1	<5	--	--
SRB22	c-1.5, 4.0, 7.0	11/14/96	--	<1	43	--	--
	10.5	11/14/96	--	<1	120	--	--
	12.5	11/14/96	--	67	210	--	--
	14.5	11/14/96	--	<1	<5	--	--
SRB23	c-1.5, 4.5, 7.5	11/14/96	--	5	28	--	--
	c-10.0, 13.0, 14.5	11/14/96	--	<1	<5	--	--
SRB24	1.0, 4.0, 6.5	11/15/96	--	<1	<5	--	--
	c-9.0, 11.5, 14.5	11/15/96	--	<1	<5	--	--
SRB25	1.5, 4.0, 6.5	11/15/96	--	<1	<5	--	--
	c-9.0, 11.5, 14.0	11/15/96	--	<1	<5	--	--
SRB26	c-1.5, 4.0, 6.5	11/14/96	--	<1	12	--	--
	c-10.5, 12.0, 14.5	11/14/96	--	<1	<5	--	--
SRB27	1.5	11/14/96	--	<1	72	--	--
	4.5	11/14/96	--	<1	<5	--	--
SRB28	c-1.5, 4.5, 7.0	11/14/96	--	<1	130	--	--
	c-9.0, 11.5, 14.0	11/14/96	--	<1	<5	--	--
SRB32	1.0	3/6/00	--	160	<65	--	--
	4.5	3/7/00	--	2.8[6]	<13	--	--
	7.5	3/7/00	--	--	--	--	--
	10.5	3/7/00	--	--	--	--	--
SRB33	1.0	3/7/00	--	2.3[6]	<13	--	--
	4.5	3/7/00	--	<1	<13	--	--
SRB34	1.0	3/7/00	--	2.1[6]	<13	--	--
	4.5	3/7/00	--	2.2[6]	<13	--	--
	7.5	3/7/00	--	--	--	--	--
	10.5	3/7/00	--	--	--	--	--
SRB35	1.0	3/7/00	--	<1	<13	--	--
	4.5	3/7/00	--	<1	<13	--	--
	7.0	3/7/00	--	--	--	--	--
SRB36	1.0	3/6/00	--	430[6]	780	<50	<250
	4.5	3/6/00	--	<1	<13	--	--
	7.5	3/6/00	--	--	--	--	--
	10.5	3/6/00	--	--	--	--	--
	13.5	3/6/00	--	--	--	--	--
	19.5	3/6/00	--	--	--	--	--

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TABLE 1

HISTORICAL ANALYTICAL RESULTS FOR TOTAL PETROLEUM HYDROCARBONS IN SOIL[1]

Santa Rosa Station, Option Property

Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg), unless otherwise noted

Borehole	Depth[2]	Date Collected	TPHg	TPHd	TPHm	TPHd (WET)[3] (µg/l)	TPHm (WET)[3] (µg/l)
SRB39	1.0	3/6/00	--	<20	720	--	--
	4.5	3/6/00	--	<1	51	--	--
	7.5	3/6/00	--	--	49	--	--
	10.5	3/6/00	--	--	--	--	--
	13.5	3/6/00	--	--	--	--	--
SRB40	1.0	3/7/00	--	990[6]	1700	--	--
	4.5	3/7/00	--	130[6]	240	--	--
	7.5	3/7/00	--	210[6]	370	<50	<250
	10.5	3/7/00	--	--	--	--	--
	14.0	3/7/00	--	<1	<13	--	--
	16.5	3/7/00	--	--	--	--	--
	19.5	3/7/00	--	--	--	--	--
SRB41	1.0	3/7/00	--	<1	40	--	--
	4.5	3/7/00	--	<1	<13	--	--
	7.5	3/7/00	--	--	--	--	--
	10.5	3/7/00	--	--	--	--	--
SRB51	1.95	9/27/00	--	8500	7600	--	--
SRB52	19.5	9/27/00	--	830	970	--	--
SRB56	0.5	9/25/01	--	--	--	--	--
	1.0[7]	9/25/01	<26	<52	<260	--	--
SRB62	1	9/25/01	--	--	--	--	--
	1.5[7]	9/25/01	<1.1	<1.1	<5.3	--	--
	5	9/25/01	--	--	--	--	--
	6.0[7]	9/25/01	<1.2	<1.2	<6.1	--	--

Notes:

[1] All samples were collected by Geomatrix Consultants, Inc. Samples collected in 1996 were analyzed by American Environmental Network of Pleasant Hill, California. Samples collected in March 2000 were analyzed by Entech Analytical, Inc., of Sunnyvale, California for TPHd and TPHm using EPA Method 8015M following silica gel cleanup procedure per method 3630C. Samples collected in September 2000 were analyzed by Curtis and Tompkins, Ltd. of Berkeley, California for TPHd and TPHm using EPA Method 8015M following silica gel cleanup procedure per EPA Method 3630C. Samples collected in September 2001 were analyzed by Severn Trent Laboratories, Inc. of Sacramento, California, for TPHg, TPHd, TPHmo using EPA Method 8015M.

[2] Depth measured in feet below ground surface.

[3] Waste extraction test was performed using simulated rainwater; results are reported in micrograms per liter.

[4] "c" denotes composite sample.

[5] -- = not analyzed.

[6] Lab sheet indicates that result is quantified as diesel; chromatographic pattern not typical of fuel.

[7] Additional analyses performed for SRB56-1.0, SRB62-1.5, SRB62-6.0 include total purgeable and total extractable petroleum hydrocarbons. Results were SRB62-1.5 = 330/8200; SRB62-1.5 = <1.1/25, and SRB62-6.0 = <1.2/97.

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHm = total petroleum hydrocarbons quantified as motor oil
WET = waste extraction test
BTEX = benzene, toluene, ethylbenzene, and xylenes
MTBE = methyl tertiary butyl ether

GEOMATRIX

TABLE 3

HISTORICAL ANALYTICAL RESULTS
BTEX AND MTBE IN SOIL[1]

Santa Rosa Station, Option Property
Santa Rosa, California

Results reported in milligrams per kilogram (mg/kg)

Borehole	Depth[2]	Date Collected	BTEX	MTBE
SRB51	1.95	9/27/00	<5.3	--
SRB52	19.5	9/27/00	<5.1	--
SRB56	0.5	9/25/01	--	<0.01
	1.0	9/25/01	--	--
SRB62	1	9/25/01	--	<0.01
	1.5	9/25/01	--	--
	5	9/25/01	--	<0.01
	6.0	9/25/01	--	--

Notes:

[1] All samples were collected by Geomatrix Consultants, Inc. Samples collected in September 2000 were analyzed by Curtis and Tompkins, Ltd. of Berkeley, California for BTEX using EPA Method 8260B. Samples collected in September 2001 were analyzed by Severn Trent Laboratories, Inc. of Sacramento, California, for MTBE using EPA Method 8260B. Samples analyzed for MTBE were collected in Encore Samplers and prepared for analysis by the laboratory by EPA Method 5035.

Abbreviations:

BTEX = benzene, toluene, ethylbenzene, and xylenes

MTBE = methyl tertiary butyl ether

GEOMATRIX

TABLE 4

HISTORICAL ANALYTICAL RESULTS FOR GRAB GROUNDWATER[1]

Santa Rosa Station, Option Property

Santa Rosa, California

Results reported in micrograms per liter (µg/l)

Borehole	Sample Date	TPHg	TPHd	TPHd(f)	TPHm	TPHm(f)	PNAs	PNAs(f)	BTEX	MTBE	VOCs
SRB20	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB21	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB22	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB23	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB26	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB29	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB30	11/15/96	--	<50	--	<200	--	--	--	--	--	Acetone = 300
SRB31	11/15/96	--	<50	--	<200	--	--	--	--	--	ND
SRB32	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB34	3/7/00	--	160[2]	<50	420	<250	<0.2	<0.2	--	<5	ND
SRB35	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB36[3]	3/6/00	--	67[2]/<50	<50/<50	<250/<250	<250/<250	<0.2/<0.2	<0.2/<0.2	--	<5/<5	ND/ND
SRB37	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB38	3/6/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB39	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	9.8	ND
SRB40	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB41	3/7/00	--	<50	<50	<250	<250	<0.2	<0.2	--	<5	ND
SRB42	9/26/00	--	--	--	--	--	--	--	--	77	--
SRB42D[4]	9/26/00	--	--	--	--	--	--	--	--	75	--
SRB43	9/26/00	--	--	--	--	--	--	--	--	19	--
SRB44	9/25/00	--	13,000	400[5]	12,000	360[5]	--	--	--	--	--
SRB45	9/25/00	--	<50	--	<300	--	--	--	--	--	--
SRB46	9/25/00	--	<50	--	<300	--	--	--	--	--	--
SRB47	9/25/00	--	<50	--	<300	--	--	--	--	--	--
SRB48	9/25/00	--	46,000	1500[5]	38,000	950[5]	<190	--	<0.5	--	--
SRB49	9/25/00	--	<50	--	<300	--	<10	--	<0.5	--	--
SRB49D	9/25/00	--	<50	--	<300	--	<9.4	--	<0.5	--	--
SRB50	9/26/00	--	--	--	--	--	--	--	--	11	--

TABLE 4

HISTORICAL ANALYTICAL RESULTS FOR GRAB GROUNDWATER[1]

Santa Rosa Station, Option Property
Santa Rosa, California

Results reported in micrograms per liter (µg/l)

Borehole	Sample Date	TPHg	TPHd	TPHd(f)	TPHm	TPHm(f)	PNAs	PNAs(f)	BTEX	MTBE	VOCs
SRB54	9/25/00	--	<50	--	<300	--	<9.4	--	<0.5	2.3	--
SRB-55	9/25/01	<50	--	--	--	--	--	--	<1.0	2.8	--
SRB-58	9/25/01	<50	--	--	--	--	--	--	<5.0	120	--
SRB-59	9/25/01	<50	--	--	--	--	--	--	E = 1.7 X = 14.5	34	--
SRB-60	9/25/01	<50	--	--	--	--	--	--	E = 1.0 X = 9.4	9.6	--
SRB-61	9/24/01	<50	--	--	--	--	--	--	<1.0	6.5	--
SRB-62	9/26/01	<50	--	--	--	--	--	--	T = 1.5	7.6	--

Notes:

[1] All samples were collected by Geomatrix Consultants, Inc. Samples collected in 1996 were analyzed by American Environmental Network of Pleasant Hill, California; TPHd and TPHm were analyzed using EPA Method 8015 following silica gel cleanup procedure EPA Method 3630C and VOCs were analyzed for using EPA Method 8240. Samples collected in March 2000 were analyzed by Entech Analytical, Inc. of Sunnyvale, California, and analyzed for TPHd and TPHm using EPA Method 8015M following silica gel cleanup procedure per Method 3630C; PNAs using Method 8270SIM; and VOCs including MTBE and other fuel oxygenates using EPA Method 8260. Samples that were collected in March 2000 for TPHd, TPHm, and PNAs were analyzed before and after passing through a 0.7 micron glass fiber filter. Samples collected in September 2000 were analyzed by Curtis and Tompkins, Ltd. of Berkeley, California, for TPHd and TPHm using EPA Method 8015M following silica gel cleanup procedure by EPA Method 3630M; for BTEX and MTBE using EPA Method 8260B; and for PNAs using EPA Method 8270C. Samples collected in September 2001 were analyzed by Severn Trent Laboratories, Inc. of Sacramento, California, for TPHg, TPHd, TPHmo by EPA Method 8015M and for MTBE by EPA Method 8260B. Samples for MTBE analysis were collected in Encore samplers and prepared for analysis by the laboratory by EPA Method 5035.

[2] Lab sheet indicates that result is quantified as diesel; chromatographic pattern not typical of fuel.

[3] Results of sample/blind duplicate sample (labeled SRB46) are shown.

[4] A borehole identification number followed by "D" indicates that a blind duplicate sample was collected at this location.

TABLE 4

HISTORICAL ANALYTICAL RESULTS FOR GRAB GROUNDWATER[1]

Santa Rosa Station, Option Property
Santa Rosa, California

Notes: (Continued)

[5] Samples were reanalyzed to quantify the dissolved concentrations of the chemicals listed. Analyses were performed by Friedman and Bruya, Inc. of Seattle, WA. Samples were passed through a 0.7 micron glass fiber filter and analyzed according to EPA method 8015M following silica gel cleanup procedure by EPA method 3630M. Extraction and reanalysis of samples SRB44 and SRB48 was performed on October 17, and 24, 2000, respectively.

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHm = total petroleum hydrocarbons quantified as motor oil
f = filtered with 0.7 micron glass fiber filter
PNAs = polynuclear aromatic hydrocarbons
MTBE = methyl tertiary butyl ether
BTEX = benzene, toluene, ethylbenzene, and xylenes
VOCs = volatile organic compounds
ND = not detected above laboratory reporting limits (for VOCs: 5 to 100 µg/l).
-- = not analyzed

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TABLE 5
HISTORICAL ANALYTICAL RESULTS OF SOIL AND GROUNDWATER SAMPLES COLLECTED BY OTHERS
Santa Rosa Station, Option Property
Santa Rosa, California

ID	Owner	Date	Depth (feet bgs)	TPHg	TPHd	TPHmo	TPHog	TPHk	BTEX	PNAs
Soil Borings (milligrams per kilogram [mg/kg])										
RBB-1	RWQCB	April 1990	12	ND	ND	NA	**200**	NA	NA	See Note 1
RBB-2	RWQCB	April 1990	NA	ND	ND	NA	ND	NA	NA	NA
RBMW-2	RWQCB	April 1990	6	ND	**20**	NA	ND	NA	NA	NA
RBMW-3	RWQCB	April 1990	NA / 11	ND	**11 / 30**	NA	ND	NA	X = **0.011**	NA
ICB-1	Industrial Compliance	May 1992	NA	ND	ND	ND	NA	ND	ND	ND
ICB-2	Industrial Compliance	May 1992	NA	ND	ND	ND	NA	ND	ND	ND
ICB-3	Industrial Compliance	May 1992	NA	ND	ND	ND	NA	ND	ND	ND
ICB-4	Industrial Compliance	May 1992	NA	ND	ND	ND	NA	ND	ND	ND
ICB-6	Industrial Compliance	May 1992	11	ND	**37**	ND	NA	ND	ND	ND
Grab Groundwater (micrograms per liter [µg/l])										
ICB-1	Industrial Compliance	May 1992	--	ND	ND	NA	NA	NA	ND	NA
ICB-2	Industrial Compliance	May 1992	--	ND	ND	NA	NA	NA	ND	NA
ICB-3	Industrial Compliance	May 1992	--	ND	ND	NA	NA	NA	ND	NA
ICB-4	Industrial Compliance	May 1992	--	ND	ND	NA	NA	NA	ND	NA
ICB-6	Industrial Compliance	May 1992	--	ND	**31,000**	NA	NA	NA	ND	NA
Monitoring Wells (micrograms per liter [µg/l])										
GW-24[2]	Mead Clark	July 1989	--	NA	NA	NA	NA	NA	NA	NA
GW-27[2]	Mead Clark	July 1989	--	NA	NA	NA	NA	NA	B = **0.7**	NA
RBMW-2	RWQCB	April 1990	--	ND	~~NA~~ ND	NA	ND	NA	ND	NA
RBMW-3	RWQCB	April 1990	--	ND	**400**	NA	ND	NA	ND	NA

Notes:

[1] PNAs detected in boring RBB-1 include naphthalene (2.080); 2-methylnaphthalene (1.150); acenaphthalene (1.450); dibenzofuran (1.130); fluorene (1.380); phenanthrene (3.860); anthracene (0.557), and benzo(a)anthracene (0.324).

[2] GW-24 and GW-27 were installed on behalf of Mead Clark. Six monitoring events had been performed. No petroleum hydrocarbons or related constituents were detected except for one detection of benzene at 0.7 µg/l on July 19, 1989.

Abbreviations:

TPHg = total petroleum hydrocarbons quantified as gasoline
TPHd = total petroleum hydrocarbons quantified as diesel
TPHmo = total petroleum hydrocarbons quantified as motor oil
TPHog = total petroleum hydrocarbons quantified as oil & grease
TPHk = total petroleum hydrocarbons quantified as kerosene
BTEX = benzene, toluene, ethylbenzene, and xylenes
PNA = polynuclear aromatic hydrocarbons
feet bgs = feet below ground surface
NA = not available
ND = not detected above the laboratory detection limit

GEOMATRIX

TABLE 6

GROUNDWATER ANALYTICAL RESULTS[1]

Santa Rosa Option Property
Santa Rosa, California

Concentrations in micrograms per liter (µg/l)

Well ID	Date Sampled	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TPHg[2]	TPHd[2]	TPHmo[2]	PNAs
SRMW-05	12/20/01	NA[3]	NA	NA	NA	NA	NA	<50[4]	<300	<0.94
	3/19/02	NA[5]	NA	NA	NA	NA	NA	<50	<300	<0.94
SRMW-06	12/20/01	NA	NA	NA	NA	NA	NA	<50	<300	<0.94
	3/19/02	NA	NA	NA	NA	NA	NA	<50	<300	<0.94
SRMW-07	12/20/01	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<300	<0.94
	3/19/02	<0.5	<0.5	<0.5	<0.5	0.6	<50	<50	<300	<0.94
SRMW-08	12/20/01	<0.5	<0.5	<0.5	<0.5	4.4	<50	NA	NA	NA
	3/19/02	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	5.3/5.2	<50/<50	NA	NA	NA
SRMW-10	12/20/01	NA	NA	NA	NA	NA	NA	<50/<50	<300/<300	<0.94/<0.94
	3/19/02	NA	NA	NA	NA	NA	NA	<50	<300	<0.94

Notes:

[1] Monitoring well groundwater samples collected by Geomatrix Consultants, Inc., and analyzed by Curtis and Tompkins of Berkeley, California for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by U.S. EPA Method 8260, TPHg, TPHd, and TPHmo by U.S. EPA Method 8015M, and polynuclear aromatic compounds (PNAs) by U.S. EPA Method 8270 SIM.

[2] TPH = total petroleum hydrocarbons analyzed as gasoline, diesel, and motor oil (TPHg, TPHd, and TPHmo, respectively).

[3] NA = not analyzed.

[4] "<" = not detected above the laboratory detection limit shown.

2101 Webster Street
12th Floor
Oakland, CA 94612
(510) 663-4100 • FAX (510) 663-4141

GEOMATRIX

Transmittal

Sent Via: ☐ Messenger ☒ U.S. Mail ☐ Overnight Mail

Date: April 9, 2002

To: Jim Frank
Santa Rosa Fire Department
Fire Prevention Bureau

From: Charles Rome
CFR

RWQCB
REGION 1
APR 11 2002

☐ SAW ☐ FCR ☑ BAGGSON
☐ RLT ☑ LGR ☐ KAD
☐ NPQ ☐ RSG ☐ EJL
✓JEF

4/17/02
JEF

Project Number: 2770.005

Project Name: Santa Rosa Station Option Property

Item	Description
1	Application Package for Underground Tank Removal/Abandonment
2	Application Fee

Remarks

Enclosed are all items listed in the Checklist for Application and Documents Required for Underground Tank Removals/Abandonment, as required by the Santa Rosa Fire Department.

Please call me if you have questions.

cc: John Moe, UPRR (Encl. entire package)
Joan Fleck, RWQCB (Encl. Work Plan only)
Scott Rhymes, Northwestern Pacific Railroad Authority (Encl. Work Plan only)
Leah Goldberg, Esq., Hanson, Bridgett, Marcos, Vlahos, and Rudy (Encl. Work Plan only)

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: FILE Date: APRIL 4, 2002

From: JOAN

Subject: SP TRANS CO. 3RD STREET NORTH

ON THIS DAY I SPOKE TO CHARLIE ROME OF GEOMATRIX REGARDING THEIR WELL SAMPLING PROCEDURES. I ASKED WHY THEY DROPPED THE BAILER TO 15' BGS WHEN WATER WAS AT 8' BGS. (PAGE 5, SECOND PARAGRAPH BENEATH SECTION 2.2 "GROUNDWATER SAMPLING")

HE SAID HE QUESTIONED IT ALSO AND FUTURE SAMPLING WILL INCLUDE STANDARD SAMPLING PROCEDURES AND THE COLLECTION OF GROUNDWATER SAMPLES FROM THE TOP OF THE WATER TABLE.

I ALSO POINTED OUT THAT PARAGRAPH 1 GOT CHOPPED UP SOME HOW. THEY WILL CORRECT THAT FOR FUTURE REPORTS.

HE SAID TO EXPECT A WORKPLAN TO DEFINE THE EXTENT OF SEPARATE PHASE AND ANOTHER ONE TO REMOVE THE PIPE.

SPTrans Co (North)

From: "Laura Whiting" <whiting@callatg.com>
To: "Laura Whiting" <whiting@callatg.com>
Date: 3/4/02 12:42PM
Subject: Sonoma County Food & Wine Center Update

Thank you for your ongoing interest in the Sonoma County Food & Wine Center. Last week the Press Democrat published a couple of articles and an editorial that captured the community's desire to keep the project moving forward quickly. The combined efforts of our partnerships with the City, Rail, Railroad Square neighbors and businesses, Santa Rosa Junior College, and Food & Wine groups continue to bring us closer to our opening date. Below are the public goals that guide those efforts and an update on the project.
Public Goals

a.. Support Sonoma County farmers, food producers, vintners, wineries and artisans by providing a place where the foods of the region are sold and promoted
b.. To serve the needs of area residents and be a unique reflection of Santa Rosa's Railroad Square and the agricultural heritage of Sonoma County
c.. Educate farmers and the public about, and to promote, sustainable agriculture
d.. Provide attractive, well-managed public spaces that support education events related to food and wine
e.. To provide a place where people from Sonoma County's various social and ethnic groups mix freely and where the region's multi-ethnic food and agricultural traditions are celebrated
f.. To educate youth and the public regarding food and agriculture, particularly the products of Sonoma County
g.. Aid in the revitalization of downtown Santa Rosa as an attractive place to live, work, and visit.
Sonoma County Food & Wine Center Update

New Developments 2002:

Confirmed at January 2002 council planning meeting the Sonoma County Food & Wine Center named "top priority" by City for third fiscal year beginning 7/1/02 - 7/1/03. This means that the City and Santa Rosa will continue to focus efforts to secure the rail site.

SMART (Sonoma Marin Area Rail Transit) names Santa Rosa station site "first priority" status. The process of the site's development will serve as a prototype for the remaining 12 rail sites along the line. This is very important as it places the Santa Rosa rail site as a priority site for development.

A draft station site map was completed by SMART. Map considers rail and other transportation land use needs and indicates the portion of site available for the Food & Wine Center, parking, housing and retail and office development.

Draft Memorandum of Understanding between the City of Santa Rosa, NWPRA (Northwestern Pacific Rail Authority), SMART, and the Food and Wine Center was created jointly with the City and reviewed by City Council at February 19th council study session meeting. The Draft will facilitate securing the rail site for the Center and related transportation/parking needs. Draft to be presented to SMART and NWPRA at commission and board meetings in March. This is a major step in aligning development interests in the site and staying on track with our comprehensive timeline.

Highlights of 2001:

Sonoma County Food & Wine Center Business Plan completed and in use.

Funds established for the Sonoma County Food & Wine Center in Jim Brecht's memory at the

Community Foundation Sonoma County. Formal fundraising efforts start when we have secured the site.

A donation of office space including designated conference room for meetings and the display of "Images from Ideas, depicting the roots of agriculture in the county and the evolving Sonoma County Food & Wine Center

"Branding" process begun. Interim name of Sonoma County Food & Wine Center was selected. Our 501C3 application is being prepared to now branch off from CityVision.

Application by the City to the EPA (Environmental Projection Agency) for a grant/loan to assist with the costs to clean the land of toxics has been submitted. Outcome will be known in March.

"Farmers Forum" planned for 2002. This event is planned to provide on-going discussions with Sonoma County farmers/producers about their desired goals/needs for the Center.

Confirmation that the Sonoma County Food & Wine Center is included in the $250 million Capitol Improvement Bond Measure on the March 2002 ballet by the Santa Rosa Junior College.

Enormous thanks go to many of you who are making this project happen. Please feel call is you have any questions.

Laura Whiting, Project Director
Sonoma County Food & Wine Center

131-A Stony Circle, Suite 554
Santa Rosa, CA 95401
707-636-2600
Fax 707-578-2304

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: January 4, 2002

From: JEF

Subject: Southern Pacific Trans. Co./Food and Wine Center

On January 3, 2002 I attended a meeting with Stephen Burke, Rick Moshier, Susan McCue (with the City of Santa Rosa) and Jim Hansen and Suzanne Perkins with EPA Region IX to discuss the City's Brownsfield application. Susan requested that I attend to be available for questions regarding site contaminants.

Jim and Suzanne explained that they are not the people that make the decisions regarding the revolving loan applications and they need more information from the City to enable them to discuss the application with the people that do make the decisions.

Stephen explained that he became interested in the Brownsfield program after attending a meeting at the Regional Water Board. He is aware that here are many contaminated properties in the City and feels the program could be used in Santa Rosa for perhaps, the Food and Wine Center, and if not, other projects.

Suzanne indicated that they are not sure if the Food and Wine Center property qualifies. If a Cleanup and Abatement Order has been issued it does not. And, it cannot be a petroleum hydrocarbon problem. I let them know that we have not issued a Cleanup and Abatement Order and the site contaminants include diesel, oil, PNAs and MtBE. Jim thought that the PNAs might make it an eligible site.

Susan provided information regarding the Food and Wine Center including the broad picture with downtown services, housing and rail service, and how the rail service is the link between the San Rafael (with a Ferry to San Francisco) and Santa Rosa.

Other sites were discussed. I provided them with as much information as I could from memory.

- Sonoma County Service Building (Sebastopol Road) - the project includes more than one site currently under investigation and the contaminants include petroleum and chlorinated hydrocarbons and metals. No CAO has been issued.
- Fouche Auto Wreckers - the site contaminants include petroleum and chlorinated hydrocarbons and metals. No CAO has been issued.
- Property at Brookwood and Third Streets -I was not familiar with the Site. Rick indicated that it is a lead problem.
- West Coast Metals - the site contaminants include TCE. A CAO has been issued.
- PGE Gas Plant - petroleum hydrocarbons, PNAs and lead. A CAO has been issued.

F

California Regional Water Quality Control Board

North Coast Region

William R. Massey, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

November 9, 2001

Mr. Jim Hanson
Brownsfield Coordinator, Superfund Division
Environmental Protection Agency, Region 9
75 Hawthorne Street, SFD-1-1
San Francisco, California 94105

Dear Mr. Hanson:

Subject: Brownsfields Cleanup Revolving Loan Fund Pilot Program

File: Southern Pacific Transportation Company, Third Street (north), Santa Rosa, Case No. 1TSR196

On October 29, 2001, Ms. Susan McCue, Economic Development Manager for the City of Santa Rosa (City), contacted North Coast Regional Water Quality Control Board (Regional Water Board) staff and expressed interest in the Environmental Protection Agency's, Brownsfields Cleanup Revolving Loan Pilot (Brownsfields) program. She indicated that the City and Redevelopment Agency plan to submit a Brownsfields application for the former Southern Pacific Transportation Company (SPTC) property located between Third and Sixth Streets in Santa Rosa. The property is targeted for development including the construction of a Food & Wine Center. Ms. McCue requested a letter of support.

Regional Water Board staff have been working with SPTC and Union Pacific Railroad, regarding the investigation and cleanup of hazardous substances in soil and groundwater at the former railroad water and fueling yard. Recently, we have been working with the City, Redevelopment Agency and the Food & Wine Center project proponents providing information regarding site contaminants and guidance on the coordination of cleanup with property development.

We support the Brownsfields application and will continue to work with City and Redevelopment Agency staff in a coordinated effort.

As lead agency, the Regional Water Board will continue to direct and oversee soil and groundwater remediation activities to ensure compliance with the California Water Code.

If you have any questions you may call Joan Fleck at (707) 576-2675.

Sincerely,

Susan A. Warner
Executive Officer

JEF:js/Brownsfields

cc: Mr. Jim Frank, Santa Rosa Fire Department

Susan E. McCue, Economic Development Manager, City of Santa Rosa, P.O. Box 1678, Santa Rosa, CA 95402-1678

Fax

CITY OF SANTA ROSA

City Manager's Office
100 Santa Rosa Avenue, Room 10
543-3010
FAX 543-3030

Date: 10/31, 2001 707/523-0135

To: Joan Fleck, Engineering Geologist · North Coast Region / WQCBd.

From: Susan McCue, Economic Development Manager (SMccue@ci.santa-rosa.ca.us)

Pages: 2, including this cover sheet.

Subject: Letter of Support for City's EPA Brownfields Loan Program Applic.

Joan — I spoke w/ our EPA regional representative, Jim Hanson, and he said that your letter of support doesn't have to cover much more than: 1) simple expression of support for City/Agency's app.; 2) that North Coast region is prepared to continue to work with City and Redev. Agency on toxic remediation & brownfields cleanups; 3) acknowledge that City/Red. Agency informed your agency that we're applying for this EPA Loan Fund program

I've also attached a brief summary of our application, just to give you an overview of our application.

Let me know if you have any questions — Thanks, Susan

The City and Redevelopment Agency are co-applying for the FY 2002 Environmental Protection Agency's "Brownfields Cleanup Revolving Loan Fund Pilot" program which awards up to $1,000,000 in revolving loan fund monies. The revolving loan fund would make low-interest loans to both public and private parties to facilitate the cleanup of contaminated sites. This cleanup program would provide the funds to redevelop properties that are stymied due to toxic contamination. Often these cleanups are not prohibitively expensive, but banks and other lenders have been reluctant to make cleanup loans; the City/Agency loan fund would close that gap and facilitate the reuse of a variety of public and private sites.

The initial site that has been identified is the planned Food/Wine Center location, a 7-acre site adjacent to the Rail Depot in Railroad Square. This site is currently owned by Northwest Pacific Railroad and Union Pacific, and its disposition is being managed by the Golden Gate Bridge Authority. The City and Agency have been working closely with both the Golden Gate Bridge Authority to characterize the site and develop a workable plan that facilitates passenger rail, the Food/Wine Center and other mixed-use opportunities.

The railroads have completed extensive environmental assessment on this site and have worked closely with the North Coast Water Quality Control Board to explore cleanup scenarios. Based on this work, this site seems to be an excellent candidate for the type of assistance provided under the E.P.A.'s Revolving Loan Fund program.

While this initial site is not within a redevelopment project area boundary, the City may serve as the "Lead Agency" for purposes of this Revolving Loan Fund Program. Because this Fund is revolving, we will have the ability to make loans to future projects. We also expect to see many of these future projects within the redevelopment project areas. For that reason, the Redevelopment Agency is the City's co-applicant for this Revolving Loan Fund program.

Under the E.P.A.'s program, 10% of the total fund may be used to cover administrative costs, 20% may be used for direct financial assistance (grants) and 70% forms the revolving loan fund. The City/Agency application is due November 15, 2001. Under staff guidance, the City's grant consultant, Randall Development, is compiling Santa Rosa's application.

cc: Redevelopment Agency Board

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: October 18, 2001

From: JEF

Subject: Southern Pacific Transportation Company, Third Street (north)

On October 17, 2001 I called and left a message with Susan Gallardo with Geomatrix. I asked her to call me with an update regarding their plans to locate the suspected tank. I also called Brendan who was available. He said that:

They pot-holed the area of the suspected tank on October 11, 2001 and did not find a tank. They did find junk metal and our 4-inch pipes with oil (similar to Bunker C).

They also had preliminary results for MtBE in the grab groundwater samples. They were:

SRB-61 = 6.5 SRB-59 = 34 SRB60 = 9.6 SRB58 = 120
SRB-55 = 2.8 SRB-62 = 7.6

On October 18, 2001, Susan Gallardo called and apologized for not calling me before the pot-holing work was done. She said that they plan to conduct an additional Geophysical survey to trace the lines. She will call me when they get that scheduled. She has not plotted the data yet and will be doing so in the near future.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: September 28, 2001

From: JEF

Subject: Southern Pacific Transportation Company, Third Street (north)

On September 25, 2001 I inspected the subject site during drilling activities. I arrived at the site at approximately 1315 hours. Brendan and Brian with Geomatrix were onsite and Precision was drilling the boring adjacent to the tie shredder.

The door to the box-like storage structure was open and Brendan was inside taking inventory. The storage container is being used to store tools, equipment and petroleum hydrocarbons. Four 55-gallon drums were located inside against the far wall left of the door. Brendan found 2 drums to be empty and the other 2 contained oil. A few smaller gasoline storage containers were located to the right of the door. The floor of the storage container was wet from the rain the night before and was very slippery due to spilled oil.

We walked around the outside of the container to find a suitable sampling location. At the southeast corner we found stained soil with hydrocarbon odors. I inspected the soil beneath the container in the area of the 55-gallon drums. It was dark but did not have an odor. I asked Brendan and Brian to collect a sample from the stained area and they did. We also agreed that the best place to sample is beneath the container. That would not be feasible at that time. Brendan took pictures of the contents of the storage container and the staining beneath the shredder.

I left the site for two other inspections and returned a short time later. I assisted in making a decision regarding groundwater sampling in the boring (adjacent to the shredder). A moist thin sand layer (4 to 5 inches) was found at about 16 feet. Brian thought they should install the PVC casing to see if it produces water. I looked at the boring logs for other borings in the area and recommended that they continue to the depth where water was encountered in other borings which is 20 feet or greater and is also the depth where MtBE has been detected in the past. We talked about the objective and all agreed to keep drilling.

Kevin, who is a private utility locator, was surveying the area and found a large inlet and corrugated metal pipe about 8 feet deep and 12 to 16 inches in diameter. Brendan used a mirror to reflect light into the inlet and found that the pipe had a hole in it. It's use is unknown. It is located immediately northwest of the above ground tank and tree. It could act as a conduit to groundwater impact.

They were going to finish up the sampling at the above ground tank and leave for the day. They would be back on September 27 and 28, 2001 to install the wells.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: September 25, 2001

From: JEF

Subject: Southern Pacific Transportation Company, Third Street (north)

On September 24, 2001 I visited the subject site during drilling activities. I met Brian and Brendan with Geomatrix at the site at around 1300 hours. They indicated that they got started late due to permitting issues. They planned to start at 0800 hours but did not get started until 1000. At the time of my arrival, they had completed SRB-61 and were having lunch. Nor Cal Geophysical staff were also onsite completing their survey in the area of the suspected underground tank.

The drillers (Precision) had gone to lunch and returned a short time after I arrived. They set up at the next boring location, which is SRB-60. Brian and Brendan indicated that they noticed petroleum hydrocarbon odors in the water collected from SRB-61 and a slight staining in soil. SRB-61 is located directly west of the Hotel La Rose annex. Therefore, I asked them to also analyzed for TPHg and BTEX in addition to the MtBE since the Hotel La Rose site is a pre MtBE station.

While the drillers prepared to start SRB-60, Brendan and I walked the area where NorCal geophysical did their survey. Two areas were marked where Nor Cal believe metal debris to exist, which is also the area where the product was discovered during drilling. Another area appeared to be a suspected underground storage tank, which is north of where the product was found. The area of the suspected tank also had what appears to be a lengthy pipe extending to the south. Brendan said that he would make arrangements to have a contractor investigate the area with a backhoe. He asked what the procedures are if a tank is located. I told him to contact the Santa Rosa Fire Department for a tank removal permit.

We discussed the installation of the two monitoring wells in that area. I told him that I would conduct source removal before I installed wells. He agreed and said he would talk to Susan Gallardo.

The second boring (SRB-60) was going slow with poor recovery especially in the top six feet. Recovery improved as they encountered lean clays. A thin clayey gravel layer was encountered at about 16 feet with lean clay above and below. Clay extended to 19 feet and the agreement was to keep drilling. I was hoping to be there when water was encountered to see if evidence of petroleum hydrocarbon contamination existed. However, the clouds got darker, the wind picked up and the lightening storm began. They started packing up and I left the site. Drilling will continue today (9/25/01) and throughout the week.

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: Mark Bartson & File Date: September 19, 2001

From: Joan Fleck

Subject: Southern Pacific Transportation Company, Third Street (North)

On September 18, 2001 I met Susan Gallardo and Brendan Mulholland with Geomatrix at the subject site. Susan and Brendan were onsite at the time of my arrival and began marking boring locations. They began on the eastside of the property marking the upgradient boring locations to investigate the potential for an up gradient MtBE source. The boring locations included SRB58, SRB59, SRB60, SRB61 and SRMW-8. See attached map for boring locations.

While they completed marking those locations, I went and spoke to a gentleman who was working in the area of the fenced enclosure. Susan had mentioned that they might not be able to get inside, so I asked him if he could leave the gate open to complete the work. He was very cooperative.

While we were talking to him, a group of people came over from the restored depot and asked about our interest in the property. I introduced myself and explained that Geomatrix was preparing to conduct some environmental work. Lillian Hames, with Sonoma Marin Area Rail Transit, introduced herself and gave me her card. She said that they were interested in a rail system and how it might be incorporated into the proposed food and wine center. Bill Burgel also gave me his card. It sounded like he designs rail systems.

They left and we continued with our work. We entered the fenced enclosure area and attempted to identify former boring locations such as ICB-6. I asked that a sample be collected beneath the above ground tank where stained soil was evident. I moved the gravel beneath the tank and it is obviously stained with heavy hydrocarbons. The tank is rusty and at some time was spray painted on the flat end (west end) with the word "gas". Its current use is unknown. I showed Susan the above ground box like storage structure that is labeled as a gasoline storage area. The railroad employee said that tools were stored inside and did not believe it was used to store gasoline. Susan agreed to make arrangements to get inside and confirm, or refute, whether gasoline is stored inside. If not, it is no longer a suspected source. Susan proposed to label the boring beneath the above ground tank as SRB-57. SRB-56 would be decided after Susan obtained more information about the gasoline storage issue. Two soil samples would be collected at SRB-57; one shallow from the stained area and one at about 4 feet bgs.

We observed a machine set up on the concrete pad (that I had never seen before) that was described by the railroad employee as a tie shredder. He said that it is easier for the ties to be burned if they are shredded first. The shredder looked like a diesel truck with a hopper where the cab should be sitting over two saddle-bag fuel tanks. Both tanks leaked or were overspilled during filling. The concrete and some cardboard were stained (black). A generator was sitting on the east side of the shredder and was sitting on a separate stained area. I asked that this area be sampled. Susan pointed out that Union Pacific obviously did not cause the discharge so she would need to talk to John Moe. I said that was fine, but suggested they consider sample collection

since Union Pacific still owns the property and they may want documentation showing what the tenant did.

The next boring marked was SRB55. It is located over the area of the former 10,000 gas tank.

Susan decided and I concurred with not marking the location for SRMW-9 and 10. They have Nor-Cal geophysical scheduled for Monday, September 24, 2001 to locate the suspected tank. If a tank needs to be removed, she wants to wait to avoid well destruction or damage. The geophysical study will also include the area of the above ground 3000-barrel tank. In addition, metal storage bins have been placed in the area of the 3000-barrel tank that may need to be moved. It appears that the contractors who are working on a building to the north are using the railroad property to park and store their equipment. Susan will take care of it.

Brendan marked SRMW-5 and SRMW-6 located on the adjacent property and SRMW-7. Underground Services Alert will complete their work this week and drilling is scheduled to begin September 24, 2001.

While we were leaving, Larry Howell came over to talk to us. He is the Signal Supervisor with Niemeyer & Associates who appear to be leasing and/or working on the rail lines. He will make sure the gate is open next week for the work to be conducted.

California Regional Water Quality Control Board

North Coast Region

Daniel F. Crowley, Chairman

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

Internet Address: http://www.swrcb.ca.gov/~rwqcb1/
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

July 19, 2001

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Comments on June 22, 2001 Addendum to January 2001 Work Plan

File: Southern Pacific Transportation Company, Third Street Property (North), Santa Rosa, Case No. 1FTSR196

North Coast Regional Water Quality Control Board (Regional Water Board) staff have reviewed the June 22, 2001 "Addendum to the January 2001 Work Plan" prepared by Geomatrix Consultants for the above file. The proposed scope of work is acceptable and we look forward to work plan implementation.

I discussed the plan with Susan Gallardo on July 3, 2001. It was agreed that Geomatrix staff and I will meet onsite when the exact drilling locations are marked and during work plan implementation.

I have notified Sonoma County Environmental Health Services to enable the processing of permits. If you have any questions, please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:js/UnionPacific

cc: Mr. Jim Frank, Santa Rosa Fire Department
Ms. Susan Gallardo, Geomatrix, 2101 Webster Street, 12th Floor, Oakland, CA 94612
Ms. Leah S. Goldberg, Hanson Bridgett Vlahos & Rudy, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Mr. Scott Rhymes, Golden Gate Bridge District, Environmental Health and Safety Manager, 1011 Andersen Drive, San Rafael, CA 94901-5381

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: http://www.swrcb.ca.gov/."

Carousel Carpet Mills, Inc.
One Carousel Lane
Ukiah, CA 95482
707 485-0333
707 485-5911 Fax

Laura Petrich-Whiting
Director

4876 Parktrail Drive
Santa Rosa, CA 95405
707 538-3388
E-mail: whiting@sonic.net

REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

INTEROFFICE COMMUNICATION

To: File Date: April 30, 2001

From: JEF

Subject: Southern Pacific Transportation Company, Third Street Property (North)

On April 27, 2001 I met with Laura Whiting at her request. Laura was the business partner of James Brecht who recently passed away. James and Laura were working together on the development proposal referred to as the Sonoma County Food & Wine Marketplace. The proposed location is the former railroad yard between sixth and third streets.

Laura told me about James and his vision for the market place. She explained that the project has not been finalized but they envisioned a cooking school (Santa Rosa Junior College approached them because SRJC would like to expand), a wine pavilion, some retail shops such as a book store, and outdoor covered farmer's market sheds. She explained the work that has been completed to this date and said that her plans are to continue. She was interested in knowing about the contamination issues and what needs to be completed prior to development.

I told her that:

- Soil is contaminated along the western edge of the property with diesel and motor oil range hydrocarbons and showed her where samples have been collected.
- Separate phase hydrocarbons were found on groundwater in the area where a former (or existing) UST was located associated with the former Woolens Mill.
- Diesel/motor oil range hydrocarbons were found in groundwater in the area of the former 3000-barrel above ground oil tank.
- MtBE was found in groundwater in the area of the enclosed shed.
- Surface soils contain some PNAs.

I went through our most recent letter with her explaining what we are asking for and why. She asked if the work is moving fast or slow. I explained that it was moving and it could move faster. I explained that prior to development, the sources of contamination must be removed. Laura was interested in knowing whether the cleanup work would take a very long time or was it something that was manageable. I told her that from our perspective, it is manageable. There needs to be some investigative work and some cleanup prior to development and we will move as fast as Union Pacific/NWPRR Authority is willing to move. She asked who the consultants were and I explained that Geomatrix is working for UP and NWPRR Authority.

And, I told her that we will be involved during the permitting process. Permits move quicker if the sources of contamination (tanks and impacted soil) have already been removed. I explained that monitoring well installations (if necessary) can be worked out during development or after. We will work with them as help as much as we can through the process.

She gave me a brochure regarding the market place and the handout from Jim's memorial.

James Warren Brecht

1952-2001

the will

to make a

difference

The Public Goals of the Sonoma County Food & Wine Marketplace

1. To support the farmers and food producers of Sonoma County by providing a place where the foods of the region are sold and promoted.

2. To serve the needs of area residents and be a unique reflection of Santa Rosa's Railroad Square and the agricultural heritage of Sonoma County

3. To provide attractive and well managed public spaces that support events of the food and wine industry.

4. To educate consumers about locally produced foods and wine and thereby support the food and wine industry of Sonoma County.

5. To provide affordable retailing opportunities to independent, locally-owned businesses and incubate start-ups.

6. To be a place where people from Sonoma County's various social and ethnic groups mix freely and where the region's multi-ethnic food and agricultural traditions are celebrated.

7. To aid in the revitalization of downtown Santa Rosa as an attractive place to live, work, and visit.

The following economic goals are proposed:

1. To provide a venue where farmers and local food entrepreneurs can develop profitable businesses.

2. To raise the initial capital needed for development and start-up from public and philanthropic sources.

3. To achieve an operating surplus so the Market can operate without subsidy and provide a permanent endowment for sustaining Sonoma County's food and wine industry.

The Economic Feasibility Study Numbers At A Glance

1. Cost of Development of Marketplace: $20 Million

2. Net income after expenses:

	Realistic	Pessimistic	Optimistic
Year 1	$312,420	$40,052	$402,139
Year 2	$400,000	$117,838	$508,386
Year 3	$646,172	$308,287	$809,797

Numbers above include annual Marketing Budget of $322,000 and a Capital Fund of $75,000

3. Parking:

	Minimum	Maximum
Weekday	125	187
Weekend	262	393

4. Land payment assumes a $50,000 yearly payment

5. The Marketplace would include:

Marketplace: 30,000 Square Feet

Vendors: Permanent Market Hall 28
Outside Farmer Sheds 30-40

Culinary School: 15,000 Square Feet

Offices Space: 15,000 Square Feet

Wine Pavilion: 10,000 Square Feet

Net income after expense will go to support the public goals listed on the cover.

From: David Solomon <DSolomon@goldengate.org>
To: "'Zarannells@aol.com'" <Zarannells@aol.com>, "'trporter@mailbox.sonic.net'" <trporter@mailbox.sonic.net>, "'Preston McCoy'" <cpc_gap@yahoo.com>, "'CarlBall@aol.com'" <CarlBall@aol.com>, "'cjneary@pacific.net'" <cjneary@pacific.net>, "'wrtill@aol.com'" <wrtill@aol.com>, "'HBR95404@aol.com'" <HBR95404@aol.com>, "'Vitus Leung'" <vleung@ifpte21.org>, "'poulser@amtrak.com'" <poulser@amtrak.com>, "'chambers.dennis@tci.com'" <chambers.dennis@tci.com>, "'rongolem@bae1.com'" <rongolem@bae1.com>, "'JOrdway@bart.gov'" <JOrdway@bart.gov>, "'mandy_chu@dot.ca.gov'" <mandy_chu@dot.ca.gov>, "'FlecJ@rb1.swrcb.ca.gov'" <FlecJ@rb1.swrcb.ca.gov>, "'boswr@rb1.swrcb.ca.gov'" <boswr@rb1.swrcb.ca.gov>, "'michelle@cityvisionsr.com'" <michelle@cityvisionsr.com>, "'phil@community-design.com'" <phil@community-design.com>, "'sue@community-design.com'" <sue@community-design.com>, "'MikeH@cswst2.com'" <MikeH@cswst2.com>, "'dlr@drakemat.com'" <dlr@drakemat.com>, "'jmusbach@epsys.com'" <jmusbach@epsys.com>, "'dzehnder@epsys.com'" <dzehnder@epsys.com>, "'mbaz@epsys.com'" <mbaz@epsys.com>, "'jedison@epsys.com'" <jedison@epsys.com>, "'George.Hardy@fra.dot.gov'" <George.Hardy@fra.dot.gov>, "'sgallardo@geomatrix.com'" <sgallardo@geomatrix.com>, "'ptse@geomatrix.com'" <ptse@geomatrix.com>, "'tgavigan@geomatrix.com'" <tgavigan@geomatrix.com>, "'rvisage@geomatrix.com'" <rvisage@geomatrix.com>, "'ajames@geomatrix.com'" <ajames@geomatrix.com>, "'ewells@geomatrix.com'" <ewells@geomatrix.com>, "'bthompson@geomatrix.com'" <bthompson@geomatrix.com>, "'Tloar@geomatrix.com'" <Tloar@geomatrix.com>, "'achoi@geomatrix.com'" <achoi@geomatrix.com>, "'cshaw@geomatrix.com'" <cshaw@geomatrix.com>, "'crome@geomatrix.com'" <crome@geomatrix.com>, "'hpage@hansonbridgett.com'" <hpage@hansonbridgett.com>, "Madeline Chun : Hanson Bridgett" <mchun@hansonbridgett.com>, "Michael Conneran : Hanson Bridgett" <mconneran@hansonbridgett.com>, "David Miller : Hanson Bridgett" <dmiller@hansonbridgett.com>, "John Vlahos : Hanson Bridgett" <jvlahos@hansonbridgett.com>, "Stephen Peck : Hanson Bridgett" <speck@hansonbridgett.com>, "David Longinotti : Hanson Bridgett" <dlonginotti@hansonbridgett.com>, "Leah Goldberg : Hanson Bridgett" <lgoldberg@hansonbridgett.com>, "'psiefers@hdrinc.com'" <psiefers@hdrinc.com>, "'mstrider@hdrinc.com'" <mstrider@hdrinc.com>, "'mlanderos@ci.healdsburg.ca.us'" <mlanderos@ci.healdsburg.ca.us>, "'planning@ci.healdsburg.ca.us'" <planning@ci.healdsburg.ca.us>, "'agimmy@irr.com'" <agimmy@irr.com>, "'agimmy@irr.com'" <agimmy@irr.com>, "'kca@kingstoncole.com'" <kca@kingstoncole.com>, "'kko@kko.com'" <kko@kko.com>, "'kko@kko.com'" <kko@kko.com>, "'allobo@zapcom.net'" <allobo@zapcom.net>, "'david@schonbrunn.org'" <david@schonbrunn.org>, "'MORodriguez@marin.org'" <MORodriguez@marin.org>, "'debhub@igc.org'" <debhub@igc.org>, "'stephanie.r.reilly@marshmc.com'" <stephanie.r.reilly@marshmc.com>, "'Greg.Wessel@marshmc.com'" <Greg.Wessel@marshmc.com>, "'bill.harsh@mercermc.com'" <bill.harsh@mercermc.com>, "'B. Douglas Jensen'" <bdouglas@jps.net>, "'Steve Pollock'" <stepoll@netzero.com>, "'Steve Pollock'" <stepoll@netzero.com>, "'Macchiarella, Thomas L (EFDSW)'" <MacchiarellaTL@efdsw.navfac.navy.mil>, "'Bryant@Nexusrealty.com'" <Bryant@Nexusrealty.com>, "'ncra@saber.net'" <ncra@saber.net>, "'robert.jehn@northcoastrailroad.org'" <robert.jehn@northcoastrailroad.org>, "'wpfncra@saber.net'" <wpfncra@saber.net>, "'rkamberg@hotmail.com'" <rkamberg@hotmail.com>, "'alantacy@neteze.com'" <alantacy@neteze.com>, "'bkbremer@cs.com'" <bkbremer@cs.com>, "'mrupton@hotmail.com'" <mrupton@hotmail.com>, "'jatorres99@hotmail.com'" <jatorres99@hotmail.com>, "'jimdobbins99@hotmail.com'" <jimdobbins99@hotmail.com>, "'bridgeape@hotmail.com'" <bridgeape@hotmail.com>, "'jbkingesq@aol.com'" <jbkingesq@aol.com>, "'dougchristy99@hotmail.com'" <dougchristy99@hotmail.com>, "'PJMb@pge.com'" <PJMb@pge.com>, "'Petalumatrolley@webtv.net'" <Petalumatrolley@webtv.net>, "'mmoore@ci.petaluma.ca.us'" <mmoore@ci.petaluma.ca.us>, "'lhames@pacbell.net'" <lhames@pacbell.net>, "'Joshua Hart'" <jhart@transact.org>, "'jgaffney@RPcity.org'" <jgaffney@RPcity.org>
Date: 4/23/01 8:24AM
Subject: Moving on

My last day with the Golden Gate Bridge, Highway and Transportation District will be Monday, April 30, 2001. Effective immediately, if you have

questions regarding any project I have been working on, please contact the following people:

* For the Northwestern Pacific Railroad Authority or Golden Gate Bridge, Highway and Transportation District railroad property, regarding security, trespassing, refuse dumping or weed abatement ONLY:
Terry Berardino, Director of Security, (415) 923-2253, fax (415) 923-2015, P.O. Box, 9000, Presidio Station, San Francisco, CA 94129-0601

* For the Corte Madera Ecological Reserve wetland restoration:
Lynford Edwards, Environmental Engineer, (415) 923-2349, fax (415) 563-0809; P.O. Box, 9000, Presidio Station, San Francisco, CA 94129-0601

* For the Northwestern Pacific Railroad Authority environmental remediation projects:
Scott M. Rhymes, Environmental Health and Safety Manager, (415) 257-4553, 1011 Andersen Drive, San Rafael, CA 94901-5381

* For the development of Northwestern Pacific Railroad Authority station sites or other property:
Pascale D. Soumoy, Assistant Planner, (415) 257-4490, fax (415) 257-4516, 1011 Andersen Drive, San Rafael, CA 94901-5381
or Maurice P. Palumbo, Principal Planner, (415) 257-4431, fax (415) 257-4516, 1011 Andersen Drive, San Rafael, CA 94901-5381

* For rail planning issues:
Maurice Palumbo, Principal Planner, (415) 257-4431, fax (415) 257-4516, 1011 Andersen Drive, San Rafael, CA 94901-5381

* For all other issues (including requests for permits, licenses, leases or easements for use of GGBHTD or NWPRA property):
Alan R. Zahradnik, Planning Director, (415) 257-4475, fax (415) 257-4516, 1011 Andersen Drive, San Rafael, CA 94901-5381

E-mail addresses for the above personnel may be found in the "cc" line of this e-mail.

I have enjoyed working with all of you! After May 1 I may be reached at the Sacramento Regional Transit District, tel (916) 321-2800. Sorry, I do not yet know my direct line or e-mail address there!

David M. Solomon, Senior Planner
Golden Gate Bridge, Highway and Transportation District
1011 Andersen Drive, San Rafael, CA 94901-5381
Telephone (415) 257-4564, Facsimile (415) 257-4516
e-mail: dsolomon@goldengate.org

CC: Alan Zahradnik <AZahradnik@goldengate.org>, Terry Berardino <TBerardino@goldengate.org>, Lynford Edwards <LEdwards@goldengate.org>, Scott Rhymes <SRhymes@goldengate.org>, Pascale Soumoy <PSoumoy@goldengate.org>, Maurice Palumbo <MPalumbo@goldengate.org>

California Regional Water Quality Control Board
North Coast Region
Daniel F. Crowley, Chairman

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April 16, 2001

Mr. John Moe
Union Pacific Railroad
49 Stevenson Street, 15th Floor
San Francisco, CA 94105

Dear Mr. Moe:

Subject: Comments on Work Plan

File: Southern Pacific Transportation Company, Third Street Property (north), Santa Rosa, Case No. 1TTSR196

North Coast Regional Water Quality Control Board (Regional Water Board) staff have reviewed the January 2001 "Results of the September 2000 Groundwater Sampling and Work Plan for Groundwater Monitoring" prepared by Geomatrix Consultants for the above file. Regional Water Board staff comments are:

Report

1. The results show that groundwater impact has occurred in three areas of the site including the former 3000-barrel above ground tank (diesel and motor oil range hydrocarbons), the area of SR48/SRB51/SRB52/SRB53 [Separate Phase Petroleum Hydrocarbons (SPPH)] and the vicinity of the enclosed equipment storage area (MtBE). In response, Geomatrix proposes to install five groundwater monitoring wells and initiate a groundwater monitoring program.

Work Plan

2. It is stated on page 13, "*To address the Regional Water Board's request for evaluation of impacts to groundwater from SPPH beneath the site and to evaluate the possible migration of MtBE onto the site, a groundwater monitoring program is proposed*".

   We require that you evaluate the impacts to groundwater including SPPH, not an evaluation of impacts from SPPH. In addition, the presence of MtBE in groundwater may

be the result of onsite migration, an onsite release, or both. In general, evidence exists to show that MtBE migration occurs laterally in groundwater in all directions (not solely the downgradient direction) and vertically. Any conclusion that MtBE did not originate at the subject site must include evidence to show that the onsite sources were investigated and the results confirmed no onsite release. The potential onsite sources may include the former 10,000 gallon gasoline underground storage tank and the above ground storage tank (contents unknown) and the box-like gasoline storage container located within the fenced enclosure area.

3. Geomatrix proposes to screen wells SRMW-5 through SRMW-8 below 25 feet and SRMW-9 from 8 to 23 feet.

   All the wells must be installed to evaluate the lateral extent of SPPH, dissolved TPH and MtBE. All the wells must be installed and screened to intercept the top of the water table and allow for seasonal fluctuations.

4. The proposal did not include a groundwater monitoring well in the vicinity of SRB44. A monitoring well must be installed to address the release in the area of the 3000-barrel above ground oil tank. You must demonstrate that water quality objectives have been met or will be met within a reasonable time frame. Therefore, at a minimum, a monitoring well is needed. In addition, see comment No. 7.

5. Please provide a detailed map for the northwest portion of the property showing proposed monitoring well locations and area of impact.

6. One of the offsite wells must be placed west of the area where SPPH was found. The purpose of this offsite well is to define the extent of contamination in that direction. An impact to the west might be missed due to the approximate 100 foot spacing of the proposed offsite wells.

Additional Comments

7. The sources of the petroleum hydrocarbons must also be identified and removed. For example, the source of the SPPH may be an underground storage tank formerly used by the Santa Rosa Woolens Mill during the early 1990s. You must take steps to investigate the presence, or absence, of the underground storage tank and if present, have it removed under permit from the Santa Rosa Fire Department. If the tank no longer remains in place, you must take steps to remove the SPPH from soil and groundwater. You may elect to do this work prior to the installation of SRMW9 to avoid damage or destruction during excavation.

   In addition, the former 3000-barrel above ground storage tank has been identified as a source area. The location of the spill/leak must be identified and also removed.

The elimination of pollutant sources through tank removal, free product removal, and removal of contaminated soil to the extent practicable is the Regional Water Board's highest priority (Water Quality Control Plan, North Coast Region, Resolution 93-59).

8. The analytical results on Figure 3 for SRB47 indicate the presence of motor oil at 300 ug/l. It appears that the "less than" symbol (<) was left off since the laboratory reports a non-detect for that sample at a 300 ug/l detection limit.

9. The figures still show the former 230-gallon underground storage tank location to be outside the fenced enclosure. The figures should be revised to show the former tank location in the vicinity of ICB-6.

10. On July 31, 2000 (copy enclosed) we requested clarifications and information. Items 1-3 of that letter have not been addressed. Please refer to comments 1-3 of that letter.

We look forward to receipt of a revised work plan in the near future including the previous requested information. If you have any questions please call me at (707) 576-2675.

Sincerely,

Joan Fleck

Joan Fleck
Associate Engineering Geologist

JEF:tmk\sptrans2.doc

cc: Mr. Jim Frank, Santa Rosa Fire Department, 955 Sonoma Avenue, Santa Rosa, CA 95404
Ms. Susan Gallardo, Geomatrix, 2101 Webster Street, 12th Floor, Oakland, CA 94612
Ms. Leah S. Goldberg, Hanson Bridgett, 333 Market Street, 23rd Floor, San Francisco, CA 94105-2173
Mr. David Soloman, Golden Gate Bridge District, P.O. Box 9000, Presidio Station, San Francisco, CA 94129

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at: www.swrcb.ca.gov."

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FAX

COVER SHEET

HARD COPY ATTACHED
Other 2 maps sent under separate cover

CITY OF SANTA ROSA

HOUSING AND REDEVELOPMENT
90 Santa Rosa Avenue
Post Office Box 1806
Santa Rosa, CA 95402-1806

DATE: 3/30/01 # of Pages (including this page): 2

TO: Lee Michelin, Executive Director

FIRM: Water Quality Control Board

FAX #: 523-0135 PHONE #:

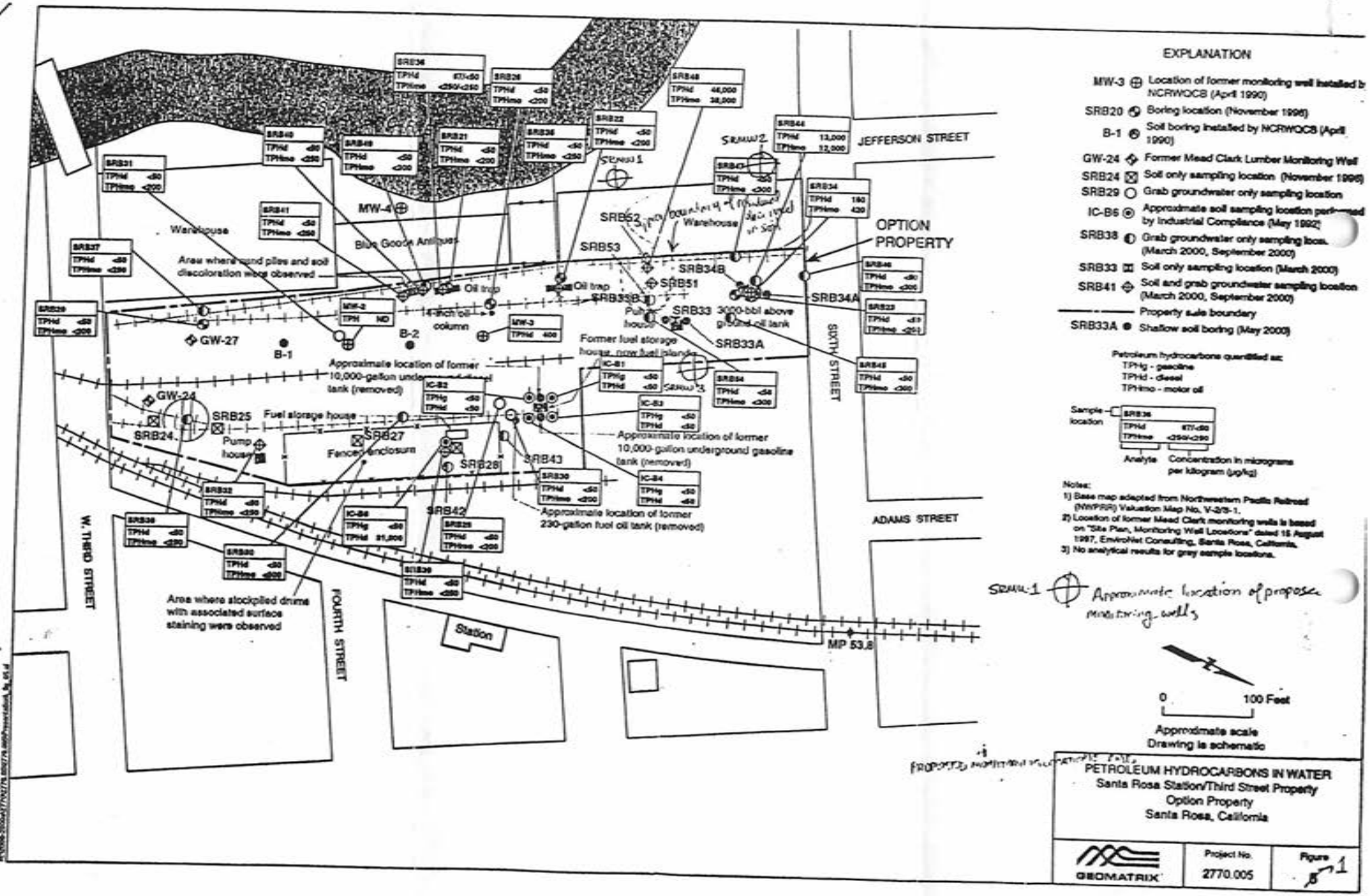
FROM: Jan Harrison

DEPT: HOUSING AND REDEVELOPMENT

FAX #: (707) 543-3317 PHONE #: (707) 543-3300

COMMENTS: I faxed 2 maps to you earlier concerning the Food/Wine marketplace contamination/clean up. Attached is a third map of the area. A hard copy will be mailed but arrive separately from the other hard copies.

H:\Clerical\mj\Forms\FaxHandWrite.wpd



EXPLANATION

- MW-3 ⊕ Location of former monitoring well installed by NCRWQCB (April 1990)
- SRB20 ⊕ Boring location (November 1998)
- B-1 ⊕ Soil boring installed by NCRWQCB (April 1990)
- GW-24 ◈ Former Mead Clark Lumber Monitoring Well
- SRB24 ⊠ Soil only sampling location (November 1998)
- SRB29 ○ Grab groundwater only sampling location
- IC-B6 ◉ Approximate soil sampling location performed by Industrial Compliance (May 1992)
- SRB38 ◐ Grab groundwater only sampling locs. (March 2000, September 2000)
- SRB33 ▣ Soil only sampling location (March 2000)
- SRB41 ⊕ Soil and grab groundwater sampling location (March 2000, September 2000)
- Property sale boundary
- SRB33A ● Shallow soil boring (May 2000)

Petroleum hydrocarbons quantified as:
TPHg - gasoline
TPHd - diesel
TPHmo - motor oil

Sample location: SRB36 | TPHd 67/<50 | TPHmo <250/<250
Analyte — Concentration in micrograms per kilogram (µg/kg)

Notes:
1) Base map adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/3-1.
2) Location of former Mead Clark monitoring wells is based on "Site Plan, Monitoring Well Locations" dated 15 August 1997, EnviroNet Consulting, Santa Rosa, California.
3) No analytical results for grey sample locations.

SRMW-1 ⊕ Approximate location of proposed monitoring wells

0 — 100 Feet
Approximate scale
Drawing is schematic

PETROLEUM HYDROCARBONS IN WATER
Santa Rosa Station/Third Street Property
Option Property
Santa Rosa, California

GEOMATRIX | Project No. 2770.005 | Figure 1

Go to Pg
Printout of emai

Mark &
Joan
Thurs
AM

From: Mark Bartson
To: Lee Michlin
Date: 4/4/01 9:02AM
Subject: Briefing

Joan Fleck is my staff lead on the site for which you need a briefing. She (and I) are a... ou at your convenience. Joan is in the office today and Thursday. I have a doctor appointment this mor...ng and a meeting from 1-4 this afternoon.

Mark J. Bartson

Send Confirmation Report

Name: City of Santa Rosa ID: 707 543 3317 30 Mar'01 1:31PM Page 1

Job	Start time	Usage	Phone Number/Email	Type	Pages	Mode	Status
299	3/30 1:27PM	0'00"	95230135	Send	0		Remote fax was busy 961
299	3/30 1:29PM	1'42"	95230135	Send	3/ 3	EC 96	Completed

Total: 1'42" Pages sent: 3 Pages printed: 0

Mark B – please brief me Re 4/3

RWQCB REGION 1 APR 02 2001

4/3

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RLT ☐ SAW ☐ KAD ☐
☐ FCR ☐ RSG ☐ ☐

CITY OF SANTA ROSA

FAX
COVER SHEET

Date: March 30, 2001 Number of Pages: (Including this page) Three

TO: Lee Michelin, Executive Officer

FIRM: Water Quality Control Board

FAX #: (707) 523-0135 PHONE #: (707) 576-2225

FROM: Jan Harrison for Jeff Kolin/Steve Burke

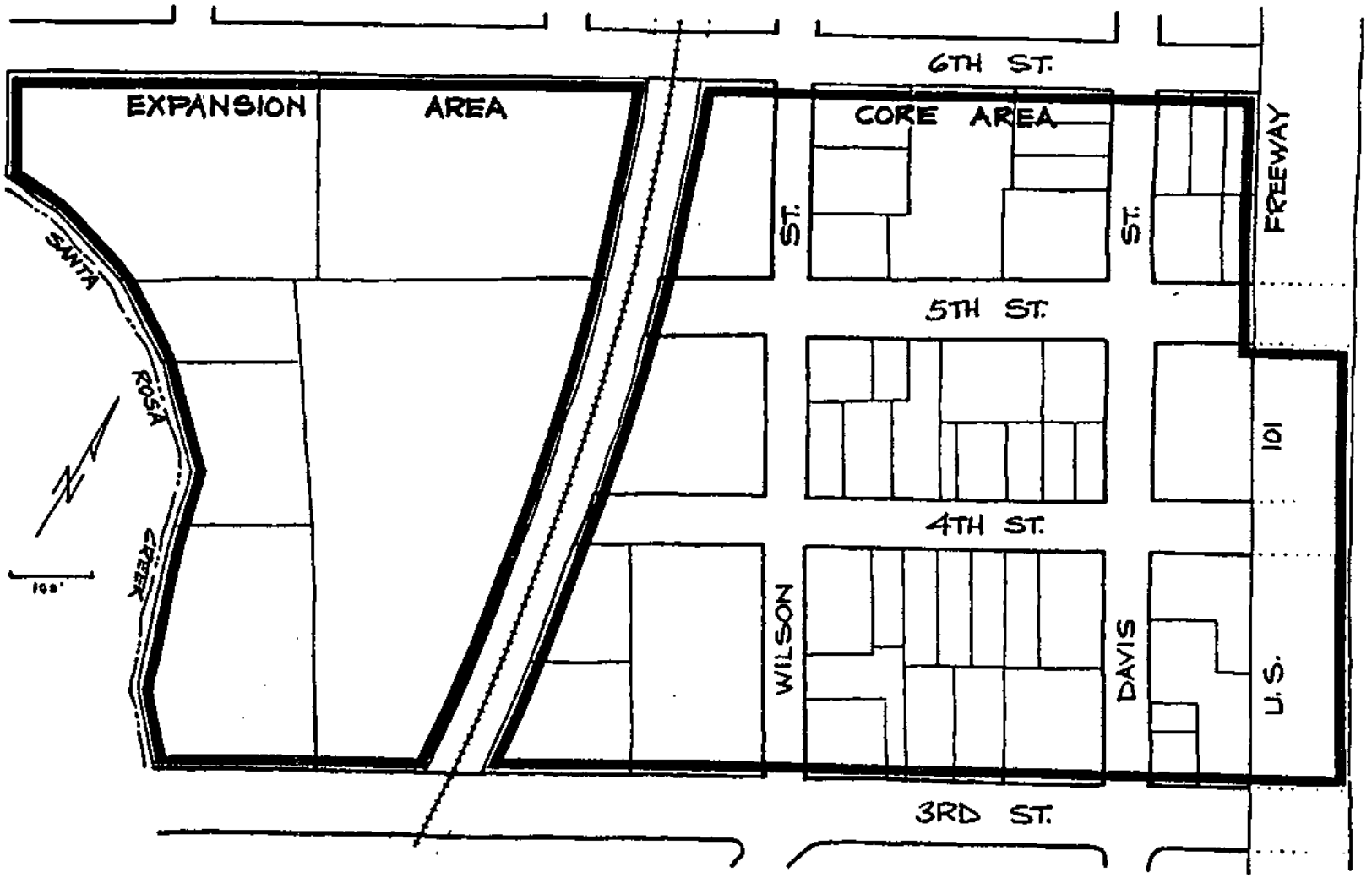
DEPT: HOUSING AND REDEVELOPMENT

FAX #: (707) 543-3317 PHONE #: (707) 543-3300

COMMENTS: The material you requested from City Manager Jeff Kolin on March 29, 2001 regarding the Food and Wine marketplace water contamination and cleanup map is faxed herewith. Due to possible difficulty reading via the fax, a hard copy is also being sent you in the mail today.

H:\Common\Forms\Fax.wpd

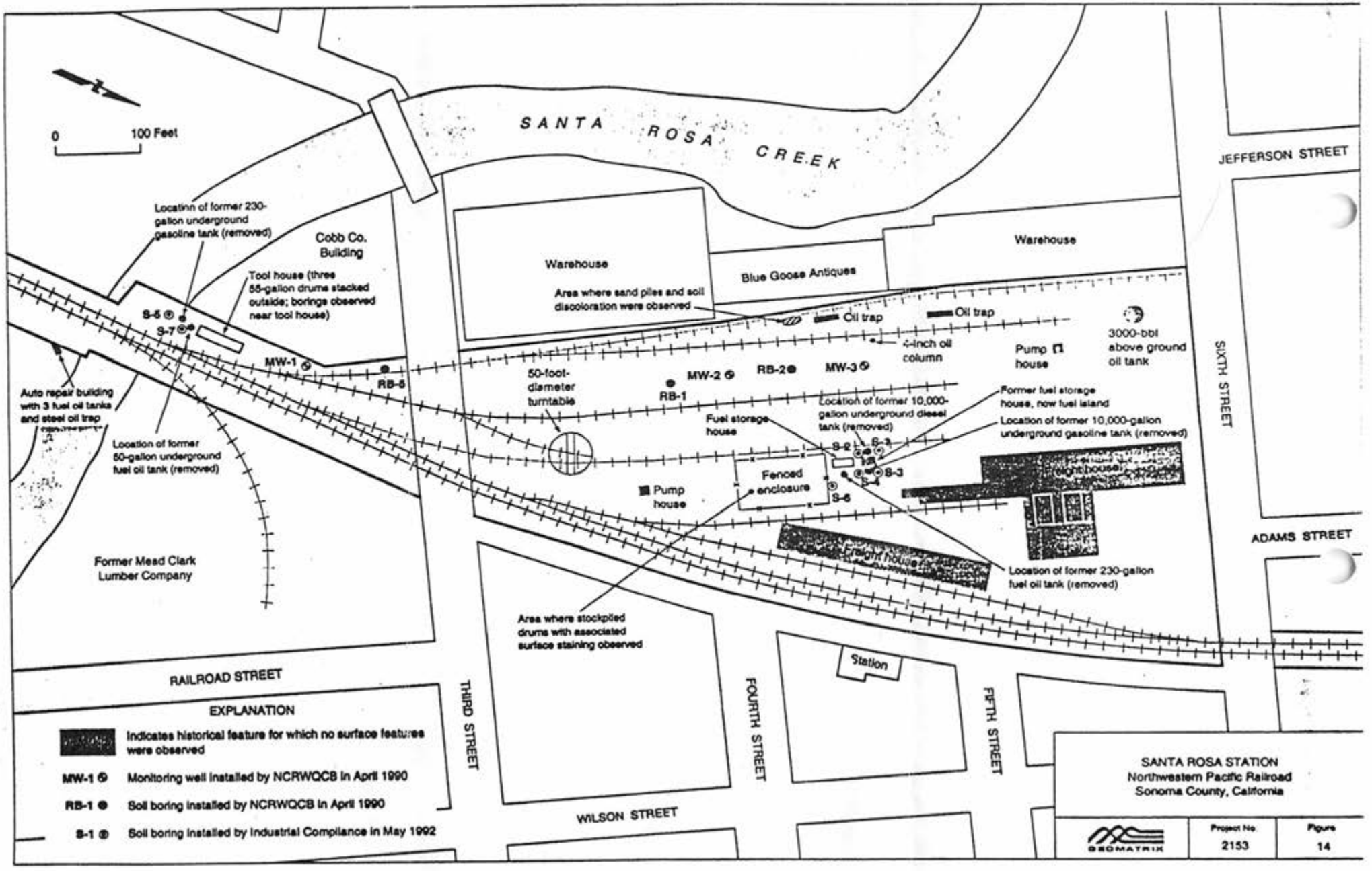
The hard copy, as promised, is attached



RAILROAD SQUARE PLAN

CITY OF SANTA ROSA JANUARY 1979

FIGURE 1 **BOUNDARIES, CORE AREA AND EXPANSION AREA**


0
100 Feet
SANTA ROSA CREEK
JEFFERSON STREET
SIXTH STREET
ADAMS STREET
Locatinn of former 230-gallon underground gasoline tank (removed)
Cobb Co. Building
Tool house (three 55-gallon drums stacked outside; borings observed near tool house)
Warehouse
Blue Goose Antiques
Warehouse
Area where sand piles and soil discoloration were observed
Oil trap
Oil trap
4-inch oil column
Pump house
3000-bbl above ground oil tank
S-5
S-7
MW-1
RB-5
MW-2
RB-2
MW-3
RB-1
50-foot-diameter turntable
Auto repair building with 3 fuel oil tanks and steel oil trap
Location of former 50-gallon underground fuel oil tank (removed)
Fuel storage house
Location of former 10,000-gallon underground diesel tank (removed)
Former fuel storage house, now fuel island
Location of former 10,000-gallon underground gasoline tank (removed)
S-2
S-1
S-3
S-4
Fenced enclosure
Pump house
S-6
Freight house
Freight house
Location of former 230-gallon fuel oil tank (removed)
Former Mead Clark Lumber Company
Area where stockpiled drums with associated surface staining observed
RAILROAD STREET
THIRD STREET
FOURTH STREET
Station
FIFTH STREET
WILSON STREET
EXPLANATION
Indicates historical feature for which no surface features were observed
MW-1 Monitoring well installed by NCRWQCB in April 1990
RB-1 Soil boring installed by NCRWQCB in April 1990
S-1 Soil boring installed by Industrial Compliance in May 1992
SANTA ROSA STATION
Northwestern Pacific Railroad
Sonoma County, California
GEOMATRIX
Project No.
2153
Figure
14

SOUTHERN PACIFIC TRANSPORTATION CO.
Third St. (North)
Santa Rosa
Sonoma Co.
ACCORDION 2

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Prepared for

Southern Pacific Transportation Company
One Market Plaza
San Francisco, California 94105

October 1996
Project 2770.02

Geomatrix Consultants

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

14 October 1996
Project 2770.02

WATER QUALITY
CONTROL BOARD
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Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Results of Soil and Groundwater Sampling
Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Dear Ms. Fleck:

On behalf of the Southern Pacific Transportation Company (SPTCo), we are submitting the enclosed report that documents soil and groundwater sampling (Phase II and III sampling programs) performed by Geomatrix Consultants, Inc. (Geomatrix), at property near the Santa Rosa Station along the Northwestern Pacific Railroad. As indicated in the report, the property includes the Santa Rosa Station property that is located south of Third Street and the eastern portion of the Station property that is north of Third Street. The soil and groundwater sampling was performed on behalf of SPTCo in preparation of sale of the property to a consortium of public agencies (NWP Taskforce).

The purpose of the sampling programs was to evaluate whether significant environmental impacts to soil and groundwater occurred on the property as a result of current and historical railroad operations, and to supplement the sampling performed by others in the vicinity of the former underground storage tanks (USTs) that were located in the southern portion of the property. Please note that additional characterization near the former fuel oil tank, which was located in the northwestern portion of the Santa Rosa Station property, will be performed relative to the schedule for sale of this portion of the property to the NWP Taskforce. The additional characterization currently is scheduled to be completed before the end of the year.

Geomatrix's investigation results indicate that total petroleum hydrocarbons characterized as diesel, total petroleum hydrocarbons characterized as motor oil, volatile organic compounds, and semi-volatile organic compounds are not present in site soils, except for trace levels of naphthalene and methylnaphthalene in 1 out of 16 samples. Metals concentrations in soil are low, except for lead in two shallow soil samples in the southern section. The lead concentrations are all below project remedial criteria.

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Prepared for

Southern Pacific Transportation Company
One Market Plaza
San Francisco, California 94105

October 1996
Project 2770.02

Geomatrix Consultants

Groundwater under the southern section is affected by total petroleum hydrocarbons characterized as gasoline (TPHg). The TPHg concentrations are highest along the upgradient boundary of the site, adjacent to the former Mead Clark Lumber Company which has a known gasoline leak. Based on these data, we conclude that the TPHg observed at the site originates off site, likely from the Mead Clark Lumber site.

Please call Greg Shepherd of SPTCo (415-541-2545) or the undersigned if you have any questions regarding the enclosed report. Meanwhile, we will keep you informed of upcoming sampling activities on the northwestern portion of the property.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Susan Gallardo

Susan Gallardo, P.E.
Principal Engineer

SMG/cll
2770\SANTALTR.DOC

Enclosure

GEOMATRIX

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APPENDIX

Appendix A	Chain-of-Custody Records and Laboratory Analytical Reports

GEOMATRIX

PHASE II AND PHASE III PROGRAM FINDINGS

Northwestern Pacific Railroad
Property near Santa Rosa Station
Santa Rosa, California

1.0 INTRODUCTION

This report presents the results of the Phase II and III sampling programs performed near the Santa Rosa Station (Station) property along the Northwestern Pacific Railroad right-of-way (NWPRR). The property location is shown in Figure 1. The work was performed on behalf of Southern Pacific Transportation Company (SPTCo), the former property owner, in preparation for sale of the property to the Northwest Pacific task force consisting of the Golden Gate Bridge Highway and Transportation District and Marin and Sonoma counties (NWP Task Force). The purpose of the Phase II and III programs was to evaluate whether significant environmental impacts to soil and groundwater occurred on the property as a result of historical and current railroad operations. The Phase II and III sampling programs were developed based on the findings of the preliminary site assessment performed by Geomatrix Consultants, Inc. (Geomatrix). The findings of the preliminary site assessment that are relevant to the sampling programs are included in this report.

2.0 BACKGROUND

Geomatrix performed a preliminary site assessment (Phase I) in 1992 and 1993 as part of the environmental due-diligence program for the property transaction. The purpose of the Phase I was to initially identify potential areas of environmental concern along the NWPRR. Previous soil and groundwater investigation activities related to former underground storage tanks (USTs) at the Santa Rosa property also had been performed by the North Coast Regional Water Quality Control Board (NCRWQCB) and Industrial Compliance (IC). The findings of the Phase I program and investigative activities by others are summarized in this section.

The Station property is located at milepost 53.7 in the City of Santa Rosa. The property is bordered by construction companies, lumberyards, and other commercial and light industrial facilities, and residential areas. Currently, the property is occupied only by an active rail line. West Third Street bisects the property into two portions. For discussion purposes, the property is referred to as the southern and northern sections, as indicated on Figures 2A and 2B. Note that the western portion of the northern section is not included in the sale property boundaries. It is currently planned that this property, designated an "option property," will be evaluated in November/December 1996.

2.1 PHASE I ASSESSMENT

The Phase I program included the following tasks: site reconnaissance; review of both publicly available and SPTCo historical information; review of publicly maintained and available records pertaining to on-site and nearby environmental investigations; review of chemical usage and the presence of underground storage tanks on the property and at facilities immediately adjacent to the property; interviews with SPTCo personnel regarding general railroad operations; and review of regional geology and hydrogeology.

Phase I findings indicated that the southern portion of the property contained a tool house, and 230-gallon gasoline and 50-gallon fuel oil USTs (Figure 2A). This portion of the property was historically part of the Station facilities. The two USTs reportedly were removed by Canonie Environmental on behalf of SPTCo in December 1987; the results of soil sampling during UST removal are discussed below. The northern portion of the property contained two former freight houses (Figure 2B). Note that other facilities associated with station operations including a former aboveground oil tank, oil traps, oil column, and former fuel storage house (fueling facilities) were located within the "option" portion of the Station not included in the investigations described herein.

Based on regulatory records reviewed, numerous toxic and fuel leak sites were identified within 1/2 mile and 1/4 mile, respectively, of the property including sites that have documented groundwater contamination that appear upgradient based on the interpreted groundwater flow

direction to the southwest and west. The interpretation of groundwater flow direction is based on the direction reported for many of the toxic and fuel leak sites.

The following nearby environmental sites are considered most likely to significantly affect the Site.

- Grace Brothers Hotel, located at 2nd and Railroad Streets, has elevated concentrations of diesel and motor oil in groundwater; barium, cadmium, chromium, and zinc also were detected in groundwater at this site.
- The former Mead Clark Lumber Company, located immediately adjacent to, and upgradient of the Station at 175 Railroad Street. Free product has been observed in wells at this location which is a documented fuel leak site. According to agency files, the soil and groundwater samples were analyzed only for petroleum hydrocarbons. Therefore, there is no information regarding the presence or absence of other compounds at these locations.
- La Rose Hotel, located upgradient of the Station at 101 Fifth Street. Gasoline and diesel have been detected in the groundwater at concentrations of 59,000 and 6900 µg/l, respectively at the La Rose Hotel site.

2.2 WORK PERFORMED BY OTHERS

Previous soil and groundwater investigation activities[1] have been performed in the southern portion of the property. Soil samples collected during removal of the USTs did not contain detectable concentrations of total petroleum hydrocarbons (TPH) or benzene, toluene, ethylbenzene, and xylenes (BTEX) (Brunsing Associates, 1990). In 1991, the North Coast Regional Water Quality Control Board (NCRWQCB) performed a soil and groundwater sampling program due to the detection of petroleum hydrocarbons and related constituents in Santa Rosa Creek, located west and adjacent to the property. The NCRWQCB program included one soil boring (RB-5) and the installation of a monitoring well (MW-1) in the southern section of the property (see Figure 2A). The soil sample collected at a depth of approximately 5 feet below ground surface (bgs) in boring RB-5 reportedly contained 140 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons characterized as diesel

[1] Information was obtained from NCRWQCB files and the 30 July 1992 IC report.

(TPHd). Information reviewed by Geomatrix in the regulatory file did not indicate that deeper soil samples had been collected at boring RB-5 for chemical analysis[2]. Soil samples collected by the NCRWQCB from well MW-1 contained TPHd at concentrations of 61 and 59 mg/kg in samples collected at 5 and 17 feet bgs, respectively. Soil samples collected below the groundwater surface at depths of 20.5 and 30 feet bgs reportedly contained TPHd at concentrations of 640 and 1400 mg/kg, respectively. Another sample from the MW-1 boring collected at 25 feet bgs did not contain diesel above the analytical laboratory reporting limits. The NCRWQCB also reported that the groundwater sample collected from monitoring well MW-1 contained naphthalene (40 micrograms per liter [µg/l]), 2-methylnaphthalene (18 µg/l), TPHd (1500 µg/l), benzene (1120 µg/l), toluene (40 µg/l), ethylbenzene (248 µg/l), xylene (200 µg/l), and total petroleum hydrocarbons as gasoline (TPHg) (6300 µg/l).

Subsequently in 1992, IC performed soil and groundwater sampling at two boring locations (S-5 and S-7) in the vicinity of the former USTs (Figure 2A). TPH reported in the gasoline, oil, and kerosene ranges was not detected above laboratory reporting limits in all soil samples collected. TPH reported in the diesel range was not detected above laboratory detection limits in soil samples collected at 6, 11, and 16 feet bgs; but was detected at a depth of 21 feet bgs at concentrations of 37 mg/kg and 46 mg/kg in the samples collected from borings S-5 and S-7, respectively. With the exception of the sample collected from boring S-5 at a depth of 21 feet bgs, which contained 0.11 mg/kg of xylenes, BTEX in soil was not detected. TPH as gasoline in grab groundwater was not detected above the laboratory reporting limit in any of the samples. TPH reported as diesel, benzene, ethylbenzene, and xylenes in grab groundwater was detected in the sample collected from borings S-5 at concentrations of 14,000 µg/l, 18 µg/l, 21 µg/l, and 21 µg/l, respectively. The same constituents were detected in the grab groundwater sample collected from boring S-7 at concentrations of 6500 µg/l, 2 µg/l, 2.5 µg/l, and 1.5 µg/l, respectively. The magnitude of the concentrations of TPH reported in the diesel range suggested the presence of non-dissolved petroleum in the samples and/or the presence of

[2] The 13 August 1996 letter from the NCRWQCB to SPTCo state that "...analytical results of the soil samples collected from...B-5...indicate the presence of TPH as diesel from... 4 to 7 feet bgs. Diesel odors were reported in B-5 from 4.5 to 9 feet."

lighter-end hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel.

3.0 OBJECTIVES

Based on the findings, Geomatrix developed and implemented Phase II and Phase III sampling programs. The objectives of the Phase II program were to (1) supplement the sampling performed by IC in the vicinity of the former USTs in the southern section of the property by evaluating groundwater quality upgradient (to the east) of the former USTs and monitoring well MW-1; and (2) evaluate general soil quality in the vicinity of the tool house in the southern section and at locations along the rail line in the southern and northern sections of the property. Phase III work was conducted to further evaluate the possible presence of impacted soil and/or groundwater at locations that appeared to be chemically affected based on the results of the Phase II program and to obtain sufficient data to evaluate whether additional action could be required.

4.0 FIELD AND ANALYTICAL METHODS

The Phase II and III program consisted of soil and grab groundwater sampling at the locations shown on Figures 2A and 2B. A groundwater sample also was collected from monitoring well MW-1 during the Phase II sampling.

4.1 PRE-FIELD ACTIVITIES

Prior to sampling, utility clearance for each sampling location was achieved by contacting Underground Service Alert (USA), a regional utility notification center, and SP Telecommunications. In addition, Geomatrix retained a private utility locator to clear each boring location prior to sampling. Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department.

4.2 MONITORING WELL SAMPLING

Monitoring well MW-1, located at Santa Rosa Station-South (Figure 2A), was sampled by Geomatrix on 16 March 1995 as part of the Phase II program.

Fifty-five gallons of water were purged from the well using a diaphragm pump prior to sampling. During purging of the well, the water quality parameters pH, temperature, and specific electrical conductance were measured. A disposable bailer was used to collect all the groundwater samples. The groundwater sample to be analyzed for total petroleum hydrocarbons (TPH) characterized as gasoline was collected in 40-milliliter volatile organic analysis (VOA) vials containing hydrochloric acid as a preservative. Samples to be analyzed for TPH as diesel and motor oil and for semi-volatile organic compounds were collected in 1-liter amber glass bottles. Samples to be analyzed for metals were collected in 500-milliliter plastic bottles. All samples were placed in an ice-chilled cooler for delivery to a state-certified analytical laboratory under Geomatrix chain-of-custody procedures. The samples to be analyzed for metals were filtered and preserved by the analytical laboratory prior to analysis. Copies of the chain-of-custody records are included in Appendix A.

4.3 SOIL BORINGS AND GRAB GROUNDWATER SAMPLING

Geomatrix retained Precision Sampling, Inc., of San Rafael, California, a state-licensed drilling contractor to drill the Phase II and III borings. Soil borings were advanced using an XD-1, direct-push (DP) technology rig using stainless-steel liners in the core barrel, or by hand-augering followed by sample collection using a manually driven sampler containing a single, 6-inch-long brass tube. Following sampling, the ends of the soil collection tubes were covered with Teflon sheets and plastic end caps and sealed with duct tape.

Grab groundwater samples were collected using DP technology by installing a 1-inch-diameter temporary polyvinyl chloride (PVC) casing consisting of a 5- or 10-foot-long, 0.01-inch-slot well screen attached to blank PVC, which was placed inside the drive casing. The drive casing was then withdrawn thereby exposing the screen to water-yielding sediments. Groundwater samples to be analyzed for purgeable TPH and volatile organic compounds (VOCs) were

collected with a disposable PVC bailer and the groundwater transferred into 40-milliliter HCl-acidified VOA vials using a bottom-emptying device with a stopcock. Groundwater samples to be analyzed for TPH and Title 22 metals were collected using a stainless steel bailer and decanted directly into 1-liter amber bottles and 500-milliliter plastic bottles, respectively.

Borings were grouted to ground surface using a neat cement/bentonite slurry. Prior to, and after drilling was complete, all drilling and sampling equipment was steam-cleaned.

Soil and grab groundwater samples were labeled and placed in an ice-chilled cooler for delivery to the analytical laboratory under Geomatrix chain-of-custody procedures. Samples were analyzed by Pace Incorporated (Pace), of Petaluma, California; GTEL Environmental Laboratories, Inc. (GTEL), of Concord, California; or Friedman & Bruya, Inc., of Seattle, Washington, all of which are California-certified analytical laboratories. The analytical laboratory composited selected soil samples, as requested, prior to analysis. Groundwater samples to be analyzed for metals were filtered and preserved by the laboratory prior to analysis.

The analytical methods for soil and groundwater samples are as follows:

- Total petroleum hydrocarbons quantified as gasoline (TPHg), as diesel (TPHd), and as motor oil (TPHm) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- volatile organic compounds (VOCs) according to EPA Method 8240;
- semi-volatile organic compounds (SVOCs) according to EPA Method 8270; and
- silver, arsenic, barium, beryllium, cadmium, cobalt, total chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium, thallium, vanadium, and zinc according to EPA Method 6000/7000 series.

Analytical results are presented in Tables 1 through 3 and are discussed below. Laboratory analytical data sheets are included in Appendix A.

5.0 PHASE II & III SAMPLING PROGRAM

The sampling locations, analytical methods, and results for southern and northern sections of the property are presented separately below.

5.1 SOUTHERN SECTION

5.1.1 Sampling Program

The Phase II sampling program in the southern portion of the property included an evaluation of whether TPH detected in the groundwater in MW-1 and in the grab groundwater sample collected by IC resulted from a significant on-site source, or likely migrated onto the site from the adjacent Mead Clark Lumber Company property. Four Phase II soil borings (SRB1 through SRB4) were drilled on the portion of the Station located south of West Third Street (Figure 2A). Soil samples were collected from four depths in each of the borings; grab groundwater samples also were collected from each of the borings. The two shallower samples from each of these borings were composited into one sample for analysis and designated SRB1-A, SRB2-A, SRB3-A, and SRB4-A. The two deeper soil samples from each of these borings also were composited into one sample for analysis and designated samples SRB1-B, SRB2-B, SRB3-B, and SRB4-B. The composited soil samples from each of the four borings were analyzed for TPHd, total petroleum hydrocarbons as motor oil (TPHm), semi-volatile organic compounds (SVOCs), and metals. One discrete soil sample, SRB1-11.5, also was collected and analyzed for VOCs. In addition, existing on-site monitoring well MW-1 was sampled (Figure 5A). The four grab groundwater samples were analyzed for TPHg, TPHd, and VOCs. The groundwater sample from MW-1 was analyzed for TPHg, TPHd, VOCs, SVOCs, and metals.

During Phase II drilling, groundwater was encountered at depths ranging from approximately 13 to 14.5 feet bgs. The depth to groundwater measured in MW-1 on 16 March 1995 was approximately 11.5 feet below the top of the well casing.

Three Phase III soil borings (SRB13, SRB14, and SRB15) were drilled surrounding Phase II boring location SRB2 to further evaluate the distribution of lead in soil. Four discrete soil samples were collected from within the upper 9 feet in each of the borings. Sampling depths are presented in Tables 1 and 2. Groundwater was not encountered at the time of drilling.

5.1.2 Analytical Results

5.1.2.1 Soil

TPHd and TPHm were not detected above method reporting limits in the eight Phase II composite soil samples (Table 1). Naphthalene and 2-methylnaphthalene were detected at relatively low concentrations of 0.740 mg/kg and 0.710 mg/kg, respectively, in composite sample SRB3-B; no other SVOCs were detected above method reporting limits. VOCs were not detected above method reporting limits in the discrete Phase II soil sample SRB1-11.5. Lead was detected at a concentration of 65 mg/kg in Phase II sample SRB2-A, which is elevated relative to project screening criteria (i.e., 10 times the Soluble Threshold Limit Concentration [STLC] for hazardous waste) (Table 2). No other metals were detected above background concentrations for the NWPRR (Appendix A) in any of the composite samples.

In Phase III samples SRB13-1.5 and SRB14-1.5, lead was detected at elevated concentrations (170 mg/kg and 590 mg/kg, respectively) relative to the screening criteria of 10 times the STLC (Table 2). However, lead concentrations in deeper soil samples at boring locations SRB13 and SRB14 (3.0 and 5.5 feet bgs, respectively) decreased to below background concentrations (Shacklette and Boerngern, 1984).

5.1.2.2 Groundwater

TPHg was detected in the Phase II grab groundwater samples at concentrations ranging from 1 milligram per liter (mg/l) in SRB2 to 31 mg/l in SRB3 (Table 3). TPHd was not detected above method reporting limits in the groundwater samples. Benzene, ethylbenzene, and xylenes were detected in grab groundwater samples SRB1, SRB3, and SRB4. The concentrations in these grab groundwater samples ranged from 0.078 to 1.1 mg/l for benzene,

1.1 to 2.1 mg/l for ethylbenzene, and 1.8 to 2.5 mg/l for xylenes. These maximum concentrations are associated with the maximum reported TPHg concentrations. Toluene was detected in sample SRB1 at a concentration of 0.095 mg/l, and toluene and 4-methyl-2-pentanone were detected in sample SRB3 at concentrations of 0.078 mg/l and 0.42 mg/l, respectively; no other VOCs were detected in these grab groundwater samples. Analytical results of grab groundwater samples are presented in Table 4.

The groundwater sample from monitoring well MW-1 also contained TPHg, and benzene, ethylbenzene and xylenes. Concentrations of these constituents in MW-1 were less than concentrations detected in grab groundwater samples SRB1 and SRB3 located along the eastern, upgradient project boundary. Trace concentrations of naphthalene (0.037 mg/l), and 2-methylnaphthalene (0.038 mg/l) also were detected in the MW-1 sample, as well as arsenic (0.025 mg/l), barium (0.095 mg/l), and cadmium (0.008 mg/l).

The reported concentrations of TPHg in groundwater are shown on Figure 3. These data indicate that the highest concentrations occur in SRB1 and SRB3 which are located along the upgradient boundary of the Station property, adjacent to Mead Lumber Company. As discussed earlier, there has been a known release of gasoline at the Mead Lumber Company. The location of the shallow wells on the Mead Lumber Company property closest to the Station property are also indicated on Figure 3; these wells have historically had free product in them. These data indicate that the observed TPHg and TPH constituents at the Station property are probably associated with the Mead Lumber Company gasoline release and not with operations at the Station.

5.2 NORTHERN SECTION

5.2.1 Sampling Program

As shown on Figure 2B, sampling locations in the northern section of the property generally were distributed along the rail line and at locations near the former freight houses. Soil samples were collected from four depths in each of eight borings (SRB5 through SRB12). The samples were composited into one sample per boring for chemical analysis. These composite samples

were analyzed for TPHd, TPHm, SVOCs, and metals. In addition, two discrete soil samples, SRB5-8.5 and SRB10-6.0, were collected and analyzed for VOCs only. During the Phase II drilling, groundwater was encountered at depths ranging from approximately 7.5 to 10 feet bgs.

Three Phase III soil borings (SRB16, SRB17, and SRB18) were drilled surrounding Phase II boring SRB8 to further evaluate arsenic concentrations in soil. Four discrete soil samples were collected from the interval between the ground surface and 8.5 feet bgs in these borings, with the exception of SRB16. Only one sample could be collected from this boring at a depth of 1.5 feet bgs due to refusal in the borehole. Samples were analyzed sequentially, as previously discussed. Initially, the upper one or two samples from each boring were analyzed for arsenic (Table 3). Deeper samples were analyzed based on the results of the initial samples. Groundwater was encountered at depths ranging from approximately 7.5 to 10 feet bgs at the time of the Phase III drilling.

5.2.2 Analytical Results

5.2.2.1 Soil

TPHd, TPHm, and SVOCs were not detected above method reporting limits in the Phase II composite soil samples (Table 1). VOCs were not detected above method reporting limits in the Phase II discrete soil samples. Metals were not detected above screening criteria (10 times the STLC) in these samples (Table 2). However, the arsenic in one composite sample (SRB8-C) appeared slightly elevated (at 25 mg/kg) relative to other samples; additional Phase II investigation was undertaken to evaluate whether individual soil samples in the vicinity exceeded project screening criteria.

Arsenic was not detected at elevated concentrations in the Phase III discrete soil samples (Table 2). Arsenic concentrations in the five samples ranged from less than the method reporting limit to 14 mg/kg.

STLC) in these samples (Table 2). However, the arsenic in one composite sample (SRB8-C) appeared slightly elevated (at 25 mg/kg) relative to other samples; additional Phase II investigation was undertaken to evaluate whether individual soil samples in the vicinity exceeded project screening criteria.

Arsenic was not detected at elevated concentrations in the Phase III discrete soil samples (Table 2). Arsenic concentrations in the five samples ranged from less than the method reporting limit to 14 mg/kg.

6.0 RECOMMENDATIONS

Recommendations based on the analytical results for the sampling programs performed in the southern and northern sections of the Station properties are presented in this section.

6.1 SOUTHERN SECTION

Based on Phase II soil analytical results, no on-site source for TPH and related constituents detected in groundwater was identified. As previously noted, a fuel leak case is documented for the immediately adjacent, and upgradient property (Mead-Clark Lumber Company site). Results from grab groundwater samples collected by Geomatrix in March 1995 indicate that concentrations of petroleum hydrocarbons and related constituents are higher along the eastern (upgradient) portion of the station property. Additionally, data from monitoring wells in the Mead Clark Lumber Company site near the southern portion of the Station suggest that TPH (product and dissolved constituents) may be migrating onto the NWPRR. Previous results from groundwater samples collected by the NCRWQCB from monitoring well MW-1 also indicate the presence of gasoline at elevated concentrations. No current or historical on-site feature that could be the source of the gasoline in groundwater is in the vicinity of MW-1. Finally, although TPHd was reported in the grab groundwater samples collected by IC, the magnitude of the concentrations suggest that the TPH reported in the diesel range may be attributable to the presence of non-dissolved petroleum in the samples and/or the presence of lighter-end

hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel. Based on the above, it appears that TPH in groundwater detected at the property is migrating onto the property, and therefore, we recommend no further action related to TPH in groundwater at the southern section of the Station property.

Analytical results of Phase II and Phase III soil samples indicate that lead is locally present in shallow soil at concentrations above background for the NWPRR. Three shallow soil samples contained lead at a concentration greater than the screening criteria. However, the analytical results indicate that concentrations of lead are vertically limited to the upper 3 feet, and are well below the Preliminary Remediation Goals for industrial soil (EPA, 1996). Therefore, Geomatrix recommends no further action at this location.

6.2 NORTHERN SECTION

The results of the Phase II and III sampling indicate that TPHd, TPHm, VOCs, and arsenic is generally not present above screening criteria in the northern portion of the Station, Geomatrix recommends no further action at this location.

7.0 REFERENCES

Brunsing Associates, 1990, Phase One Environmental Site Assessment, Northwestern Pacific Railroad Right-of-Way, April.

Industrial Compliance (IC), 1992, Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California, 30 July.

Shacklette, H.T., and Boerngen, J.G., 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States, U.S. Geological Survey Profession Paper 1270.

U.S. Environmental Protection Agency (EPA), 1996, Region IX Preliminary Remediation Goals (PRGs) - 1996, San Francisco, California, 1 August.

GEOMATRIX

TABLES

GEOMATRIX

TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY						
SRB1A-C[6]	3/1/95	2.0, 6.5	<10	<100	---[7]	ND[8]
SRB1B-C	3/1/95	12.5, 17.0	<10	<100	---	ND
SRB1-11.5	3/1/95	11.5	---	---	ND	---
SRB2A-C	3/1/95	2.0, 5.0	<10	<100	---	ND
SRB2B-C	3/1/95	9.0, 12.5	<10	<100	---	ND
SRB3A-C	3/1/95	1.5, 5.5	<10	<100	---	ND
SRB3B-C	3/1/95	10.5, 14.0	<10	<100	---	0.740 - Naphthalene 0.710 - 2-Methylnaphthalene
SRB4A-C	3/1/95	2.0, 5.5	<10	<100	---	ND
SRB4B-C	3/1/95	9.5, 12.5	<10	<100	---	ND

GEOMATRIX

TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
NORTHERN SECTION OF SANTA ROSA STATION PROPERTY						
SRB5-C	3/2/95	1.5, 5.5, 7.5, 9.5	<10	<100	---	ND
SRB5-8.5	3/2/95	8.5	---	---	ND	---
SRB6-C	3/2/95	1.5, 3.5, 6.0, 8.5	<10	<100	---	ND
SRB7-C	3/2/95	1.5, 3.0, 5.5, 8.5	<10	<100	---	ND
SRB8-C	3/2/95	1.5, 3.0, 5.5, 8.5	<10	<100	---	ND
SRB9-C	3/2/95	1.5, 3.5, 5.5, 7.0	<10	<100	---	ND
SRB10-C	3/3/95	1.5, 3.0, 5.5, 9.0	<10	<100	---	ND
SRB10-6.0	3/3/95	6.0	---	---	ND	---

GEOMATRIX

TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
SRB11-C	3/3/95	1.5, 3.5, 5.5, 8.0	<10	<100	---	ND
SRB12-C	3/3/95	1.5, 3.5, 6.0, 9.0	<10	<100	---	ND

Notes:

1. Chemical analyses performed by PACE, Inc., of Novato, California; GTEL Environmental Laboratories, Inc., of Concord, California; or Friedman & Bruya, Inc., of Seattle, Washington. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix B.
2. If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.
3. TPH = Total petroleum hydrocarbons quantified as diesel or motor oil. Analyses by modified EPA Method 8015.
4. Volatile organic compounds analyzed by EPA Test Method 8240. Only those compounds shown in this table were detected.
5. Semi-volatile organic compounds analyzed by EPA Test Method 8270. Only those compounds shown in this table were detected.
6. C = laboratory composite sample (i.e., laboratory composited and analyzed sample composed of discrete samples from locations indicated in sample depth column).
7. --- indicates sample not analyzed by that method.
8. ND = no constituent detected at a concentration greater than the method detection limit.

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TABLE 3

ANALYTICAL RESULTS[1] FOR GROUNDWATER SAMPLES[2] PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	TPH[3] as Gasoline (mg/l)	TPH as Diesel (mg/l)	TPH as Motor Oil (mg/l)	Volatile Organic Compounds[4] (mg/l)	Semi-Volatile Organic Compounds[5] (mg/l)	CCR[6] Dissolved Metals (mg/l)
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY							
SR-MW1	3/16/95	5.1	<0.05	---[7]	0.039 - Benzene 0.18 - Ethylbenzene 0.012 - Xylenes	0.037 - Naphthalene 0.038 - 2-Methylnaphthalene	0.025 - Arsenic 0.095 - Barium 0.008 - Cadmium
SRB1	3/1/95	30	<2.5	---	0.76 - Benzene 0.095 - Toluene 1.1 - Ethylbenzene 2.1 - Xylenes	---	---
SRB2	3/1/95	1	<0.05	---	ND[8]	---	---
SRB3	3/1/95	31	<2.5	---	1.1 - Benzene 0.42 - 4-methyl-2-pentanone 0.078 - Toluene 2.1 - Ethylbenzene 2.5 - Xylenes	---	---
SRB4	3/1/95	22	<1	---	0.078 - Benzene 1.7 - Ethylbenzene 1.8 - Xylenes	---	---

GEOMATRIX

TABLE 3

ANALYTICAL RESULTS[1] FOR GROUNDWATER SAMPLES[2] PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Notes:

1 Chemical analyses performed by GTEL Environmental Laboratories, Inc., of Concord, California, or Friedman & Bruya, Inc., of Seattle, Washington. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix B.

2 All samples analyzed were grab groundwater samples, with the exception of SR-MW1, which was collected from monitoring well MW1 subsequent to purging.

3 TPH as gasoline, diesel, and motor oil analyses by modified EPA Method 8015.

4 Volatile Organic Compounds analyzed by EPA Method 8240. Only the compounds shown in this table were detected.

5 Semi-Volatile Organic Compounds analyzed by EPA Method 8270. Only the compounds shown in this table were detected.

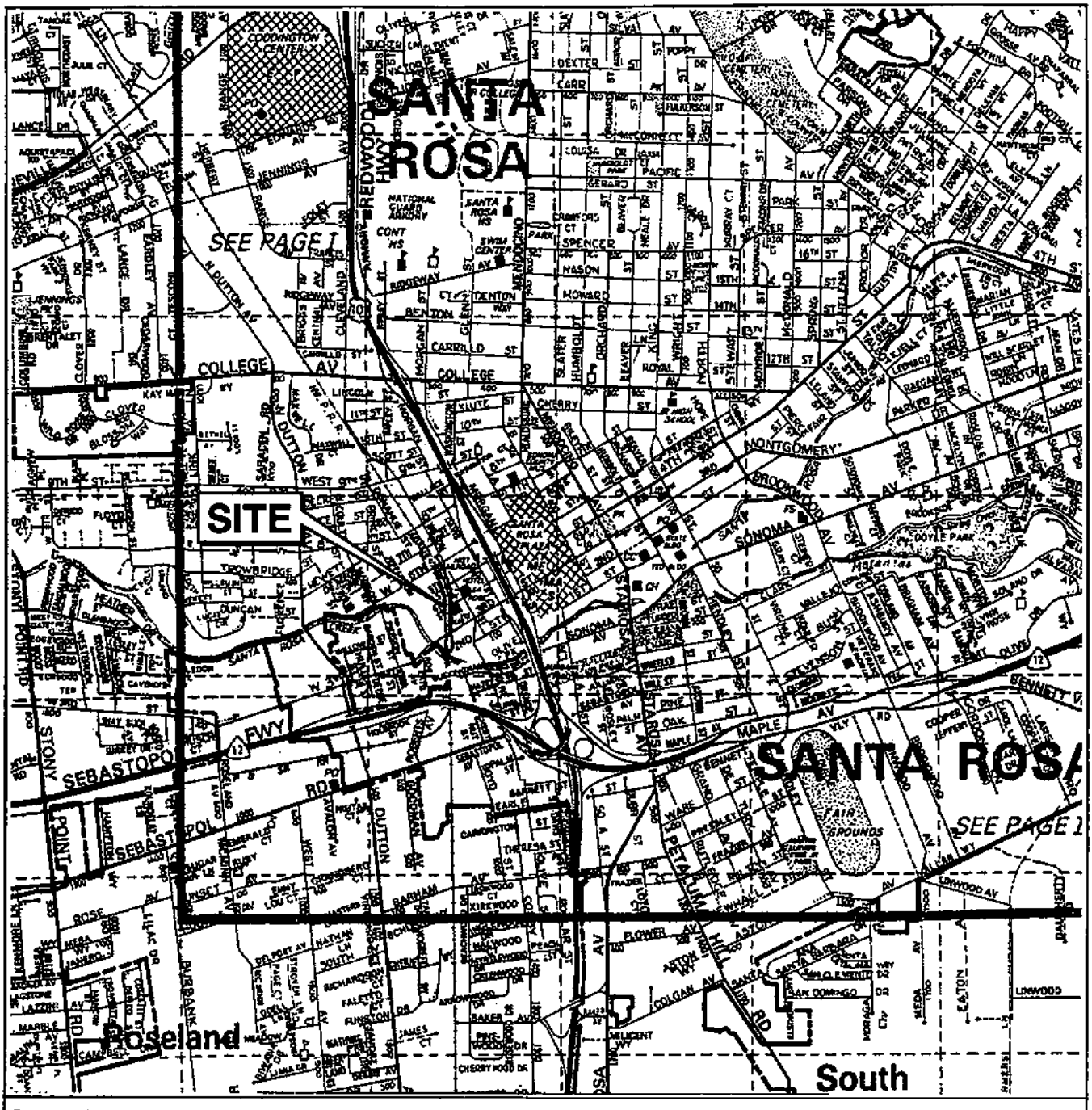
6 California Code of Regulations (CCR) metals analyzed by EPA Methods 6010, 7060, 7421, and 7470. Only those compounds shown in this table were detected.

7 --- indicates sample not analyzed by that method.

8 ND = no constituent detected at a concentration greater than the method detection limit.

GEOMATRIX

FIGURES



Base map from *The Thomas Guide, 1992 Sonoma/Marin Counties Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

N

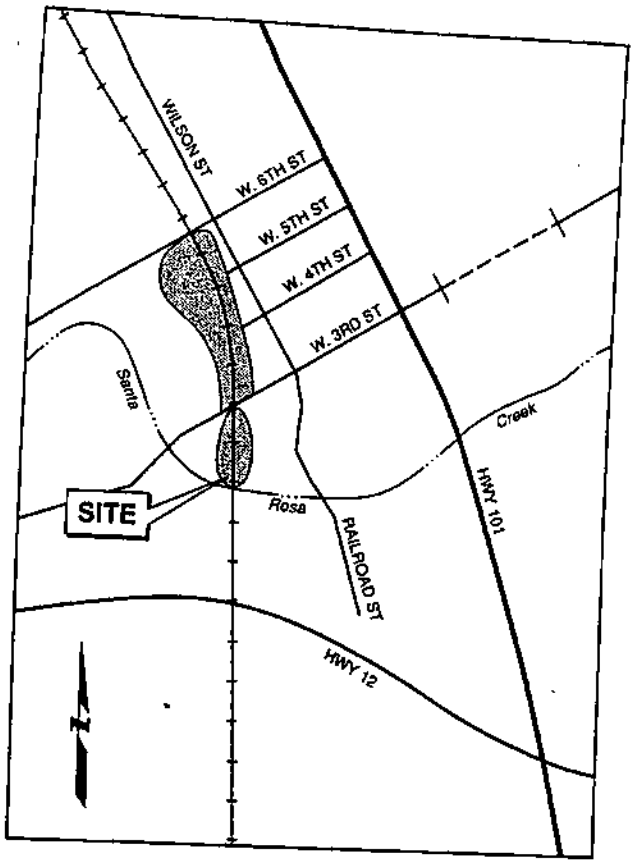
0 2000 Feet

GEOMATRIX

SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02



LOCATION MAP

EXPLANATION

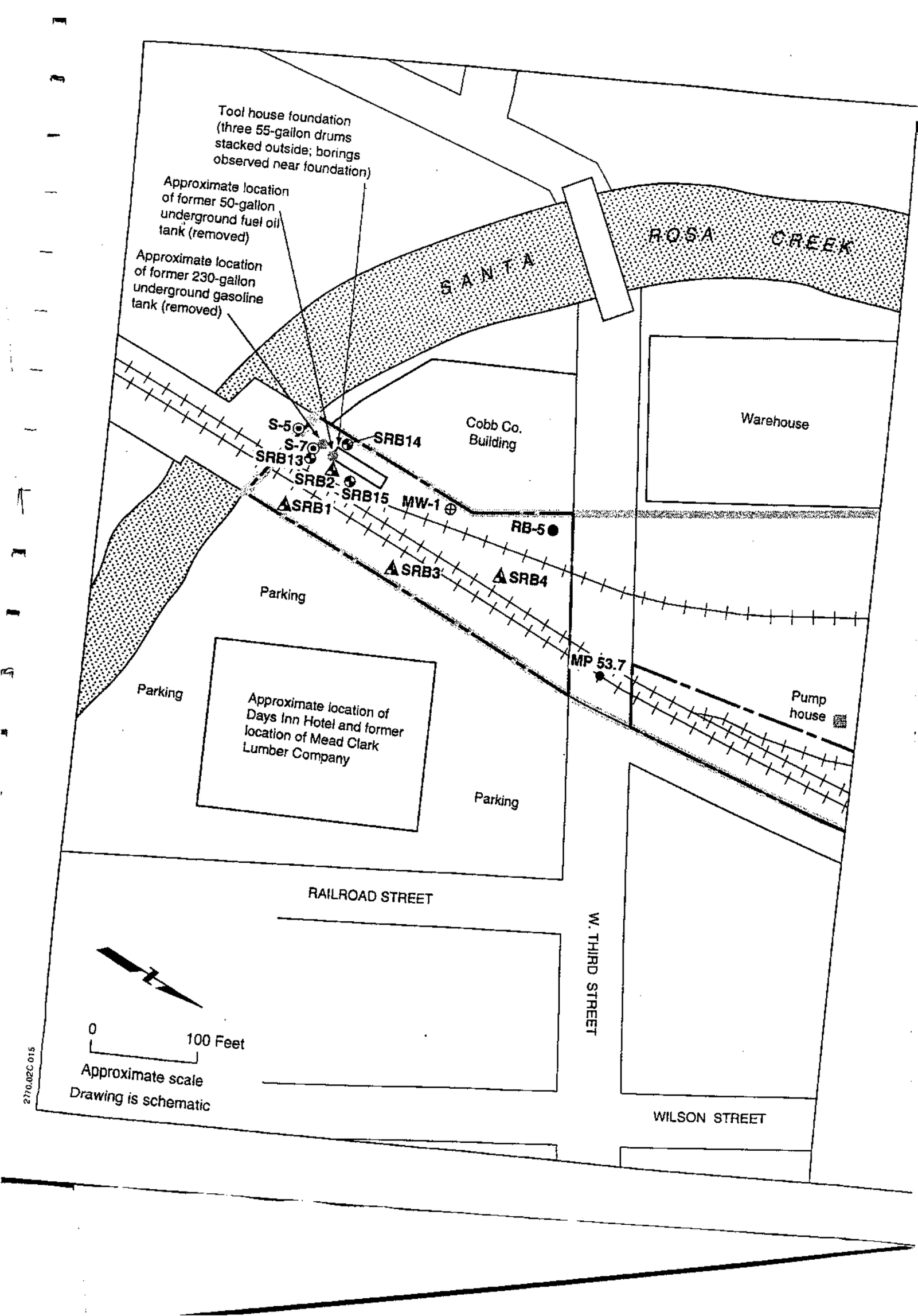
- Indicates historical feature for which no surface features were observed
- **MW-1** ⊕ Monitoring well installed by NCRWQCB (April 1990)
- **SRB13** ◔ Phase III boring location
- **SRB3** ▲ Phase II boring location
- **RB-5** ● Soil boring installed by NCRWQCB (April 1990)
- **S-5** ⊙ Soil boring installed by Industrial Compliance (May 1992)
- Approximate location of NWPRR right-of-way
- Property sale boundary

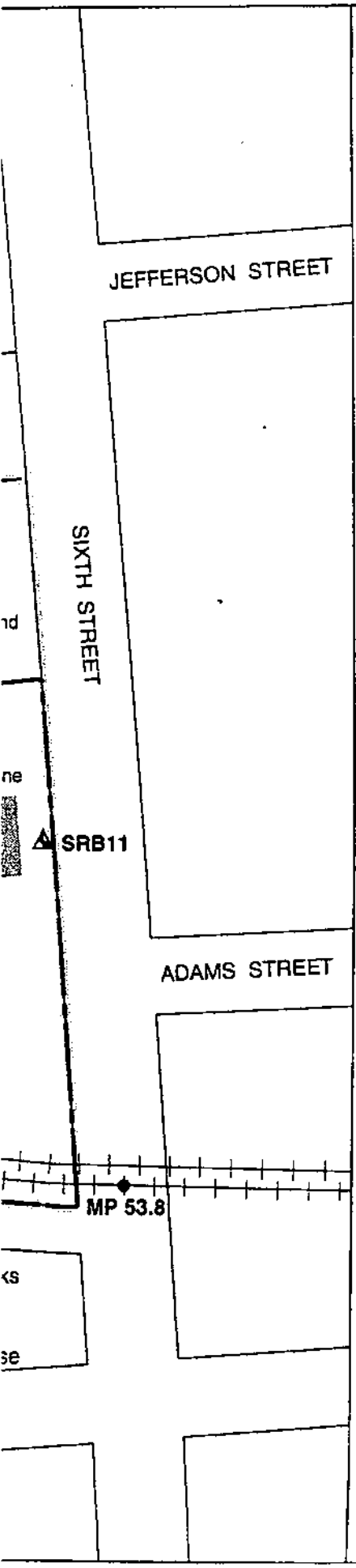
Note

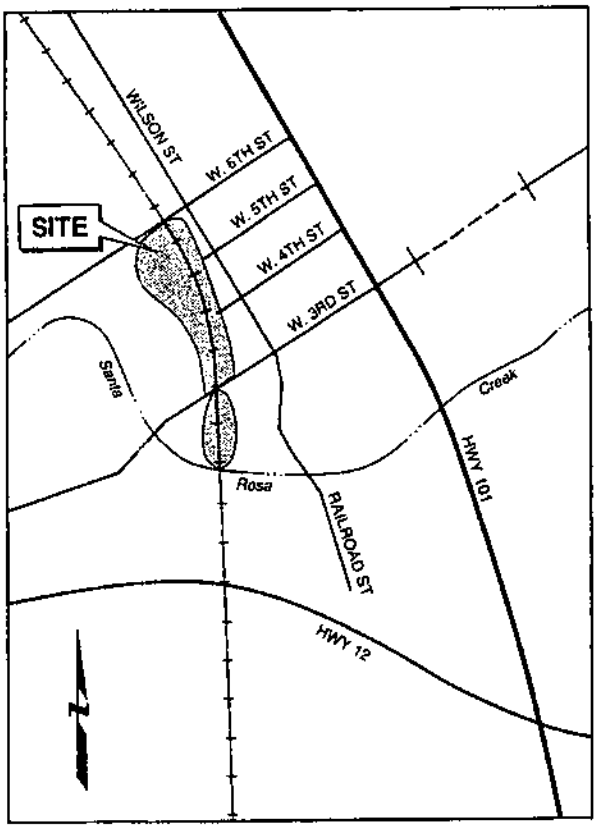
Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-8d.

SOUTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No. 2770.02	Figure 2A


Tool house foundation (three 55-gallon drums stacked outside; borings observed near foundation)
Approximate location of former 50-gallon underground fuel oil tank (removed)
Approximate location of former 230-gallon underground gasoline tank (removed)
SANTA ROSA CREEK
S-5
S-7
SRB13
SRB14
SRB2
SRB15
MW-1
SRB1
RB-5
SRB3
SRB4
MP 53.7
Cobb Co. Building
Warehouse
Parking
Parking
Parking
Approximate location of Days Inn Hotel and former location of Mead Clark Lumber Company
Pump house
RAILROAD STREET
W. THIRD STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
2170.02C.015





LOCATION MAP

EXPLANATION

Indicates historical feature for which no surface features were observed

MW-2 ⊕ Monitoring well installed by NCRWQCB (April 1990)

SRB16 ◒ Phase III boring location

SRB3 ▲ Phase II boring location

Approximate location of NWPRR right-of-way

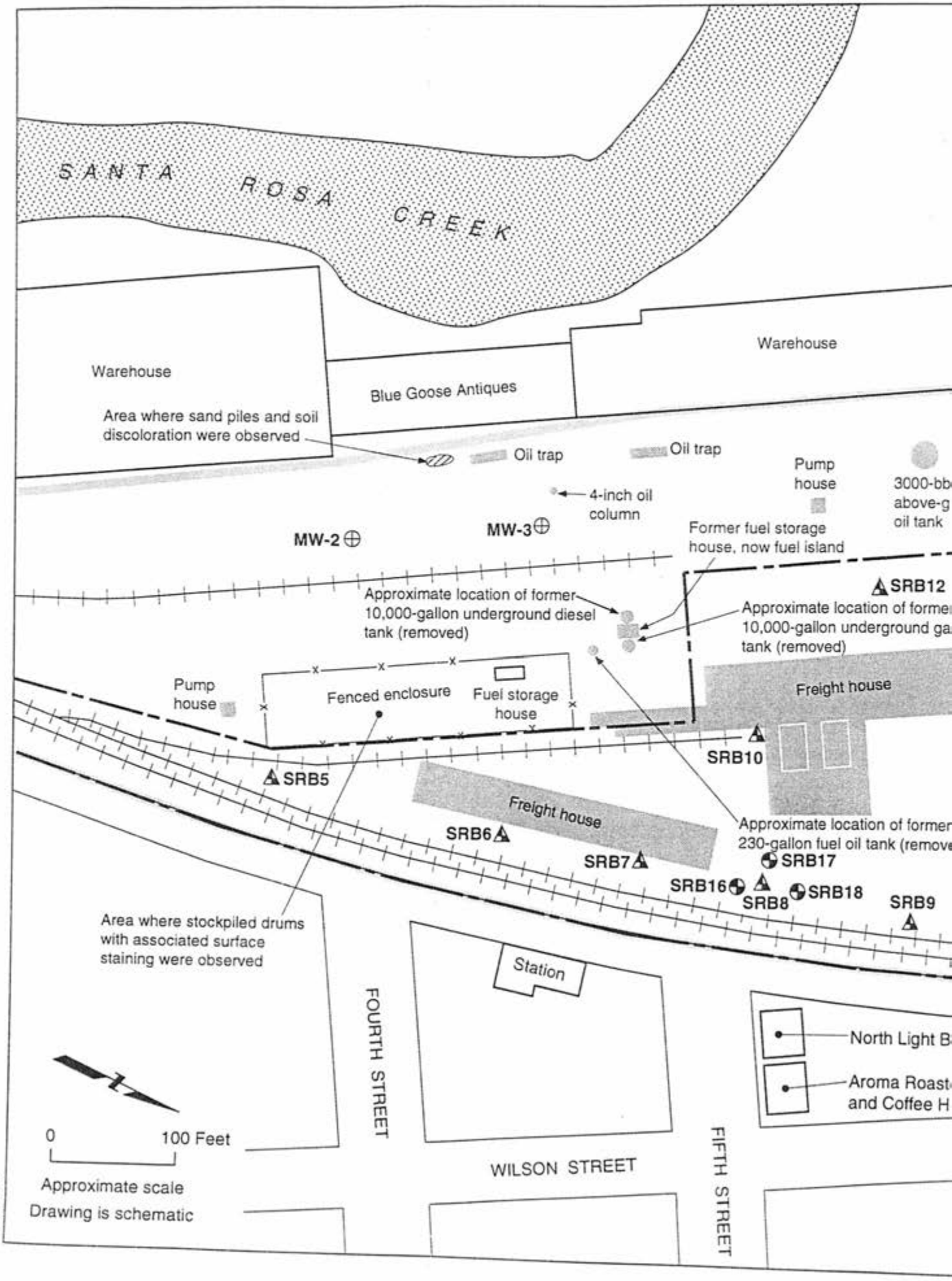
Property sale boundary

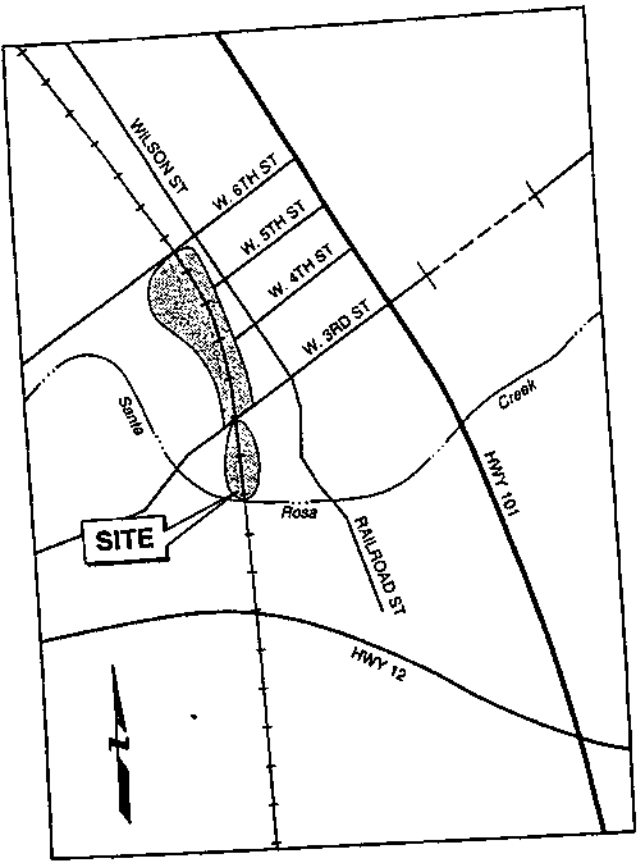
Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V2/S-8d.

NORTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No. 2770.02	Figure 2B


SANTA ROSA CREEK
Warehouse
Blue Goose Antiques
Warehouse
Area where sand piles and soil discoloration were observed
Oil trap
Oil trap
4-inch oil column
Pump house
3000-bb
above-g
oil tank
MW-2
MW-3
Former fuel storage house, now fuel island
SRB12
Approximate location of former 10,000-gallon underground diesel tank (removed)
Approximate location of former
10,000-gallon underground ga
tank (removed)
Pump house
Fenced enclosure
Fuel storage house
Freight house
SRB10
SRB5
Freight house
SRB6
SRB7
Approximate location of former
230-gallon fuel oil tank (remove
SRB17
SRB16
SRB8
SRB18
SRB9
Area where stockpiled drums with associated surface staining were observed
Station
FOURTH STREET
North Light B
Aroma Roast
and Coffee H
0
100 Feet
Approximate scale
Drawing is schematic
WILSON STREET
FIFTH STREET
2770 02C-016



LOCATION MAP

EXPLANATION

Indicates historical feature for which no surface features were observed

MW-1 ⊕ Monitoring well installed by NCRWQCB (April 1990)

SRB3 ▲ Phase II boring location

SW-7 ⊠ Approximate location of nearest wells on former Mead Clark Lumber Company

① Total Petroleum Hydrocarbons detected as gasoline in groundwater in milligrams per liter (mg/l)

Approximate location of NWPRR right-of-way

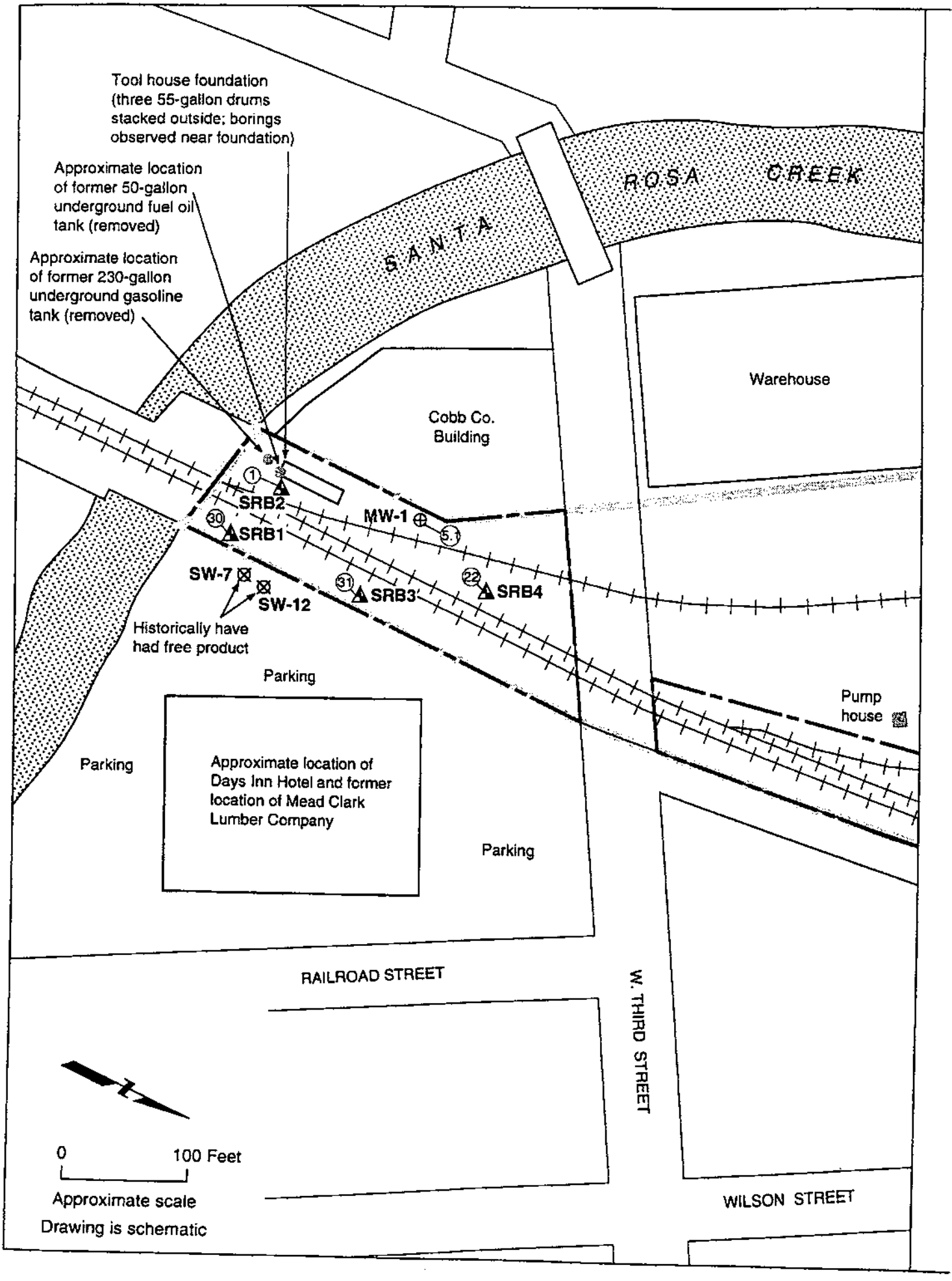
Property sale boundary

Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-8d.

GROUNDWATER CONCENTRATIONS: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
SOUTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No.	Figure
	2770.02	3


Tool house foundation
(three 55-gallon drums
stacked outside; borings
observed near foundation)
Approximate location
of former 50-gallon
underground fuel oil
tank (removed)
Approximate location
of former 230-gallon
underground gasoline
tank (removed)
SANTA ROSA CREEK
Warehouse
Cobb Co.
Building
SRB2
SRB1
MW-1
SW-7
SW-12
SRB3
SRB4
Historically have
had free product
Parking
Parking
Parking
Pump
house
Approximate location of
Days Inn Hotel and former
location of Mead Clark
Lumber Company
RAILROAD STREET
W. THIRD STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
2770.02.019

GEOMATRIX

APPENDIX A

CHAIN-OF-CUSTODY RECORDS AND LABORATORY ANALYTICAL REPORTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

March 13, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/02/95, under chain of custody records 4035 and 4251.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			01	02	03	04
Client Identification			SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled			03/02/95	03/02/95	03/02/95	03/02/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06/95	03/06/95	03/06/95	03/06/95
Date Analyzed (Method 7060)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	13	7	11	25
Barium	EPA 6010A	1	160	160	140	130
Beryllium	EPA 6010A	0.5	<0.5	0.6	0.7	0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	63	65	71	62
Cobalt	EPA 6010A	1	26	17	15	19
Copper	EPA 6010A	1	33	41	29	25
Lead	EPA 6010A	5	<5	27	7	34
Mercury	EPA 7470	0.1	<0.1	0.5	0.6	0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	98	110	110	110
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	61	45	51	49
Zinc	EPA 6010A	2	63	120	57	68
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			05	030395		
Client Identification			SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled			03/02/95	--		
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95		
Date Analyzed (Method 6010A)			03/06/95	03/06/95		
Date Analyzed (Method 7060)			03/06-07/95	03/06-07/95		
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95		
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5		
Arsenic	EPA 7060	0.5	16	<0.5		
Barium	EPA 6010A	1	160	<1		
Beryllium	EPA 6010A	0.5	0.6	<0.5		
Cadmium	EPA 6010A	0.5	<0.5	<0.5		
Chromium, total	EPA 6010A	1	80	<1		
Cobalt	EPA 6010A	1	16	<1		
Copper	EPA 6010A	1	25	<1		
Lead	EPA 6010A	5	7	<5		
Mercury	EPA 7470	0.1	<0.1	<0.1		
Molybdenum	EPA 6010A	1	<1	<1		
Nickel	EPA 6010A	2	120	<2		
Selenium	EPA 6010A	5	<5	<5		
Silver	EPA 6010A	1	<1	<1		
Thallium	EPA 6010A	5	<5	<5		
Vanadium	EPA 6010A	1	53	<1		
Zinc	EPA 6010A	2	54	<2		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		06	030395 MSSO-1		
Client Identification		SRB5-8.5	METHOD BLANK		
Date Sampled		03/02/95	–		
Date Analyzed		03/03/95	03/03/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10		
Bromomethane	10	<10	<10		
Vinyl chloride	10	<10	<10		
Chloroethane	10	<10	<10		
Methylene chloride	5	<5	<5		
Acetone	50	<50	<50		
Carbon disulfide	5	<5	<5		
1,1-Dichloroethene	5	<5	<5		
1,1-Dichloroethane	5	<5	<5		
1,2-Dichloroethene, total	5	<5	<5		
Chloroform	5	<5	<5		
1,2-Dichloroethane	5	<5	<5		
2-Butanone	20	<20	<20		
1,1,1-Trichloroethane	5	<5	<5		
Carbon tetrachloride	5	<5	<5		
Vinyl acetate	50	<50	<50		
Bromodichloromethane	5	<5	<5		
1,2-Dichloropropane	5	<5	<5		
cis-1,3-Dichloropropene	5	<5	<5		
Trichloroethene	5	<5	<5		
Dibromochloromethane	5	<5	<5		
1,1,2-Trichloroethane	5	<5	<5		
Benzene	5	<5	<5		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		06	030395 MSSO-1		
Client Identification		SRB5-8.5	METHOD BLANK		
Date Sampled		03/02/95	--		
Date Analyzed		03/03/95	03/03/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5		
2-Chloroethylvinyl ether	10	<10	<10		
Bromoform	5	<5	<5		
4-Methyl-2-pentanone	20	<20	<20		
2-Hexanone	20	<20	<20		
Tetrachloroethene	5	<5	<5		
1,1,2,2-Tetrachloroethane	5	<5	<5		
Toluene	5	<5	<5		
Chlorobenzene	5	<5	<5		
Ethylbenzene	5	<5	<5		
Styrene	5	<5	<5		
1,2-Dichlorobenzene	10	<10	<10		
1,3-Dichlorobenzene	10	<10	<10		
1,4-Dichlorobenzene	10	<10	<10		
Xylene, total	10	<10	<10		
Trichlorofluoromethane	5	<5	<5		
Detection Limit Multiplier		1	1		
DCE surrogate, % recovery		101	101		
TOL surrogate, % recovery		109	105		
BFB surrogate, % recovery		87.0	108		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: CS-03-0038

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/96	03/02/96	03/02/96	03/02/96
Date Extracted		03/03/96	03/03/96	03/03/96	03/03/96
Date Analyzed		03/07/96	03/07/96	03/07/96	03/07/96
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/95	03/02/95	03/02/95	03/02/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/07/95	03/07/95	03/07/95	03/07/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		82.0	84.6	79.8	68.9
2-Fluorobiphenyl surr., % rec.		87.1	90.9	81.3	68.6
d14-Terphenyl surr., % rec.		94.5	98.6	98.4	86.8
d5-Phenol surr., % rec.		87.6	90.2	89.2	78.7
2-Fluorophenol surr., % rec.		88.9	87.7	87.4	79.9
2,4,6-Tribromophenol surr., % rec.		91.1	85.5	83.8	74.3

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		05	030395BNAS		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/95	-		
Date Extracted		03/03/95	03/03/95		
Date Analyzed		03/07/95	03/06/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300		
bis(2-Chloroethyl)ether	300	<300	<300		
2-Chlorophenol	300	<300	<300		
1,3-Dichlorobenzene	300	<300	<300		
1,4-Dichlorobenzene	300	<300	<300		
Benzyl alcohol	300	<300	<300		
1,2-Dichlorobenzene	300	<300	<300		
2-Methylphenol	300	<300	<300		
bis-(2-Chloroisopropyl)ether	300	<300	<300		
4-Methylphenol	300	<300	<300		
N-Nitroso-di-propylamine	300	<300	<300		
Hexachloroethane	300	<300	<300		
Nitrobenzene	300	<300	<300		
Isophorone	300	<300	<300		
2-Nitrophenol	300	<300	<300		
2,4-Dimethylphenol	300	<300	<300		
Benzoic acid	1500	<1500	<1500		
bis(2-Chloroethoxy)methane	300	<300	<300		
2,4-Dichlorophenol	300	<300	<300		
1,2,4-Trichlorobenzene	300	<300	<300		
Naphthalene	300	<300	<300		
4-Chloroaniline	300	<300	<300		
Hexachlorobutadiene	300	<300	<300		
4-Chloro-3-methylphenol	300	<300	<300		
2-Methylnaphthalene	300	<300	<300		
Hexachlorocyclopentadiene	300	<300	<300		
2,4,6-Trichlorophenol	300	<300	<300		
2,4,5-Trichlorophenol	1500	<1500	<1500		
2-Chloronaphthalene	300	<300	<300		
2-Nitroaniline	1500	<1500	<1500		
Dimethylphthalate	300	<300	<300		
Acenaphthylene	300	<300	<300		
3-Nitroaniline	1500	<1500	<1500		
Acenaphthene	300	<300	<300		
2,4-Dinitrophenol	1500	<1500	<1500		
4-Nitrophenol	1500	<1500	<1500		

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		05	030395BNAS		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/95	--		
Date Extracted		03/03/95	03/03/95		
Date Analyzed		03/07/95	03/06/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300		
2,4-Dinitrotoluene	300	<300	<300		
2,6-Dinitrotoluene	300	<300	<300		
Diethylphthalate	300	<300	<300		
4-Chlorophenyl-phenylether	300	<300	<300		
Fluorene	300	<300	<300		
4-Nitroaniline	1500	<1500	<1500		
4,6-Dinitro-2-methylphenol	1500	<1500	<1500		
N-Nitrosodiphenylamine	300	<300	<300		
4-Bromophenyl-phenylether	300	<300	<300		
Hexachlorobenzene	300	<300	<300		
Pentachlorophenol	1500	<1500	<1500		
Phenanthrene	300	<300	<300		
Anthracene	300	<300	<300		
Di-n-butylphthalate	300	<300	<300		
Fluoranthene	300	<300	<300		
Pyrene	300	<300	<300		
Butylbenzylphthalate	300	<300	<300		
3,3'-Dichlorobenzidine	600	<600	<600		
Benzo(a)anthracene	300	<300	<300		
bis(2-Ethylhexyl)phthalate	300	<300	<300		
Chrysene	300	<300	<300		
Di-n-octylphthalate	300	<300	<300		
Benzo(b)fluoranthene	300	<300	<300		
Benzo(k)fluoranthene	300	<300	<300		
Benzidine	600	<600	<600		
Benzo(a)pyrene	300	<300	<300		
Indeno(1,2,3-cd)pyrene	300	<300	<300		
Dibenz(a,h)anthracene	300	<300	<300		
Benzo(g,h,i)perylene	300	<300	<300		
Detection Limit Multiplier		1	1		
d5-Nitrobenzene surr., % rec.		79.7	88.4		
2-Fluorobiphenyl surr., % rec.		76.1	98.6		
d14-Terphenyl surr., % rec.		101	118		
d5-Phenol surr., % rec.		86.9	92.9		
2-Fluorophenol surr., % rec.		86.2	92.2		
2,4,6-Tribromophenol surr., % rec.		81.9	83.8		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/95	03/02/95	03/02/95	03/02/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/11/95	03/11/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		92.7	82.6	94.7	87.9

GTEL Sample Number		05	GCJ 031095		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/95	–		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/11/95	03/10/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10		
TPH as motor oil	100	<100	<100		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		97.1	120		

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030027-05	50.0	ug/Kg	112	106	5.5	59 - 172
Trichloroethene	C5030027-05	50.0	ug/Kg	98.0	99.4	1.4	62 - 137
Benzene	C5030027-05	50.0	ug/Kg	96.0	94.8	1.3	66 - 142
Toluene	C5030027-05	50.0	ug/Kg	79.4	90.2	12.7	59 - 139
Chlorobenzene	C5030027-05	50.0	ug/Kg	91.2	92.4	1.3	60 - 133
GC-FID:							
Diesel	C5030027-01	750	mg/Kg	91.8	89.0	3.1	58 - 144
Metals:							
Antimony	C5030027-11	100	mg/Kg	86.2	84.6	1.91	80 - 120
Arsenic	C5030027-11	100	mg/Kg	104	102	1.3	75 - 125
Barium	C5030027-11	100	mg/Kg	94	88	2.43	80 - 120
Beryllium	C5030027-11	40	mg/Kg	92.9	89.6	3.64	80 - 120
Cadmium	C5030027-11	50	mg/Kg	95.3	92.2	3.34	80 - 120
Chromium	C5030027-11	100	mg/Kg	88.4	82.3	3.6	80 - 120
Cobalt	C5030027-11	100	mg/Kg	94.6	91.4	2.92	80 - 120
Copper	C5030027-11	100	mg/Kg	93.9	91.2	2.21	80 - 120
Lead	C5030027-11	100	mg/Kg	100	96.5	3.64	80 - 120
Mercury	C5030027-24	2.5	mg/Kg	106	92	14.1	75 - 125
Molybdenum	C5030027-11	50	mg/Kg	91.7	88.9	3.09	80 - 120
Nickel	C5030027-11	100	mg/Kg	93.3	86.9	2.79	80 - 120
Selenium	C5030027-11	100	mg/Kg	93.1	86.9	6.87	75 - 125
Silver	C5030027-11	20	mg/Kg	101	96.6	3.97	80 - 120
Thallium	C5030027-11	100	mg/Kg	93.5	92.9	0.63	75 - 125
Vanadium	C5030027-11	100	mg/Kg	93.8	89.9	2.8	80 - 120
Zinc	C5030027-11	100	mg/Kg	97.6	95.1	1.68	80 - 120

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 625/8270:							
Phenol	C5030038-01	3330	ug/Kg	72.6	75.5	3.9	26 - 90
2-Chlorophenol	C5030038-01	3330	ug/Kg	80.4	77.6	3.5	25 - 102
4-Chloro-3-methylphenol	C5030038-01	3330	ug/Kg	85.5	83.4	2.5	26 - 103
4-Nitrophenol	C5030038-01	3330	ug/Kg	95.7	89.0	7.3	11 - 114
Pentachlorophenol	C5030038-01	3330	ug/Kg	102	97.7	4.3	17 - 109
1,4-Dichlorbenzene	C5030038-01	1667	ug/Kg	81.8	76.0	7.4	28 - 104
N-Nitroso-di-n-propylamine	C5030038-01	1667	ug/Kg	79.2	72.2	9.2	41 - 126
1,2,4-Trichlorobenzene	C5030038-01	1667	ug/Kg	84.4	81.4	3.6	38 - 107
2,4-Dinitrotoluene	C5030038-01	1667	ug/Kg	83.2	81.0	2.7	28 - 89
Acenaphthene	C5030038-01	1667	ug/Kg	89.6	86.6	3.4	31 - 137
Pyrene	C5030038-01	1667	ug/Kg	95.0	91.6	3.6	75 - 142
EPA 625/8270:							
Phenol	LCS/LCS DUP	3330	ug/Kg	73.8	72.3	2.0	26 - 90
2-Chlorophenol	LCS/LCS DUP	3330	ug/Kg	82.6	81.6	1.0	25 - 102
4-Chloro-3-methylphenol	LCS/LCS DUP	3330	ug/Kg	84.2	80.7	4.2	26 - 103
4-Nitrophenol	LCS/LCS DUP	3330	ug/Kg	70.4	85.7	19.6	11 - 114
Pentachlorophenol	LCS/LCS DUP	3330	ug/Kg	83.4	93.6	11.5	17 - 109
1,4-Dichlorbenzene	LCS/LCS DUP	1667	ug/Kg	85.2	82.6	3.1	28 - 104
N-Nitroso-di-n-propylamine	LCS/LCS DUP	1667	ug/Kg	78.4	74.8	4.7	41 - 126
1,2,4-Trichlorobenzene	LCS/LCS DUP	1667	ug/Kg	88.8	84.8	4.6	38 - 107
2,4-Dinitrotoluene	LCS/LCS DUP	1667	ug/Kg	76.6	83.2	8.3	28 - 89
Acenaphthene	LCS/LCS DUP	1667	ug/Kg	88.8	89.6	0.9	31 - 137
Pyrene	LCS/LCS DUP	1667	ug/Kg	101	102	1.0	75 - 142

Chain-of-Custody Record

No 4035 | Date: 2 March 1995 | Page 1 of 2

Project No: 2770

Samplers (Signatures): Preston Gaines 195

ANALYSES: EPA Method 8010 | EPA Method 8020 | EPA Method 8240 | EPA Method 8270 | TPH as gasoline | TPH as diesel | TPH as BTEX | TPH as Motor Oil | Title 22 Metals

REMARKS: Cooled | Soil (S) or water (W) | Acidified | Number of containers | Additional comments

Additional comments: TPH analysis for motor oil & diesel by mod. 8015 (EPA) CCR Metals by EPA 6010/7000 Fax Results to Jeff Nelson @ 415/434-3216

LAB NO.	Date	Time	Sample Number																
01	3-2	0855	SRB5-1.5			X	X		X		X	X	Composite (4-part)		S	N	1	Composite Sample - SRB5	
		0900	SRB5-5.5			X	X		X		X	X			S	N	1		
		0905	SRB5-7.5			X	X		X		X	X			S	N	1		
		0915	SRB5-9.5			X	X		X		X	X			S	N	1		
02		1025	SRB6-1.5			X	X		X		X	X	Composite (4-part)		S	N	1	Composite Sample - SRB6	
		1030	SRB6-3.5			X	X		X		X	X			S	N	1		
		1105	SRB6-6.0			X	X		X		X	X			S	N	1		
		1115	SRB6-8.5			X	X		X		X	X			S	N	1		
03		1200	SRB7-1.5			X	X		X		X	X	Composite (4-part)		S	N	1	Composite Sample - SRB7	
		1205	SRB7-3.0			X	X		X		X	X			S	N	1		
		1210	SRB7-5.5			X	X		X		X	X			S	N	1		
	↓	1230	SRB7-8.5			X	X		X		X	X			S	N	1		

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

RE: GTEL Quote No.: QC95003A Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/2/95	Signature: John Weber	3/2/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1750	Signature	1900	Signature: Ronald C. Jensen	3/2/95 19:00
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No: 1 OF 2 C5030038

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4251

Date: 2 March 1995

Project No.: 2770

Samplers (Signatures): Preston Gaines

LAB NO: 195

Date	Time	Sample Number	Cont.	Soil (S) or water (W)	Acetted	Number of containers
3-2	1320	SRB8 - 1.5		S	N	1
	1325	SRB8 - 3.0		S	N	1
	1330	SRB8 - 5.5		S	N	1
04	1340	SRB8 - 8.5		S	N	1
	1440	SRB9 - 1.5		S	N	1
	1445	SRB9 - 3.5		S	N	1
05	1450	SRB9 - 5.5		S	N	1
	1455	SRB9 - 7.0		S	N	1
06	0910	SRB5 - 8.5		S	N	1

ANALYSES: EPA Method 8010; EPA Method 8020; EPA Method 8240; EPA Method 8270; TPH as gasoline; TPH as diesel; TPH as BTEX; TPH as Motor Oil; Title 22 Metals

Composite (4-part) — Composite Sample - SRB8

Composite (4-part) — Composite Sample - SRB9

REMARKS

Additional comments:

TPH analysis for motor oil and diesel by modified EPA Method 8015
CCR Metals by EPA 6010/7000
Fax results to Jeff Nelson @ 415 / 434 - 3216

RE: GTEL Quote No.: QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 9

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature:	3/2/95	Signature:	3/2/95	Signature:	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name:	
Company: Geomatrix		Company: GTEL		Company:	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1750	Signature:	19:00	Signature: Ronald C. Jensen	3/2/95 19:00
Printed name: JOHN WEBER		Printed name:		Printed name: RON JENSEN	
Company: GTEL		Company:		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No:

2 OF 2

C5030038

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

2770 - 61

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

GTEL ENVIRONMENTAL LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 15, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/03/95, under chain of custody records 4038 and 4040.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

William Kimbrough
for

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			01	02	03	08
Client Identification			SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled			03/03/95	03/03/95	03/03/95	03/03/95
Date Prepared (Method 3055[c])			03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed (Method 6010A)			03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed (Method 7060)			03/07/95	03/07/95	03/07/95	03/07/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	3.7	3.9	3.1	9.9
Barium	EPA 6010A	1	180	140	170	120
Beryllium	EPA 6010A	0.5	0.7	0.7	0.5	0.6
Cadmium	EPA 6010A	0.5	0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	61	78	71	36
Cobalt	EPA 6010A	1	18	18	20	13
Copper	EPA 6010A	1	27	27	27	13
Lead	EPA 6010A	5	17	12	14	6
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	100	130	110	58
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	46	50	45	29
Zinc	EPA 6010A	2	62	58	59	32
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			09	030795		
Client Identification			FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled			03/03/95	--		
Date Prepared (Method 3055[c])			03/07/95	03/07/95		
Date Analyzed (Method 6010A)			03/07/95	03/07/95		
Date Analyzed (Method 7060)			03/07/95	03/07/95		
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95		
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5		
Arsenic	EPA 7060	0.5	3.0	<0.5		
Barium	EPA 6010A	1	120	<1		
Beryllium	EPA 6010A	0.5	<0.5	<0.5		
Cadmium	EPA 6010A	0.5	<0.5	<0.5		
Chromium, total	EPA 6010A	1	34	<1		
Cobalt	EPA 6010A	1	13	<1		
Copper	EPA 6010A	1	19	<1		
Lead	EPA 6010A	5	<5	<5		
Mercury	EPA 7470	0.1	<0.1	<0.1		
Molybdenum	EPA 6010A	1	<1	<1		
Nickel	EPA 6010A	2	58	<2		
Selenium	EPA 6010A	5	<5	<5		
Silver	EPA 6010A	1	<1	<1		
Thallium	EPA 6010A	5	<5	<5		
Vanadium	EPA 6010A	1	29	<1		
Zinc	EPA 6010A	2	38	<2		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

GTEL ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		07	030895 MSC		
Client Identification		SRB10-6.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Analyzed		03/08/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10		
Bromomethane	10	<10	<10		
Vinyl chloride	10	<10	<10		
Chloroethane	10	<10	<10		
Methylene chloride	5	<5	<5		
Acetone	50	<50	<50		
Carbon disulfide	5	<5	<5		
1,1-Dichloroethene	5	<5	<5		
1,1-Dichloroethane	5	<5	<5		
1,2-Dichloroethene, total	5	<5	<5		
Chloroform	5	<5	<5		
1,2-Dichloroethane	5	<5	<5		
2-Butanone	20	<20	<20		
1,1,1-Trichloroethane	5	<5	<5		
Carbon tetrachloride	5	<5	<5		
Vinyl acetate	50	<50	<50		
Bromodichloromethane	5	<5	<5		
1,2-Dichloropropane	5	<5	<5		
cis-1,3-Dichloropropene	5	<5	<5		
Trichloroethene	5	<5	<5		
Dibromochloromethane	5	<5	<5		
1,1,2-Trichloroethane	5	<5	<5		
Benzene	5	<5	<5		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		07	030895 MSC		
Client Identification		SRB10-6.0	METHOD BLANK		
Date Sampled		03/03/95	--		
Date Analyzed		03/08/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5		
2-Chloroethylvinyl ether	10	<10	<10		
Bromoform	5	<5	<5		
4-Methyl-2-pentanone	20	<20	<20		
2-Hexanone	20	<20	<20		
Tetrachloroethene	5	<5	<5		
1,1,2,2-Tetrachloroethane	5	<5	<5		
Toluene	5	<5	<5		
Chlorobenzene	5	<5	<5		
Ethylbenzene	5	<5	<5		
Styrene	5	<5	<5		
1,2-Dichlorobenzene	10	<10	<10		
1,3-Dichlorobenzene	10	<10	<10		
1,4-Dichlorobenzene	10	<10	<10		
Xylene, total	10	<10	<10		
Trichlorofluoromethane	5	<5	<5		
Detection Limit Multiplier		1	1		
DCE surrogate, % recovery		105	102		
TOL surrogate, % recovery		104	104		
BFB surrogate, % recovery		95.3	103		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics In Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	08
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	08
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		76.1	81.2	82.9	78.3
2-Fluorobiphenyl surr., % rec.		77.3	80.9	85.3	81.8
d14-Terphenyl surr., % rec.		85.9	95.3	95.5	97.2
d5-Phenol surr., % rec.		78.2	87.0	84.6	83.9
2-Fluorophenol surr., % rec.		73.4	84.8	80.5	80.4
2,4,6-Tribromophenol surr., % rec.		69.2	85.4	72.2	86.4

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS/LCS DUP	750	ug/L	98.2	83.2	16.5	63 - 127

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	08
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		76.1	81.2	82.9	78.3
2-Fluorobiphenyl surr., % rec.		77.3	80.9	85.3	81.8
d14-Terphenyl surr., % rec.		85.9	95.3	95.5	97.2
d5-Phenol surr., % rec.		78.2	87.0	84.8	83.9
2-Fluorophenol surr., % rec.		73.4	84.8	80.5	80.4
2,4,6-Tribromophenol surr., % rec.		69.2	85.4	72.2	86.4

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	030795BNAS		
Client Identification		FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/09/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300		
bis(2-Chloroethyl)ether	300	<300	<300		
2-Chlorophenol	300	<300	<300		
1,3-Dichlorobenzene	300	<300	<300		
1,4-Dichlorobenzene	300	<300	<300		
Benzyl alcohol	300	<300	<300		
1,2-Dichlorobenzene	300	<300	<300		
2-Methylphenol	300	<300	<300		
bis-(2-Chloroisopropyl)ether	300	<300	<300		
4-Methylphenol	300	<300	<300		
N-Nitroso-di-propylamine	300	<300	<300		
Hexachloroethane	300	<300	<300		
Nitrobenzene	300	<300	<300		
Isophorone	300	<300	<300		
2-Nitrophenol	300	<300	<300		
2,4-Dimethylphenol	300	<300	<300		
Benzoic acid	1500	<1500	<1500		
bis(2-Chloroethoxy)methane	300	<300	<300		
2,4-Dichlorophenol	300	<300	<300		
1,2,4-Trichlorobenzene	300	<300	<300		
Naphthalene	300	<300	<300		
4-Chloroaniline	300	<300	<300		
Hexachlorobutadiene	300	<300	<300		
4-Chloro-3-methylphenol	300	<300	<300		
2-Methylnaphthalene	300	<300	<300		
Hexachlorocyclopentadiene	300	<300	<300		
2,4,6-Trichlorophenol	300	<300	<300		
2,4,5-Trichlorophenol	1500	<1500	<1500		
2-Chloronaphthalene	300	<300	<300		
2-Nitroaniline	1500	<1500	<1500		
Dimethylphthalate	300	<300	<300		
Acenaphthylene	300	<300	<300		
3-Nitroaniline	1500	<1500	<1500		
Acenaphthene	300	<300	<300		
2,4-Dinitrophenol	1500	<1500	<1500		
4-Nitrophenol	1500	<1500	<1500		

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	030795BNAS		
Client Identification		FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/09/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300		
2,4-Dinitrotoluene	300	<300	<300		
2,6-Dinitrotoluene	300	<300	<300		
Diethylphthalate	300	<300	<300		
4-Chlorophenyl-phenylether	300	<300	<300		
Fluorene	300	<300	<300		
4-Nitroaniline	1500	<1500	<1500		
4,6-Dinitro-2-methylphenol	1500	<1500	<1500		
N-Nitrosodiphenylamine	300	<300	<300		
4-Bromophenyl-phenylether	300	<300	<300		
Hexachlorobenzene	300	<300	<300		
Pentachlorophenol	1500	<1500	<1500		
Phenanthrene	300	<300	<300		
Anthracene	300	<300	<300		
Di-n-butylphthalate	300	<300	<300		
Fluoranthene	300	<300	<300		
Pyrene	300	<300	<300		
Butylbenzylphthalate	300	<300	<300		
3,3'-Dichlorobenzidine	600	<600	<600		
Benzo(a)anthracene	300	<300	<300		
bis(2-Ethylhexyl)phthalate	300	<300	<300		
Chrysene	300	<300	<300		
Di-n-octylphthalate	300	<300	<300		
Benzo(b)fluoranthene	300	<300	<300		
Benzo(k)fluoranthene	300	<300	<300		
Benzidine	600	<600	<600		
Benzo(a)pyrene	300	<300	<300		
Indeno(1,2,3-cd)pyrene	300	<300	<300		
Dibenz(a,h)anthracene	300	<300	<300		
Benzo(g,h,i)perylene	300	<300	<300		
Detection Limit Multiplier		1	1		
d5-Nitrobenzene surr., % rec.		74.4	77.0		
2-Fluorobiphenyl surr., % rec.		81.8	78.9		
d14-Terphenyl surr., % rec.		97.3	93.7		
d5-Phenol surr., % rec.		85.7	86.3		
2-Fluorophenol surr., % rec.		83.4	90.0		
2,4,6-Tribromophenol surr., % rec.		86.1	94.8		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Water

Method: GC-FID[a]

GTEL Sample Number		06	GCJ 031295		
Client Identification		SRB13	METHOD BLANK		
Date Sampled		03/03/95	--		
Date Extracted		03/06/95	03/06/95		
Date Analyzed		03/12/95	03/12/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<50	<50		
TPH as motor oil	250	<250	<250		
Detection Limit Multiplier		1	1		
O-Terphenyl Surrogate, % recovery		142	99.4		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	SRB13-5.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/08/95	03/08/95	03/08/95	03/08/95
Date Analyzed		03/12/95	03/12/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		71.3	54.3	68.4	53.2

GTEL Sample Number		05	08	09	GCJ 031395
Client Identification		SRB13-11.0	FB1-1.5 3.5/5.5/7.0	FB2-2.0 4.0/6.0/7.0	METHOD BLANK
Date Sampled		03/03/95	03/03/95	03/03/95	--
Date Extracted		03/08/95	03/08/95	03/08/95	03/08/95
Date Analyzed		03/13/95	03/13/95	03/13/95	03/14/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		64.9	60.8	75.0	81.3

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS/LCS DUP	750	ug/L	98.2	83.2	16.5	63 - 127

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030058-07	50.0	ug/Kg	98.2	84.2	15.3	59 - 172
Trichloroethene	C5030058-07	50.0	ug/Kg	92.2	91.0	1.3	62 - 137
Benzene	C5030058-07	50.0	ug/Kg	102	93.4	8.8	66 - 142
Toluene	C5030058-07	50.0	ug/Kg	115	92.6	21.6*	59 - 139
Chlorobenzene	C5030058-07	50.0	ug/Kg	96.8	95.0	1.9	60 - 133
GC-FID:							
Diesel	C5030060-01	750	mg/Kg	72.9	65.8	10.2	58 - 144
Metals:							
Antimony	C5030058-08	100	mg/Kg	93.9	92	2.03	80 - 120
Arsenic	C5030058-08	100	mg/Kg	76.5	71.3	6.21	75 - 125
Barium	C5030058-08	100	mg/Kg	108	103	2.28	80 - 120
Beryllium	C5030058-08	40	mg/Kg	105	98	6.88	80 - 120
Cadmium	C503058-08	50	mg/Kg	104	98.5	5.39	80 - 120
Chromium	C5030058-08	100	mg/Kg	111	101	6.56	80 - 120
Cobalt	C5030058-08	100	mg/Kg	105	98.2	5.9	80 - 120
Copper	C5030058-08	100	mg/Kg	104	96.2	6.48	80 - 120
Lead	C5030058-08	100	mg/Kg	108	99.2	7.67	80 - 120
Mercury	C5030058-08	2.5	mg/Kg	103	103	0.39	75 - 125
Molybdenum	C5030058-08	50	mg/Kg	103	96.1	6.93	80 - 120
Nickel	C5030058-08	100	mg/Kg	108	104	2.53	80 - 120
Selenium	C5030058-08	100	mg/Kg	105	98	7.15	75 - 125
Silver	C5030058-08	20	mg/Kg	107	100	6.85	80 - 120
Thallium	C5030058-08	100	mg/Kg	106	98.5	7.09	75 - 125
Vanadium	C5030058-08	100	mg/Kg	107	98.4	6.16	80 - 120
Zinc	C5030058-08	100	mg/Kg	111	103	6.03	80 - 120

* Toluene RPD was high due to matrix interference.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 625/8270:							
Phenol	C5030058-01	3330	ug/Kg	68.4	71.8	4.8	26 - 90
2-Chlorophenol	C5030058-01	3330	ug/Kg	81.4	84.0	3.1	25 - 102
4-Chloro-3-methylphenol	C5030058-01	3330	ug/Kg	82.0	91.9	11.4	26 - 103
4-Nitrophenol	C5030058-01	3330	ug/Kg	80.4	86.6	7.4	11 - 114
Pentachlorophenol	C5030058-01	3330	ug/Kg	96.0	107	10.8	17 - 109
1,4-Dichlorbenzene	C5030058-01	1667	ug/Kg	80.6	81.4	1.0	28 - 104
N-Nitroso-di-n-propylamine	C5030058-01	1667	ug/Kg	68.6	69.4	1.2	41 - 126
1,2,4-Trichlorobenzene	C5030058-01	1667	ug/Kg	81.2	85.8	5.5	38 - 107
2,4-Dinitrotoluene	C5030058-01	1667	ug/Kg	86.2	85.6	0.7	28 - 89
Acenaphthene	C5030058-01	1667	ug/Kg	84.6	86.2	1.9	31 - 137
Pyrene	C5030058-01	1667	ug/Kg	76.0	76.0	0	75 - 142
EPA 625/8270:							
Phenol	LCS	3330	ug/Kg	63.9	NA	NA	26 - 90
2-Chlorophenol	LCS	3330	ug/Kg	77.1	NA	NA	25 - 102
4-Chloro-3-methylphenol	LCS	3330	ug/Kg	86.7	NA	NA	26 - 103
4-Nitrophenol	LCS	3330	ug/Kg	71.9	NA	NA	11 - 114
Pentachlorophenol	LCS	3330	ug/Kg	97.0	NA	NA	17 - 109
1,4-Dichlorbenzene	LCS	1667	ug/Kg	78.8	NA	NA	28 - 104
N-Nitroso-di-n-propylamine	LCS	1667	ug/Kg	70.4	NA	NA	41 - 126
1,2,4-Trichlorobenzene	LCS	1667	ug/Kg	83.6	NA	NA	38 - 107
2,4-Dinitrotoluene	LCS	1667	ug/Kg	81.0	NA	NA	28 - 89
Acenaphthene	LCS	1667	ug/Kg	84.8	NA	NA	31 - 137
Pyrene	LCS	1667	ug/Kg	93.2	NA	NA	75 - 142

NA = Not Applicable.

Chain-of-Custody Record

No 4038

Date 3 March 1995

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Project No 2770

Samplers (Signatures)

AB No	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	Title 22 Metals	Cooled	Soil (S) or water (W)	Acid pres	Number of containers
	3-3	0850	SRB10 - 1.5				X		X		X	X	X	S	N	1
		0920	SRB10 - 3.0				X		X		X	X	X	S	N	1
01		0930	SRB10 - 5.5				X		X		X	X	X	S	N	1
		0940	SRB10 - 9.0				X		X		X	X	X	S	N	1
		1020	SRB11 - 1.5				X		X		X	X	X	S	N	1
		1025	SRB11 - 3.5				X		X		X	X	X	S	N	1
02		1030	SRB11 - 5.5				X		X		X	X	X	S	N	1
		1035	SRB11 - 8.0				X		X		X	X	X	S	N	1
		1115	SRB12 - 1.5				X		X		X	X	X	S	N	1
		1120	SRB12 - 3.5				X		X		X	X	X	S	N	1
03		1125	SRB12 - 6.0				X		X		X	X	X	S	N	1
	▼	1130	SRB12 - 9.0				X		X		X	X	X	S	N	1

Composite (4-part)

Composite (4-part)

Composite (4-part)

ANALYSES

REMARKS

Additional comments

TPH analysis for motor oil and diesel by modified EPA method 8015

CCR metals by EPA 6010/7000

Fax results to Jeff Nelson @ 415/1431-3216

Composite Sample SRB-10

Composite Sample SRB-11

Composite Sample SRB-12

RE: GTEL Quote No. QC95003H proj No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date	Method of shipment
Signature: Preston Gaines	3/3/95	Signature: John Weber	3/3/95	Signature		Couriers pick-up
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name		Laboratory comments and Log No
Company: Geomatrix		Company: GTEL		Company		5°C 1 OF 2
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**	C5030058
Signature: John Weber	1745	Signature	19:15	Signature: Ronald C. Jensen	3/3/95 19:15	
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN		
Company: GTEL		Company		Company: GTEL		

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4040 | Date 3 March 1995 | Page 2 of 2

Project No: 2770

Samplers (Signatures): Preston Gomes

'95

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	Title 22 Metals	Cooled	Soil (S) or water (W)	Acid'd	Number of containers	Additional comments
3-3	1310	SRB13 - 5.0						X		X		X	S	N	1	TPH analysis for motor oil and diesel by modified EPA Method 8015
	1340	SRB13 - 11.0						X		X		X	S	N	1	CCR Metals by EPA 6010/7000
	1400	SRB13						X		X		X	W	N	2	Fax Results to Jeff Nelson 415 / 434 - 3216
	0935	SRB10 - 6.0			X			X		X		X	S	N	1	x 1 lt. ambers
	1555	FB1 - 1,5				X		X		X	X	X	S	N	1	Composite Sample FB-1
	1600	FB1 - 3,5				X		X		X	X	X	S	N	1	Composite (4-part)
	1605	FB1 - 5,5				X		X		X	X	X	S	N	1	
	1610	FB1 - 7.0				X		X		X	X	X	S	N	1	
	1510	FB2 - 2.0				X		X		X	X	X	S	N	1	Composite Sample FB-2
	1515	FB2 - 4.0				X		X		X	X	X	S	N	1	Composite (4-part)
	1520	FB2 - 6,0				X		X		X	X	X	S	N	1	
	1525	FB2 - 7,0				X		X		X	X	X	S	N	1	

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 13

RE: GTEL Quote No. QC950034 Proj No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gomes	3/3/95	Signature: John Weber	3/3/95	Signature	
Printed name: Preston Gomes		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1745	Signature		Signature: Ronald C. Jensen	3/3/95 19:15
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	19:15
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No:

2 OF 2

C5030058

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 22, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/01/95 under Chain-of-Custody Number(s) 4250, 4034, 4252, 4036, 4037.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

William Sudbrock

for
Rashmi Shah
Laboratory Director

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-17	C5030027-18	C5030027-21
Client ID	SRB4 (AQ)	TB-1 (AQ)	SRB2 (AQ)	SRB1 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/04/95	03/04/95	03/04/95	03/04/95
Dilution Factor	10.0	1.00	1.00	10.0

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Bromomethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Vinyl chloride	10.	ug/L	< 100	< 10.	< 10.	< 100
Chloroethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Methylene chloride	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Acetone	20.	ug/L	< 200	< 20.	< 20.	< 200
Carbon disulfide	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1-Dichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Chloroform	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
2-Butanone	20.	ug/L	< 200	< 20.	< 20.	< 200
1,1,1-Trichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Carbon tetrachloride	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Vinyl acetate	20.	ug/L	< 200	< 20.	< 20.	< 200
Bromodichloromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichloropropane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
cis-1,3-Dichloropropene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Trichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Dibromochloromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1,2-Trichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Benzene	5.0	ug/L	78.	< 5.0	< 5.0	760
2-Chloroethyl vinyl ether	10.	ug/L	< 100	< 10.	< 10.	< 100
trans-1,3-Dichloropropene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Bromoform	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
4-Methyl-2-pentanone	20.	ug/L	< 200	< 20.	< 20.	< 200
2-Hexanone	20.	ug/L	< 200	< 20.	< 20.	< 200
Tetrachloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Toluene	5.0	ug/L	< 50.	< 5.0	< 5.0	95.
Chlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Ethylbenzene	5.0	ug/L	1700	< 5.0	< 5.0	1100
Styrene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Xylenes (total)	10.	ug/L	1800	< 10.	< 10.	2100
1,3-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,4-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Trichlorofluoromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
trans-1,2-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-17	C5030027-18	C5030027-21
Client ID	SRB4 (AQ)	TB-1 (AQ)	SRB2 (AQ)	SRB1 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/04/95	03/04/95	03/04/95	03/04/95
Dilution Factor	10.0	1.00	1.00	10.0

Analyte	Reporting Limit	Units	Concentration:			
cis-1,2-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-DCA-d4 (surrogate)	--	%	95.9	100.	102.	101.
Toluene-d8 (surrogate)	--	%	107.	102.	105.	112.
BFB (surrogate)	--	%	107.	98.4	101.	101.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1,2-DCA-d4, Toluene-d8 and BFB are 76-114, 88-110 and 86-115 respectively.

C5030027-16:

Detection limit raised due to high levels of target and nontarget compounds.

C5030027-21:

Detection limit raised due to high levels of target and nontarget compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-22
Client ID	SRB3 (AQ)
Date Sampled	03/01/95
Date Analyzed	03/07/95
Dilution Factor	10.0

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 100	--	--	--
Bromomethane	10.	ug/L	< 100	--	--	--
Vinyl chloride	10.	ug/L	< 100	--	--	--
Chloroethane	10.	ug/L	< 100	--	--	--
Methylene chloride	5.0	ug/L	< 50.	--	--	--
Acetone	20.	ug/L	< 200	--	--	--
Carbon disulfide	5.0	ug/L	< 50.	--	--	--
1,1-Dichloroethene	5.0	ug/L	< 50.	--	--	--
1,1-Dichloroethane	5.0	ug/L	< 50.	--	--	--
Chloroform	5.0	ug/L	< 50.	--	--	--
1,2-Dichloroethane	5.0	ug/L	< 50.	--	--	--
2-Butanone	20.	ug/L	< 200	--	--	--
1,1,1-Trichloroethane	5.0	ug/L	< 50.	--	--	--
Carbon tetrachloride	5.0	ug/L	< 50.	--	--	--
Vinyl acetate	20.	ug/L	< 200	--	--	--
Bromodichloromethane	5.0	ug/L	< 50.	--	--	--
1,2-Dichloropropane	5.0	ug/L	< 50.	--	--	--
cis-1,3-Dichloropropene	5.0	ug/L	< 50.	--	--	--
Trichloroethene	5.0	ug/L	< 50.	--	--	--
Dibromochloromethane	5.0	ug/L	< 50.	--	--	--
1,1,2-Trichloroethane	5.0	ug/L	< 50.	--	--	--
Benzene	5.0	ug/L	1100	--	--	--
2-Chloroethyl vinyl ether	10.	ug/L	< 100	--	--	--
trans-1,3-Dichloropropene	5.0	ug/L	< 50.	--	--	--
Bromoform	5.0	ug/L	< 50.	--	--	--
4-Methyl-2-pentanone	20.	ug/L	420	--	--	--
2-Hexanone	20.	ug/L	< 200	--	--	--
Tetrachloroethene	5.0	ug/L	< 50.	--	--	--
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 50.	--	--	--
Toluene	5.0	ug/L	78.	--	--	--
Chlorobenzene	5.0	ug/L	< 50.	--	--	--
Ethylbenzene	5.0	ug/L	2100	--	--	--
Styrene	5.0	ug/L	< 50.	--	--	--
Xylenes (total)	10.	ug/L	2500	--	--	--
1,3-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
1,4-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
1,2-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
Trichlorofluoromethane	5.0	ug/L	< 50.	--	--	--
trans-1,2-Dichloroethene	5.0	ug/L	< 50.	--	--	--

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-22
Client ID	SRB3 (AQ)
Date Sampled	03/01/95
Date Analyzed	03/07/95
Dilution Factor	10.0

Analyte	Reporting Limit	Units	Concentration:			
cis-1,2-Dichloroethene	5.0	ug/L	< 50.	--	--	--
1,2-DCA-d4 (surrogate)	--	%	102.	--	--	--
Toluene-d8 (surrogate)	--	%	106.	--	--	--
BFB (surrogate)	--	%	99.4	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1,2-DCA-d4, Toluene-d8 and BFB are 76-114, 88-110 and 86-115 respectively.

C5030027-22:

Detection limit raised due to high levels of target and nontarget compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): NW Pacific RR Matrix: Aqueous

Method Blank Results

	QC Batch No:	030495MSC-1	030695MSC-1
	Date Analyzed:	04-MAR-95	06-MAR-95
Analyte		Method:EPA 8240A	Concentration: ug/L
Chloromethane		< 10.	< 10.
Bromomethane		< 10.	< 10.
Vinyl chloride		< 10.	< 10.
Chloroethane		< 10.	< 10.
Methylene chloride		< 5.0	< 5.0
Acetone		< 20.	< 20.
Carbon disulfide		< 5.0	< 5.0
1,1-Dichloroethene		< 5.0	< 5.0
1,1-Dichloroethane		< 5.0	< 5.0
Chloroform		< 5.0	< 5.0
1,2-Dichloroethane		< 5.0	< 5.0
2-Butanone		< 20.	< 20.
1,1,1-Trichloroethane		< 5.0	< 5.0
Carbon tetrachloride		< 5.0	< 5.0
Vinyl acetate		< 20.	< 20.
Bromodichloromethane		< 5.0	< 5.0
1,2-Dichloropropane		< 5.0	< 5.0
cis-1,3-Dichloropropene		< 5.0	< 5.0
Trichloroethene		< 5.0	< 5.0
Dibromochloromethane		< 5.0	< 5.0
1,1,2-Trichloroethane		< 5.0	< 5.0
Benzene		< 5.0	< 5.0
2-Chloroethyl vinyl ether		< 10.	< 10.
trans-1,3-Dichloropropene		< 5.0	< 5.0
Bromoform		< 5.0	< 5.0
4-Methyl-2-pentanone		< 20.	< 20.
2-Hexanone		< 20.	< 20.
Tetrachloroethene		< 5.0	< 5.0
1,1,2,2-Tetrachloroethane		< 5.0	< 5.0
Toluene		< 5.0	< 5.0
Chlorobenzene		< 5.0	< 5.0
Ethylbenzene		< 5.0	< 5.0
Styrene		< 5.0	< 5.0
Xylenes (Total)		< 10.	< 10.
1,3-Dichlorobenzene		< 5.0	< 5.0
1,4-Dichlorobenzene		< 5.0	< 5.0
1,2-Dichlorobenzene		< 5.0	< 5.0
Trichlorofluoromethane		< 5.0	< 5.0
trans-1,2-Dichloroethene		< 5.0	< 5.0
cis-1,2-Dichloroethene		< 5.0	< 5.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C5030027-18	20.0	ug/L	92.6	95.6	3.19	57.3 - 138
Toluene	C5030027-18	20.0	ug/L	120	122	1.65	63.0 - 134
Ethylbenzene	C5030027-18	20.0	ug/L	98.2	95.0	3.31	59.3 - 137
Xylene, total	C5030027-18	60.0	ug/L	103	98.9	4.06	59.3 - 144

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8015
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-18	C5030027-21	C5030027-22
Client ID	SRB4 (AQ)	SRB2 (AQ)	SRB1 (AQ)	SRB3 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/11/95	03/10/95	03/10/95	03/10/95
Dilution Factor	50.0	1.00	10.0	10.0

Analyte	Reporting Limit	Units	Concentration:			
TPH as GAS	100	ug/L	22000	1000	30000	31000
BFB (Surrogate)	--	%	75.8	83.2	75.7	74.4

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8015
Project ID (name): NW Pacific RR Matrix: Aqueous

Method Blank Results

QC Batch No: E031195-1
Date Analyzed: 11-MAR-95

Analyte	Method: EPA 8015	Concentration: ug/L
Benzene	< 0.30	
Toluene	< 0.30	
Ethylbenzene	< 0.30	
Xylenes (Total)	< 0.50	
Chlorobenzene	< 1.00	
1,3-Dichlorobenzene	< 1.00	
1,4-Dichlorobenzene	< 1.00	
1,2-Dichlorobenzene	< 1.00	
TPH as Gasoline	< 10.	

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8015
Project ID (name): NW Pacific RR Matrix: Aqueous

Matrix Spike and Matrix Spike Duplicate Results

Analyte	Original Concentration	Spike Amount	Matrix Spike Concentration	Matrix Spike Recovery, %	Matrix Spike Duplicate Concentration	Matrix Spike Duplicate Recovery, %	RPD, %	Acceptability Limits RPD, %	Acceptability Limits Recovery, %
EPA 8015	GTEL Sample ID:C5030063-03		Spike ID:E031195-3		Dup. ID:E031195-4				
Units: ug/L	Analysis Date:09-MAR-95		11-MAR-95		11-MAR-95		Client ID:Batch QC		
Benzene	< 0.50	20.0	19.6	98.0	20.5	103.	4.9	34	57.3-138%
Toluene	< 1.0	20.0	18.9	94.5	19.9	99.5	5.1	31	63-134%
Ethylbenzene	< 1.0	20.0	19.5	96.8	20.4	101.	4.2	38	59.3-137%
Xylenes (Total)	< 2.0	60.0	59.2	98.7	62.1	104.	5.2	31	59.3-144%

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			03	04	07	08
Client Identification			PB-1	PB-2	PB-3	PB-4
Date Sampled			02/28/95	02/28/95	02/28/95	02/28/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	0.5	1.1	2.2	3.2
Barium	EPA 6010A	1	62	150	190	98
Beryllium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	11	14	16	19
Cobalt	EPA 6010A	1	3	8	8	7
Copper	EPA 6010A	1	7	13	14	11
Lead	EPA 6010A	5	5	12	6	8
Mercury	EPA 7470	0.1	<0.1	0.1	0.3	0.4
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	14	19	19	21
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	11	19	19	22
Zinc	EPA 6010A	2	14	22	18	23
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			09	10	030395
Client Identification			PB-5	PB-6	METHOD BLANK
Date Sampled			02/28/95	02/28/95	–
Date Prepared (Method 3055[c])			03/03-03/95	03/03-03/95	03/03-03/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg		
Antimony	EPA 6010A	5	<5	<5	<5
Arsenic	EPA 7060	0.5	0.9	1.9	<0.5
Barium	EPA 6010A	1	83	72	<1
Beryllium	EPA 6010A	0.5	<0.5	<0.5	<0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	14	13	<1
Cobalt	EPA 6010A	1	5	6	<1
Copper	EPA 6010A	1	8	16	<1
Lead	EPA 6010A	5	<5	<5	<5
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1
Nickel	EPA 6010A	2	15	18	<2
Selenium	EPA 6010A	5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5
Vanadium	EPA 6010A	1	15	15	<1
Zinc	EPA 6010A	2	14	18	<2
Detection Limit Multiplier			1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			11	12	14	15
Client Identification			SRB-1A	SRB-2A	SRB-4A	SRB-3A
Date Sampled			02/28/95	02/28/95	03/01/95	03/01/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	5	7.4	9.6	8.9
Barium	EPA 6010A	1	160	180	120	140
Beryllium	EPA 6010A	0.5	0.6	0.7	0.8	0.6
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	85	84	62	68
Cobalt	EPA 6010A	1	17	19	11	15
Copper	EPA 6010A	1	26	30	47	57
Lead	EPA 6010A	5	<5	65	15	<5
Mercury	EPA 7470	0.1	<0.1	0.3	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	140	140	75	98
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	48	52	78	46
Zinc	EPA 6010A	2	53	96	62	57
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			030395			
Client Identification			METHOD BLANK			
Date Sampled			--			
Date Prepared (Method 3055[c])			03/03-03/95			
Date Analyzed (Method 6010A)			03/06-07/95			
Date Analyzed (Method 7060)			03/06-08/95			
Date Prepared and Analyzed (Method 7470)			03/08/95			
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5			
Arsenic[d]	EPA 7060	0.5	<0.5			
Barium[d]	EPA 6010A	1	<1			
Beryllium	EPA 6010A	0.5	<0.5			
Cadmium	EPA 6010A	0.5	<0.5			
Chromium, total	EPA 6010A	1	<1			
Cobalt	EPA 6010A	1	<1			
Copper	EPA 6010A	1	<1			
Lead	EPA 6010A	5	<5			
Mercury	EPA 7470	0.1	<0.1			
Molybdenum	EPA 6010A	1	<1			
Nickel[d]	EPA 6010A	2	<2			
Selenium	EPA 6010A	5	<5			
Silver	EPA 6010A	1	<1			
Thallium	EPA 6010A	5	<5			
Vanadium	EPA 6010A	1	<1			
Zinc	EPA 6010A	2	<2			
Detection Limit Multiplier			1			

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			23	24	25	26
Client Identification			SRB-1B	SRB-2B	SRB-4B	SRB-3B
Date Sampled			03/01/95	03/01/95	03/01/95	03/01/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic[d]	EPA 7060	0.5	2.8	4.5	2.4	3.8
Barium[d]	EPA 6010A	1	150	190	95	130
Beryllium	EPA 6010A	0.5	<0.5	0.6	<0.5	<0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	52	78	53	68
Cobalt	EPA 6010A	1	14	22	13	17
Copper	EPA 6010A	1	23	31	28	31
Lead	EPA 6010A	5	6	6	<5	<5
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel[d]	EPA 6010A	2	90	160	90	120
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	35	54	42	46
Zinc	EPA 6010A	2	48	63	56	62
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
d. Matrix spike recovery for this analyte demonstrated a matrix effect. Laboratory control sample indicated that the analysis was within control limits.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			030695			
Client Identification			METHOD BLANK			
Date Sampled			–			
Date Prepared (Method 3055[c])			03/01/95			
Date Analyzed (Method 6010A)			03/06/95			
Date Analyzed (Method 7060)			03/06-07/95			
Date Prepared and Analyzed (Method 7470)			03/06-08/95			
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5			
Arsenic[d]	EPA 7060	0.5	<0.5			
Barium[d]	EPA 6010A	1	<1			
Beryllium	EPA 6010A	0.5	<0.5			
Cadmium	EPA 6010A	0.5	<0.5			
Chromium, total	EPA 6010A	1	<1			
Cobalt	EPA 6010A	1	<1			
Copper	EPA 6010A	1	<1			
Lead	EPA 6010A	5	<5			
Mercury	EPA 7470	0.1	<0.1			
Molybdenum	EPA 6010A	1	<1			
Nickel[d]	EPA 6010A	2	<2			
Selenium	EPA 6010A	5	<5			
Silver	EPA 6010A	1	<1			
Thallium	EPA 6010A	5	<5			
Vanadium	EPA 6010A	1	<1			
Zinc	EPA 6010A	2	<2			
Detection Limit Multiplier			1			

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		03	04	07	08
Client Identification		PB-1	PB-2	PB-3	PB-4
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/06/95	03/06/95	03/07/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		03	04	07	08
Client Identification		PB-1	PB-2	PB-3	PB-4
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/06/95	03/06/95	03/07/95	03/06/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		83.9	82.3	81.5	81.4
2-Fluorobiphenyl surr., % rec.		83.9	80.6	89.4	82.4
d14-Terphenyl surr., % rec.		95.8	94.4	94.6	114
d5-Phenol surr., % rec.		96.1	91.8	90.1	93.0
2-Fluorophenol surr., % rec.		91.2	88.6	86.0	102
2,4,6-Tribromophenol surr., % rec.		83.3	91.3	88.7	90.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Result reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	10	11	12
Client Identification		PB-5	PB-6	SRB-1A	SRB-2A
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/07/95	03/07/95
Date Analyzed		03/07/95	03/07/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	10	11	12
Client Identification		PB-5	PB-6	SRB-1A	SRB-2A
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/07/95	03/07/95
Date Analyzed		03/07/95	03/07/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		74.7	78.1	71.6	77.1
2-Fluorobiphenyl surr., % rec.		69.9	63.0	74.6	77.8
d14-Terphenyl surr., % rec.		91.5	100	92.4	84.0
d5-Phenol surr., % rec.		85.0	92.6	78.0	84.4
2-Fluorophenol surr., % rec.		85.3	91.0	77.2	73.3
2,4,6-Tribromophenol surr., % rec.		84.1	78.5	80.5	90.6

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Result reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		14	15	23	24
Client Identification		SRB-4A	SRB-3A	SRB-1B	SRB-2B
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		14	15	23	24
Client Identification		SRB-4A	SRB-3A	SRB-1B	SRB-2B
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		73.6	75.3	80.4	77.6
2-Fluorobiphenyl surr., % rec.		77.0	75.2	83.0	71.4
d14-Terphenyl surr., % rec.		98.2	91.6	91.9	96.3
d5-Phenol surr., % rec.		81.3	82.0	88.5	85.3
2-Fluorophenol surr., % rec.		83.5	84.7	84.3	85.0
2,4,6-Tribromophenol surr., % rec.		73.4	97.4	73.2	71.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Result reported on a wet weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		25	26	030395 BNAS	030795 BNAS
Client Identification		SRB-4B	SRB-3B	METHOD BLANK	METHOD BLANK
Date Sampled		02/28/95	02/28/95	--	--
Date Extracted		03/07/95	03/07/95	03/03/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/06/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	740	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	710	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		25	28	030395 BNAS	030795 BNAS
Client Identification		SRB-4B	SRB-3B	METHOD BLANK	METHOD BLANK
Date Sampled		02/28/95	02/28/95	--	--
Date Extracted		03/07/95	03/07/95	03/03/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/08/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		81.0	79.7	98.4	77.0
2-Fluorobiphenyl surr., % rec.		78.2	74.9	98.6	78.9
d14-Terphenyl surr., % rec.		103	90.8	116	93.7
d5-Phenol surr., % rec.		85.6	87.5	92.9	86.3
2-Fluorophenol surr., % rec.		81.8	85.2	92.2	90.0
2,4,6-Tribromophenol surr., % rec.		77.3	79.8	83.8	94.8

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Results reported on a wet weight basis.

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: GC-FID[a]

GTEL Sample Number		16[b]	18[c]	21[b]	22[b]
Client Identification		SRB4	SRB2	SRB1	SRB3
Date Sampled		03/01/95	03/01/95	03/01/95	03/01/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/11/95	03/05/95	03/11/95	03/11/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<1000	<50	<2500	<2500
Detection Limit Multiplier		20	1	50	50
O-Terphenyl Surrogate, % recovery		580	129	90.2	74.5

GTEL Sample Number		GCJ 031095			
Client Identification		METHOD BLANK			
Date Sampled		–			
Date Extracted		03/03/95			
Date Analyzed		03/10/95			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<50			
Detection Limit Multiplier		1			
O-Terphenyl Surrogate, % recovery		124			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986.

b. Detection limit raised due to high concentration of non-target compounds.

c. Hydrocarbon pattern present in sample is not characteristic of diesel.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		NB-1-4.0	NB-1-7.5	PB-1	PB-2
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as Gas	10	<10	<10	NR	NR
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		69.9	92.0	76.8	68.2

GTEL Sample Number		07	08	09	10
Client Identification		PB-3	PB-4	PB-5	PB-6
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		73.9	110	85.3	86.6

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

NR = Not Requested

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		11	12	14	15
Client Identification		SRB-1A	SRB-2A	SRB-4A	SRB-3A
Date Sampled		02/28/95	02/28/95	03/01/95	03/01/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/12/95	03/12/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		70.7	83.9	103	83.2

GTEL Sample Number		23	24	GCJ 031095	25
Client Identification		SRB-1B	SRB-2B	METHOD BLANK	SRB-4B
Date Sampled		02/28/95	02/28/95	–	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/0895
Date Analyzed		03/12/95	03/12/95	03/10/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		65.6	87.3	120	79.0

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		26[c]	GCJ 031295		
Client Identification		SR8-3B	METHOD BLANK		
Date Sampled		02/28/95	--		
Date Extracted		03/08/95	03/08/95		
Date Analyzed		03/12/95	03/12/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10		
TPH as motor oil	100	<100	<100		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		52.5	99.4		

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

c. Hydrocarbon pattern present in sample not characteristic of diesel or motor oil.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		05	06	13	
Client Identification		PB1-6.0	PB3-7.0	SRB1-11.5	
Date Sampled		02/28/95	02/28/95	03/01/95	
Date Analyzed		03/03/95	03/03/95	03/03/95	
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	
Bromomethane	10	<10	<10	<10	
Vinyl chloride	10	<10	<10	<10	
Chloroethane	10	<10	<10	<10	
Methylene chloride	5	<5	<5	<5	
Acetone	50	<50	<50	<50	
Carbon disulfide	5	<5	<5	<5	
1,1-Dichloroethene	5	<5	<5	<5	
1,1-Dichloroethane	5	<5	<5	<5	
1,2-Dichloroethene, total	5	<5	<5	<5	
Chloroform	5	<5	<5	<5	
1,2-Dichloroethane	5	<5	<5	<5	
2-Butanone	20	<20	<20	<20	
1,1,1-Trichloroethane	5	<5	<5	<5	
Carbon tetrachloride	5	<5	<5	<5	
Vinyl acetate	50	<50	<50	<50	
Bromodichloromethane	5	<5	<5	<5	
1,2-Dichloropropane	5	<5	<5	<5	
cis-1,3-Dichloropropene	5	<5	<5	<5	
Trichloroethene	5	<5	<5	<5	
Dibromochloromethane	5	<5	<5	<5	
1,1,2-Trichloroethane	5	<5	<5	<5	
Benzene	5	<5	<5	<5	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		05	06	13	
Client Identification		PB1-6.0	PB3-7.0	SRB1-11.5	
Date Sampled		02/28/95	02/28/95	03/01/95	
Date Analyzed		03/03/95	03/03/95	03/03/95	
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	
2-Chloroethylvinyl ether	10	<10	<10	<10	
Bromoform	5	<5	<5	<5	
4-Methyl-2-pentanone	20	<20	<20	<20	
2-Hexanone	20	<20	<20	<20	
Tetrachloroethene	5	<5	<5	<5	
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	
Toluene	5	<5	<5	<5	
Chlorobenzene	5	<5	<5	<5	
Ethylbenzene	5	<5	<5	<5	
Styrene	5	<5	<5	<5	
1,2-Dichlorobenzene	10	<10	<10	<10	
1,3-Dichlorobenzene	10	<10	<10	<10	
1,4-Dichlorobenzene	10	<10	<10	<10	
Xylene, total	10	<10	<10	<10	
Trichlorofluoromethane	5	<5	<5	<5	
trans-1,2-Dichloroethene	5	<5	<5	<5	
cis-1,2-Dichloroethene	5	<5	<5	<5	
Detection Limit Multiplier		1	1	1	
1,2-DCA-d_4 surrogate, % recovery		101	99.6	103	
Toluene d_8 surrogate, % recovery		94.6	99.9	99.1	
BFB surrogate, % recovery		97.0	102	86.1	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		030395 MSSO-1			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		03/03/95			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10			
Bromomethane	10	<10			
Vinyl chloride	10	<10			
Chloroethane	10	<10			
Methylene chloride	5	<5			
Acetone	50	<50			
Carbon disulfide	5	<5			
1,1-Dichloroethene	5	<5			
1,1-Dichloroethane	5	<5			
1,2-Dichloroethene, total	5	<5			
Chloroform	5	<5			
1,2-Dichloroethane	5	<5			
2-Butanone	20	<20			
1,1,1-Trichloroethane	5	<5			
Carbon tetrachloride	5	<5			
Vinyl acetate	50	<50			
Bromodichloromethane	5	<5			
1,2-Dichloropropane	5	<5			
cis-1,3-Dichloropropene	5	<5			
Trichloroethene	5	<5			
Dibromochloromethane	5	<5			
1,1,2-Trichloroethane	5	<5			
Benzene	5	<5			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		030395 MSSO-1			
Client Identification		METHOD BLANK			
Date Sampled		–			
Date Analyzed		03/03/95			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5			
2-Chloroethylvinyl ether	10	<10			
Bromoform	5	<5			
4-Methyl-2-pentanone	20	<20			
2-Hexanone	20	<20			
Tetrachloroethene	5	<5			
1,1,2,2-Tetrachloroethane	5	<5			
Toluene	5	<5			
Chlorobenzene	5	<5			
Ethylbenzene	5	<5			
Styrene	5	<5			
1,2-Dichlorobenzene	10	<10			
1,3-Dichlorobenzene	10	<10			
1,4-Dichlorobenzene	10	<10			
Xylene, total	10	<10			
Trichlorofluoromethane	5	<5			
trans-1,2-Dichloroethene	5	<5			
cis-1,2-Dichloroethene	5	<5			
Detection Limit Multiplier		1			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	C5030027-01	750	mg/Kg	91.8	89.0	3.1	58 - 144
Diesel	LCS	750	mg/Kg	86.0	92.0	6.7	58 - 144
EPA 8270:							
Phenol	C5030038-01	3330	ug/Kg	72.6	75.5	3.9	26 - 90
2-Chlorophenol	C5030038-01	3330	ug/Kg	80.4	77.6	3.5	25 - 102
4-Chloro-3-methylphenol	C5030038-01	3330	ug/Kg	85.5	83.4	2.5	26 - 103
4-Nitrophenol	C5030038-01	3330	ug/Kg	95.7	89.0	7.3	11 - 114
Pentachlorophenol	C5030038-01	3330	ug/Kg	102	97.7	4.3	17 - 109
1,4-Dichlorobenzene	C5030038-01	1667	ug/Kg	81.8	76.0	7.4	28 - 104
N-Nitroso-di-n-propylamine	C5030038-01	1667	ug/Kg	79.2	72.2	9.2	41 - 126
1,2,4-Trichlorobenzene	C5030038-01	1667	ug/Kg	84.4	81.4	3.6	38 - 107
2,4-Dinitrotoluene	C5030038-01	1667	ug/Kg	83.2	81.0	2.7	28 - 89
Acenaphthene	C5030038-01	1667	ug/Kg	89.6	86.6	3.4	31 - 137
Pyrene	C5030038-01	1667	ug/Kg	95.0	91.6	3.6	75 - 142
EPA 8270:							
Phenol	LCS & DUP	3330	ug/Kg	73.8	72.3	2.0	26 - 90
2-Chlorophenol	LCS & DUP	3330	ug/Kg	82.6	81.8	1.0	25 - 102
4-Chloro-3-methylphenol	LCS & DUP	3330	ug/Kg	84.2	80.7	4.2	26 - 103
4-Nitrophenol	LCS & DUP	3330	ug/Kg	70.4	85.7	19.6	11 - 114
Pentachlorophenol	LCS & DUP	3330	ug/Kg	83.4	93.6	11.5	17 - 109
1,4-Dichlorobenzene	LCS & DUP	1667	ug/Kg	85.2	82.6	3.1	28 - 104
N-Nitroso-di-n-propylamine	LCS & DUP	1667	ug/Kg	78.4	74.8	4.7	41 - 126
1,2,4-Trichlorobenzene	LCS & DUP	1667	ug/Kg	88.8	84.8	4.6	38 - 107
2,4-Dinitrotoluene	LCS & DUP	1667	ug/Kg	76.6	83.2	8.3	28 - 89
Acenaphthene	LCS & DUP	1667	ug/Kg	88.8	89.6	0.9	31 - 137
Pyrene	LCS & DUP	1667	ug/Kg	101	102	1.0	75 - 142

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030027-05	50	ug/Kg	112	106	5.5	59 - 172
Trichloroethene	C5030027-05	50	ug/Kg	98.0	99.4	1.4	62 - 137
Benzene	C5030027-05	50	ug/Kg	96.0	94.8	1.3	66 - 142
Toluene	C5030027-05	50	ug/Kg	79.4	90.2	12.7	59 - 139
Chlorobenzene	C5030027-05	50	ug/Kg	91.2	92.4	1.3	60 - 133
EPA 8270:							
Phenol	C5030058-01	3330	ug/Kg	68.4	71.8	4.8	26 - 90
2-Chlorophenol	C5030058-01	3330	ug/Kg	81.4	84.0	3.1	25 - 102
4-Chloro-3-methylphenol	C5030058-01	3330	ug/Kg	82.0	91.9	11.4	26 - 103
4-Nitrophenol	C5030058-01	3330	ug/Kg	80.4	86.6	7.4	11 - 114
Pentachlorophenol	C5030058-01	3330	ug/Kg	96.0	107	10.8	17 - 109
1,4-Dichlorobenzene	C5030058-01	1667	ug/Kg	80.6	81.4	1.0	28 - 104
N-Nitroso-di-n-propylamine	C5030058-01	1667	ug/Kg	68.6	69.4	1.2	41 - 126
1,2,4-Trichlorobenzene	C5030058-01	1667	ug/Kg	81.2	85.8	5.5	38 - 107
2,4-Dinitrotoluene	C5030058-01	1667	ug/Kg	86.2	85.6	0.7	28 - 89
Acenaphthene	C5030058-01	1667	ug/Kg	84.6	86.2	1.9	31 - 137
Pyrene	C5030058-01	1667	ug/Kg	76.0	76.0	0	75 - 142
Metals:							
Antimony	C5030027-11	100	mg/Kg	86.2	84.6	1.91	80 - 120
Arsenic	C5030027-11	100	mg/Kg	104	102	1.30	75 - 125
Barium	C5030027-11	100	mg/Kg	94.0	88.0	2.43	80 - 120
Beryllium	C5030027-11	40	mg/Kg	92.9	89.6	3.64	80 - 120
Cadmium	C5030027-11	50	mg/Kg	95.3	92.2	3.34	80 - 120
Chromium	C5030027-11	100	mg/Kg	88.4	82.3	3.60	80 - 120
Cobalt	C5030027-11	100	mg/Kg	94.6	91.4	2.92	80 - 120
Copper	C5030027-11	100	mg/Kg	93.9	91.2	2.21	80 - 120
Lead	C5030027-11	100	mg/Kg	100	96.5	3.64	80 - 120
Molybdenum	C5030027-11	50	mg/Kg	91.7	88.9	3.09	80 - 120
Nickel	C5030027-11	100	mg/Kg	93.3	86.9	2.79	80 - 120
Selenium	C5030027-11	100	mg/Kg	93.1	86.9	6.87	75 - 125
Silver	C5030027-11	20	mg/Kg	101	96.6	3.97	80 - 120
Thallium	C5030027-11	100	mg/Kg	93.5	92.9	0.63	75 - 125
Vanadium	C5030027-11	100	mg/Kg	93.8	89.9	2.80	80 - 120
Zinc	C5030027-11	100	mg/Kg	97.6	95.1	1.68	80 - 120

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Metals:							
Antimony	C5030027-24	100	mg/Kg	87.5	92.9	6.04	80 - 120
Arsenic[a]	C5030027-24	100	mg/Kg	67.5	77.1	12.5	75 - 125
Barium[a]	C5030027-24	100	mg/Kg	67.3	68.1	0.32	80 - 120
Beryllium	C5030027-24	40	mg/Kg	92.9	95.3	2.51	80 - 120
Cadmium	C5030027-24	50	mg/Kg	94.1	96.0	2.03	80 - 120
Chromium	C5030027-24	100	mg/Kg	95.3	98.7	1.91	80 - 120
Cobalt	C5030027-24	100	mg/Kg	89.2	92.8	3.2	80 - 120
Copper	C5030027-24	100	mg/Kg	89.9	95.6	4.58	80 - 120
Lead	C5030027-24	100	mg/Kg	94.8	97.6	2.83	80 - 120
Mercury	C5030027-24	2.5	mg/Kg	106	92.0	14.1	75 - 125
Molybdenum	C5030027-24	50	mg/Kg	93.8	95.2	1.52	80 - 120
Nickel[a]	C5030027-24	100	mg/Kg	74.9	82.2	3.03	80 - 120
Selenium	C5030027-24	100	mg/Kg	94.8	99.8	5.18	75 - 125
Silver	C5030027-24	20	mg/Kg	98.1	100	2.01	80 - 120
Thallium	C5030027-24	100	mg/Kg	96.5	97.5	1.04	75 - 125
Vanadium	C5030027-24	100	mg/Kg	94.8	98.4	2.39	80 - 120
Zinc	C5030027-24	100	mg/Kg	93.4	102	5.12	80 - 120

a. Matrix spike recovery for this analyte demonstrated a matrix effect. Laboratory control sample indicated that the analysis was within control limits.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	ug/L	98.8	NA	NA	63 - 127

NA = Not Applicable

Chain-of-Custody Record

Date: 2-28-95 | Page 1 of 5

Project No: 2770

Samplers (Signatures): Preston Gaines 3/1/95

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	Title 22 Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01	2-28	0850	NB-1-4.0						X		X		X	S	N	1
02		0855	NB-1-7.5						X		X		X	S	N	1
03		1105	PB1-1.5				X		X		X	X	X	S	N	1
		1110	PB1-3.5				X		X		X	X	X	S	N	1
		1120	PB1-8.0				X		X		X	X	X	S	N	1
		1125	PB1-10.5				X		X		X	X	X	S	N	1
04		1215	PB2-2.0				X		X		X	X	X	S	N	1
		1220	PB2-4.5				X		X		X	X	X	S	N	1
		1230	PB2-7.5				X		X		X	X	X	S	N	1
		1235	PB2-11.0				X		X		X	X	X	S	N	1
05		1115	PB1-6.0			X							X	S	N	1
06	↓	1350	PB3-7.0			X							X	S	N	1

Composite (4-point) — Composite Sample - PB1

Composite (4-point) — Composite Sample - PB2

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

REMARKS

Additional comments

TPH analysis for motor oil and diesel by Modified EPA Method 8015
CCR Metals by EPA 6010/7000
Fax Results to Jeff Nelson @ 415/434-3216

RE: GTEL Quote No. QC950034 Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature:	
Printed name: Preston Gaines		Printed name: JOHN Weber		Printed name:	
Company: Geomatrix		Company: GTEL		Company:	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1805	Signature		Signature: RON JENSEN	19:30
Printed name: JOHN WEBER		Printed name	19:30	Printed name: GTEL	
Company: GTEL		Company		Company	

Method of shipment: Courier pick-up

Laboratory comments and Log No: 1 OF 5 C50B0027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No 4034 | Date 2-28-95 | Page 2 of 5

Project No: 2770

Samplers (Signatures): Preston Gaines 3/1/95

ANALYSES: EPA Method 8010; EPA Method 8020; EPA Method 8240; EPA Method 8270; TPH as gasoline; TPH as diesel; TPH as BTEX; TPH as motor oil; Title 22 Metals

REMARKS: Additional comments

LAB NO	Date	Time	Sample Number	Composited	Soil (S) or water (W)	Acidified	Number of containers	
	2-28	1345	PB3 - 1.5		S	N	1	TPH analysis for motor oil and diesel by modified EPA method 8015 - CCR metals by EPA 6010/7000. Fax Results to Jeff Nelson @ 415/434-3216
		1355	PB3 - 4.0		S	N	1	
07		1400	PB3 - 6.0	Composite (4-part)	S	N	1	Composite PB-3
		1405	PB3 - 9.5		S	N	1	
		1450	PB4 - 2.0		S	N	1	
		1455	PB4 - 4.5		S	N	1	
08		1500	PB4 - 7.0	Composite (4-part)	S	N	1	Composite PB-4
		1505	PB4 - 9.0		S	N	1	
		1545	PB5 - 2.0		S	N	1	
		1550	PB5 - 5.5		S	N	1	
09		1555	PB5 - 9.0	Composite (4-part)	S	N	1	Composite PB-5
	↓	1600	PB5 - 12.5		S	N	1	

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 12

RE: GTEL Quote No.: QC950034 Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1805	Signature		Signature: Ronald C. Jensen	3/1/95 19:30
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	19:30
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No

2 OF 5

C5030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4252 | Date: 2-28-95 | Page 3 of 5

Project No: 2770

Samplers (Signatures): Preston Gaines 195

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH w/ Mod. Cl.	Title 22 Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
10	2-28	1000	PB6 - 1.5				X		X		X	X	X	S	N	1
		1005	PB6 - 3.5				X		X		X	X	X	S	N	1
		1015	PB6 - 6.5				X		X		X	X	X	S	N	1
	↓	1020	PB6 - 10.5				X		X		X	X	X	S	N	1
11	3-1	1210	SRB1 - 2.0				X		X		X	X	X	S	N	1
		1215	SRB1 - 6.5				X		X		X	X	X	S	N	1
		1225	SRB1 - 12.5				X		X		X	X	X	S	N	1
		1235	SRB1 - 17.0				X		X		X	X	X	S	N	1
12		1015	SRB2 - 2.0				X		X		X	X	X	S	N	1
		1025	SRB2 - 5.0				X		X		X	X	X	S	N	1
		1030	SRB2 - 9.0				X		X		X	X	X	S	N	1
	↓	1035	SRB2 - 12.5				X		X		X	X	X	S	N	1

Composite (4-part)

SRB-1A

Composite (4-part)

SRB-1B

SRB-2A

Composite (4-part)

SRB-2B

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

REMARKS

Additional comments

- TPH analysis by modified EPA Method 8015
- CAM metals by EPA 6010/7000
- Fax results to Jeff Nelson @ 415 / 434-3216

Composite PB-6

Composite SRB-1 split per S.G. 3/2/95

Composite SRB-2 split per S.G. 3/2/95

RE: GTEL Quote No.: QC95034 Proj. No. 2770

Relinquished by	Date:	Relinquished by:	Date:	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time:**	**Received by**	**Time:**	**Received by**	**Time**
Signature: John Weber	1805	Signature	19:30	Signature: Ronald Jensen	3/1/95 19:30
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No:

3 OF 5

C5030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4036 | Date: 1 March 1995 | Page 4 of 5

Project No 2770

Samplers (Signatures) Preston Gaines

195

ANALYSES: EPA Method 8010 | EPA Method 8020 | EPA Method 8240 | EPA Method 8270 | TPH as gasoline | TPH as diesel | TPH as BTEX | TPH as motor oil | Title 22 Metals | Hold

REMARKS: Cooled | Soil (S) or water (W) | Acidified | Number of containers

LAB NO	Date	Time	Sample Number																
13	3-1	1220	SRB1-11,5			X										X	S	N	1
		0900	SRB4-2.0			X	X	X						SRB 4A		X	S	N	1
14		0905	SRB4-5.5			X	X	X						Composite		X	S	N	1
		0910	SRB4-9.5			X	X	X						(4-part)		X	S	N	1
		0915	SRB4-12.5			X	X	X						SRB 4B		X	S	N	1
		1555	SRB3-1.5			X	X	X						SRB 3A		X	S	N	1
15		1600	SRB3-5.5			X	X	X						Composite		X	S	N	1
		1610	SRB3-10.5			X	X	X						(4-part)		X	S	N	1
		1615	SRB3-14.0			X	X	X						SRB 3B		X	S	N	1
16		0920	SRB4A			X										X	W	Y	3
		0920	SRB4					X								X	W	N	2
17		1410	TB-1										X			X	W	Y	2

Additional comments:
- TPH analysis by EPA method 8015 (modified)
- CCR Metals by EPA 6010/7000
- Fax results to Jeff Nelson @ 415 / 434-3216

Composite SRB-4 split on 3/3/95

Composite SRB-3 split on 3/6/95

x Vials
x 1 liter amber
x VOAs (1 of 3 Blank)

RE: GTEL Quote No: QC95003A Proj No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 16

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1805	Signature		Signature: Ronald C. Jensen	3/1/95 19:30
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick up

Laboratory comments and Log No: 4 OF 5 CS030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No 4037 | Date 1 March 1995 | Page 5 of 5

Project No 2770

Samplers (Signatures) Preston Gaines

'95

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	MS/MSD	Cooled	Sample (S) or water (W)	Acidified Y=HCl	Number of containers
18	3-1	1115	SRB2			X						X	W	Y	3
		1115	SRB2					X	X		only	X	W	N	2
19		1150	SRMW1			X		cancelled per PG 3/13/95				X	W	Y	3
20		1200	SRMW102			X		cancelled per PG 3/13/95				X	W	Y	3
19		1150	SRMW1					X	X		cancelled per R.G. 3/13/95	X	W	N	1
20		1200	SRMW102					X	X		cancelled per R.G. 3/13/95	X	W	N	1
21		1320	SRB1			X					X	X	W	Y	3
		1320	SRB1					X	X		X	X	W	N	2
22		1650	SRB3			X						X	W	Y	3
	▼	1650	SRB3					X	X			X	W	N	2

ANALYSES

REMARKS

Additional comments

- TPH analysis by EPA method 8 (modified)
- Fax results to Jeff Nelson
- 3 x VOAs
- 2 x 1 lt. amber
- 3 x VOAs
- 3 x VOAs
- 1 x lt. amber
- 1 x lt. amber
- 3 x VOAs
- 2 x 1 lt. ambers
- 3 x VOAs
- 2 x 1 lt. ambers
- Run MS/MSD on SRB1

RE: GTEL quote No.: QC950034 Proj. No. 2710

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 23

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
John Weber				Signature: Ronald C. Jensen	3/1/95 1930
Signature: JOHN WEBER	1805	Signature		Printed name: RON JENSEN	
Printed name: John Weber		Printed name		Company: GTEL	
Company: GTEL		Company			

Method of shipment: Courier pick-up

Laboratory comments and Log No:

5 OF 5

C5030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

GEOMATRIX

GEOMATRIX CONSULTANTS

100 Pine Street, 10th Floor
San Francisco, California 94111
Tel: (415)434-9400 Fax: (415)434-1365

FAX TRANSMITTAL

TO: Bill Svoboda
GTEL

FAX: (510) 825-0720

FROM: Preston Gaines

PROJECT NO: 2770

DATE: 13 March 1995

TIME: 1715

COMMENTS:

Hi Bill;

- Per our telephone conversations Friday 3/10/95 and earlier today, please make the following changes to the various CoC analytical requests:

→ Place on HOLD the following samples:

① COC No. 4037; 3/1/95, 1150 SRMW19 and 1200 SRMW20

② COC No. 4045; 3/8/95, 0930 PLB1-12.0 and 1450 MW1

→ Please Analyze the following sample for TPH as gasoline, motor oil and diesel and EPA Method 8020:

③ COC No. 4042, 3/7/95, 0900 FB3-10.0 -97
15

PAGES INCLUDING THIS TRANSMITTAL: 1

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 24, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/17/95 under Chain-of-Custody Number(s) 4046.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

for

Rashmi Shah
Laboratory Director

GTEL Client ID: GMX01GMX01 ANALYTICAL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): Geomatrix Consultants Matrix: Aqueous

	GTEL Sample Number	C5030208-02	C5030208-03	--	--
	Client ID	SR-MW2	SR-MW1	--	--
	Date Sampled	03/16/95	03/16/95	--	--
	Date Analyzed	03/20/95	03/21/95	--	--
	Dilution Factor	1.00	2.00	--	--

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 10.	< 20.	--	--
Bromomethane	10.	ug/L	< 10.	< 20.	--	--
Vinyl chloride	10.	ug/L	< 10.	< 20.	--	--
Chloroethane	10.	ug/L	< 10.	< 20.	--	--
Methylene chloride	5.0	ug/L	< 5.0	< 10.	--	--
Acetone	20.	ug/L	< 20.	< 40.	--	--
Carbon disulfide	5.0	ug/L	< 5.0	< 10.	--	--
1,1-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1,1-Dichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Chloroform	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
2-Butanone	20.	ug/L	< 20.	< 40.	--	--
1,1,1-Trichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Carbon tetrachloride	5.0	ug/L	< 5.0	< 10.	--	--
Vinyl acetate	20.	ug/L	< 20.	< 40.	--	--
Bromodichloromethane	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichloropropane	5.0	ug/L	< 5.0	< 10.	--	--
cis-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 10.	--	--
Trichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
Dibromochloromethane	5.0	ug/L	< 5.0	< 10.	--	--
1,1,2-Trichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Benzene	5.0	ug/L	39.	39.	--	--
2-Chloroethyl vinyl ether	10.	ug/L	< 10.	< 20.	--	--
trans-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 10.	--	--
Bromoform	5.0	ug/L	< 5.0	< 10.	--	--
4-Methyl-2-pentanone	20.	ug/L	< 20.	< 40.	--	--
2-Hexanone	20.	ug/L	< 20.	< 40.	--	--
Tetrachloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Toluene	5.0	ug/L	< 5.0	< 10.	--	--
Chlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
Ethylbenzene	5.0	ug/L	200	180	--	--
Styrene	5.0	ug/L	< 5.0	< 10.	--	--
Xylenes (total)	10.	ug/L	15.	12.	--	--
1,3-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
1,4-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
Trichlorofluoromethane	5.0	ug/L	< 5.0	< 10.	--	--
trans-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030208-02	C5030208-03	--	--
Client ID	SR-MW2	SR-MW1	--	--
Date Sampled	03/16/95	03/16/95	--	--
Date Analyzed	03/20/95	03/21/95	--	--
Dilution Factor	1.00	2.00	--	--

Analyte	Reporting Limit	Units	Concentration:			
cis-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1,2-DCA-d4 (surrogate)	--	%	109.	103.	--	--
Toluene-d8 (surrogate)	--	%	109.	107.	--	--
BFB (surrogate)	--	%	105.	99.4	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1,2-DCA-d4, Toluene-d8 and BFB are 76-114, 88-110 and 86-115 respectively.

C5030208-02:

Data obtained from multiple dilutions. Dilution factor noted represents the dilution used for majority of results.

C5030208-03:

Detection limit raised due to inadaquate sample to repeat at neat.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8015
Matrix: Aqueous

GTEL Sample Number	C5030208-02	C5030208-03		
Client ID	SR-MW2	SR-MW1		
Date Sampled	03/16/95	03/16/95		
Date Analyzed	03/19/95	03/19/95		
Dilution Factor	2.00	2.00		

Analyte	Reporting Limit	Units		Concentration:		
TPH as GAS	100	ug/L	5000	5100	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Gasoline range hydrocarbon (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015.

GTEL ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel in Water

Modified EPA Methods 3510/8015[a]

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.

b. Hydrocarbon pattern not characteristic of diesel.

GTEL Sample Number		02[b]	03[b]	GCJ 032295	
Client Identification		SR-MW2	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	–	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50	<50	
Detection Limit Multiplier		1	1	1	
O-Terphenyl surrogate, % recovery		117	130	105	

GTEL ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL RESULTS
Semi-Volatile Organics in Water
EPA Method 8270[a]

GTEL Sample Number		01	03	032095 BNAW	
Client Identification		SR-BB1	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	–	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Phenol	10	<10	<10	<10	
bis(2-Chloroethyl)ether	10	<10	<10	<10	
2-Chlorophenol	10	<10	<10	<10	
1,3-Dichlorobenzene	10	<10	<10	<10	
1,4-Dichlorobenzene	10	<10	<10	<10	
Benzyl alcohol	10	<10	<10	<10	
1,2-Dichlorobenzene	10	<10	<10	<10	
2-Methylphenol	10	<10	<10	<10	
bis-(2-Chloroisopropyl)ether	10	<10	<10	<10	
4-Methylphenol	10	<10	<10	<10	
N-Nitroso-di-propylamine	10	<10	<10	<10	
Hexachloroethane	10	<10	<10	<10	
Nitrobenzene	10	<10	<10	<10	
Isophorone	10	<10	<10	<10	
2-Nitrophenol	10	<10	<10	<10	
2,4-Dimethylphenol	10	<10	<10	<10	
Benzoic acid	50	<50	<50	<50	
bis(2-Chloroethoxy)methane	10	<10	<10	<10	
2,4-Dichlorophenol	10	<10	<10	<10	
1,2,4-Trichlorobenzene	10	<10	<10	<10	
Naphthalene	10	<10	37	<10	
4-Chloroaniline	10	<10	<10	<10	
Hexachlorobutadiene	10	<10	<10	<10	
4-Chloro-3-methylphenol	10	<10	<10	<10	
2-Methylnaphthalene	10	<10	38	<10	
Hexachlorocyclopentadiene	10	<10	<10	<10	
2,4,6-Trichlorophenol	10	<10	<10	<10	
2,4,5-Trichlorophenol	50	<50	<50	<50	
2-Chloronaphthalene	10	<10	<10	<10	
2-Nitroaniline	50	<50	<50	<50	
Dimethylphthalate	10	<10	<10	<10	
Acenaphthylene	10	<10	<10	<10	
3-Nitroaniline	50	<50	<50	<50	
Acenaphthene	10	<10	<10	<10	
2,4-Dinitrophenol	50	<50	<50	<50	
4-Nitrophenol	50	<50	<50	<50	
Dibenzofuran	10	<10	<10	<10	

ANALYTICAL RESULTS
Semi-Volatile Organics in Water
EPA Method 8270[a]

GTEL Sample Number		01	03	032095 BNAW	
Client Identification		SR-BB1	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	–	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
2,4-Dinitrotoluene	10	<10	<10	<10	
2,6-Dinitrotoluene	10	<10	<10	<10	
Diethylphthalate	10	<10	<10	<10	
4-Chlorophenyl-phenylether	10	<10	<10	<10	
Fluorene	10	<10	<10	<10	
4-Nitroaniline	50	<50	<50	<50	
4,6-Dinitro-2-methylphenol	50	<50	<50	<50	
N-Nitrosodiphenylamine	10	<10	<10	<10	
4-Bromophenyl-phenylether	10	<10	<10	<10	
Hexachlorobenzene	10	<10	<10	<10	
Pentachlorophenol	50	<50	<50	<50	
Phenanthrene	10	<10	<10	<10	
Anthracene	10	<10	<10	<10	
Di-n-butylphthalate	10	<10	<10	<10	
Fluoranthene	10	<10	<10	<10	
Pyrene	10	<10	<10	<10	
Butylbenzylphthalate	10	<10	<10	<10	
3,3'-Dichlorobenzidine	20	<20	<20	<20	
Benzo(a)anthracene	10	<10	<10	<10	
bis(2-Ethylhexyl)phthalate	10	<10	<10	<10	
Chrysene	10	<10	<10	<10	
Di-n-octylphthalate	10	<10	<10	<10	
Benzo(b)fluoranthene	10	<10	<10	<10	
Benzo(k)fluoranthene	10	<10	<10	<10	
Benzidine	20	<20	<20	<20	
Benzo(a)pyrene	10	<10	<10	<10	
Indeno(1,2,3-cd)pyrene	10	<10	<10	<10	
Dibenz(a,h)anthracene	10	<10	<10	<10	
Benzo(g,h,i)perylene	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
d5-Nitrobenzene surr., % rec.		84.0	91.0	87.6	
2-Fluorobiphenyl surr., % rec.		88.4	97.1	91.8	
d14-Terphenyl surr., % rec.		87.7	94.0	101	
d5-Phenol surr., % rec.		36.8	c	37.3	
2-Fluorophenol surr., % rec.		61.6	c	38.7	
2,4,6-Tribromophenol surr., % rec.		76.6	116[c]	49.6	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3510.
b. Federal Register, Vol. 49, October 26, 1984. Sample extraction by EPA Method 3510.
c. Low acids surrogate recoveries due to matrix interferences.

ANALYTICAL RESULTS

CCR List of Metals in Water(TTLC)[a]

GTEL Sample Number			03	031795		
Client Identification			SR-MW1	METHOD BLANK		
Date Sampled			03/16/95	--		
Date Prepared[c]			03/17/95	03/17/95		
Date Analyzed (Method 6010A)			03/20/95	03/20/95		
Date Analyzed (Method 7060, 7421, 7740, 7841)			03/22-23/95	03/22-23/95		
Date Prepared and Analyzed (Method 7470)			03/22/95	03/22/95		
Analyte	Method[b]	Detection Limit, ug/L	Concentration, ug/L			
Antimony	EPA 6010A	50	<50	<50		
Arsenic	EPA 7060	5	25	<5		
Barium	EPA 6010A	5	95	<5		
Beryllium	EPA 6010A	5	<5	<5		
Cadmium	EPA 6010A	5	8	<5		
Chromium, total	EPA 6010A	10	<10	<10		
Cobalt	EPA 6010A	10	<10	<10		
Copper	EPA 6010A	10	<10	<10		
Lead	EPA 7421	5	<5	<5		
Mercury	EPA 7470	0.4	<0.4	<0.4		
Molybdenum	EPA 6010A	10	<10	<10		
Nickel	EPA 6010A	20	<20	<20		
Selenium	EPA 7740	5	<5	<5		
Silver	EPA 6010A	10	<10	<10		
Thallium	EPA 7841	5	<5	<5		
Vanadium	EPA 6010A	10	<10	<10		
Zinc	EPA 6010A	20	<20	<20		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992.
c. Unpreserved water sample was passed through a 0.45 micron filter and analyzed as a dissolved metal.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): Geomatrix Consultants Matrix: Aqueous

Method Blank Results

QC Batch No: 032195MSC-1
Date Analyzed: 21-MAR-95

Analyte	Method:EPA 8240A	Concentration: ug/L
Chloromethane	< 10.	
Bromomethane	< 10.	
Vinyl chloride	< 10.	
Chloroethane	< 10.	
Methylene chloride	< 5.0	
Acetone	< 20.	
Carbon disulfide	< 5.0	
1,1-Dichloroethene	< 5.0	
1,1-Dichloroethane	< 5.0	
Chloroform	< 5.0	
1,2-Dichloroethane	< 5.0	
2-Butanone	< 20.	
1,1,1-Trichloroethane	< 5.0	
Carbon tetrachloride	< 5.0	
Vinyl acetate	< 20.	
Bromodichloromethane	< 5.0	
1,2-Dichloropropane	< 5.0	
cis-1,3-Dichloropropene	< 5.0	
Trichloroethene	< 5.0	
Dibromochloromethane	< 5.0	
1,1,2-Trichloroethane	< 5.0	
Benzene	< 5.0	
2-Chloroethyl vinyl ether	< 10.	
trans-1,3-Dichloropropene	< 5.0	
Bromoform	< 5.0	
4-Methyl-2-pentanone	< 20.	
2-Hexanone	< 20.	
Tetrachloroethene	< 5.0	
1,1,2,2-Tetrachloroethane	< 5.0	
Toluene	< 5.0	
Chlorobenzene	< 5.0	
Ethylbenzene	< 5.0	
Styrene	< 5.0	
Xylenes (Total)	< 10.	
1,3-Dichlorobenzene	< 5.0	
1,4-Dichlorobenzene	< 5.0	
1,2-Dichlorobenzene	< 5.0	
Trichlorofluoromethane	< 5.0	
trans-1,2-Dichloroethene	< 5.0	
cis-1,2-Dichloroethene	< 5.0	

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	ug/L	117	114	2.6	63 - 127
EPA 8270:							
Phenol	LCS & DUP	100	ug/L	33.0	34.0	3.0	12 - 89
2-Chlorophenol	LCS & DUP	100	ug/L	86.8	92.0	5.8	27 - 123
4-Chloro-3-methylphenol	LCS & DUP	100	ug/L	86.6	85.8	0.9	23 - 97
4-Nitrophenol	LCS & DUP	100	ug/L	22.7	17.4	26.4	10 - 80
Pentachlorophenol	LCS & DUP	100	ug/L	75.8	78.1	3.0	19 - 103
1,4-Dichlorobenzene	LCS & DUP	50	ug/L	84.2	91.8	8.6	36 - 197
N-Nitroso-di-n-propylamine	LCS & DUP	50	ug/L	53.2	55.2	3.7	41 - 116
1,2,4-Trichlorobenzene	LCS & DUP	50	ug/L	87.8	88.8	1.1	39 - 98
2,4-Dinitrotoluene	LCS & DUP	50	ug/L	77.0	84.0	8.7	24 - 96
Acenaphthene	LCS & DUP	50	ug/L	93.0	97.4	4.6	46 - 118
Pyrene	LCS & DUP	50	ug/L	92.0	93.6	1.7	26 - 127
Metals:							
Antimony	C5030208-03	5000	ug/L	98.5	99.8	1.32	80 - 120
Arsenic	C5030208-03	50	ug/L	102	96	4.31	75 - 125
Barium	C5030208-03	5000	ug/L	98.3	98.9	0.56	80 - 120
Beryllium	C5030208-03	2000	ug/L	94.4	94.5	0.07	80 - 120
Cadmium	C5030208-03	2500	ug/L	99.6	101	1.24	80 - 120
Chromium	C5030208-03	5000	ug/L	99.2	99.7	0.45	80 - 120
Cobalt	C5030208-03	5000	ug/L	97.9	98.5	0.58	80 - 120
Copper	C5030208-03	5000	ug/L	97.5	97.9	0.39	80 - 120
Lead	C5030208-03	50	ug/L	94.6	92.4	2.35	75 - 125
Mercury	C5030208-03	10	ug/L	103	105	1.92	75 - 125
Molybdenum	C5030208-03	2500	ug/L	99.6	99.8	0.23	80 - 120
Nickel	C5030208-03	5000	ug/L	98.7	99.2	0.51	80 - 120
Selenium	C5030208-03	50	ug/L	102	110	6.99	75 - 125
Silver	C5030208-03	1000	ug/L	91.7	94.3	2.84	80 - 120
Thallium	C5030208-03	50	ug/L	89.8	93.2	3.72	75 - 125
Vanadium	C5030208-03	5000	ug/L	99.7	99.6	0.09	80 - 120
Zinc	C5030208-03	5000	ug/L	102	103	0.57	80 - 120

4046

Chain-of-Custody Record

No. ~~4047~~ 4046

Date 3-17-98

Page of

Project No.

Samplers (Signature)

LAB NO	Date	Time	Sample Number
01	3/16/98	0800	SR-BB1
02	↓	0900	SR-MW2
03	↓	1600	SR-MW1

ANALYSES

EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR-Metals
			X				
		X		X			
		X	X	X	X		X

REMARKS

Cooled	Soil (S) or water (W)	Acidified	Number of containers

Additional comment:

Pls. make Changes to COC No. 4046 as indicated

AMMENDED COC

Turnaround time:

Results to:

Total No. of containers

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:		Signature:		Signature:	
Printed name:		Printed name:		Printed name:	
Company:		Company:		Company:	
Received by:	Time:	Received by:	Time:	Received by:	Time:
Signature:		Signature:		Signature:	
Printed name:		Printed name:		Printed name:	
		Company:		Company:	

Method of shipment:

Laboratory comments and Log No.:

C5030208

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 9077

Date 16 March 1995 Page 1 of 1

Project No 2110

Samplers (Signature) Preston Gaines

ANALYSES

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	CCR-Metals	Matrix: Soil / Water	Acid etc.	Number of containers
01	3/16/95	0820	SR-BB1	1			X	X	X		X	X	W	N	2
02		0900	SR-MW2				X	X	X		X	X	W	Y/N	8
03		1600	SR-MW1				X	X	X		X	X	W	Y/N	8

REMARKS

Additional comments

TPH as diesel and motor oil by modified EPA 8015.
Title 22 metals samples must be filtered by GTEL using 0.45 micron filter then preserved w/ HNO_3 prior to analysis.
All 1 liter amber containers are not preserved. VOAs preserved w/ HCl.
Fax results to Preston @ 415/434-3216

GTEL
RE: Quote QC950034
Proj. 2770

Turnaround time Standard

Results to Preston Gaines

Total No of containers 18

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	3/17/95	Signature John Weber	3/17/95	Signature	
Printed name Preston Gaines		Printed name JOHN WEBER		Printed name	
Company Geomatrix		Company GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature John Weber	12:30	Signature	1600	Signature	
Printed name JOHN WEBER		Printed name RON JENSEN		Printed name	
Company GTEL		Company GTEL		Company	

Method of shipment Courier pick-up

Laboratory comments and Log No

5°C

C5030208

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 27, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030097
Project ID (number): 2770
Project ID (name): Geomatrix Constultants

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/08/95 under Chain-of-Custody Number(s) 4041, 4043, 4044, 4042.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

William Sanborn
for
Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel Fuel in Soil

Modified EPA Methods 3550/8015[a]

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.

GTEL Sample Number		15[c]	GCK 032295		
Client Identification		FB3-10	METHOD BLANK		
Date Sampled		03/06/95	–		
Date Extracted		03/22/95	03/22/95		
Date Analyzed		03/24/95	03/23/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel fuel	10	350	<10		
TPH as motor oil	1	<100	<100		
Detection Limit Multiplier		2	1		
OTP surrogate, % recovery		b	98.2		

b. Surrogate recovery > UCL due to target compound interference.
c. Sample was extracted past holding time.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	mg/Kg	78.1	76.4	2.2	58 - 144

GTEL Client ID: GMX01GMX01
Login Number: C5030097
Project ID (number): 2770
Project ID (name): Geomatrix Constultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8020
Matrix: Solids

GTEL Sample Number	C5030097-15
Client ID	FB3-10.0
Date Sampled	03/06/95
Date Analyzed	03/22/95
Dilution Factor	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	< 0.005	--	--	--
Toluene	0.005	mg/kg	< 0.005	--	--	--
Ethylbenzene	0.005	mg/kg	< 0.005	--	--	--
Xylenes (total)	0.015	mg/kg	< 0.015	--	--	--
TPH as GAS	1.0	mg/kg	< 1.0	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5030097-15:

Estimated concentration, surrogate recovery demonstrated sample specific matrix effect. Laboratory control sample indicated the analysis was within control limits. Sample was analyzed past recommended holding time.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8015
Project ID (name): Geomatrix Consultants Matrix: Aqueous

Method Blank Results

QC Batch No: Q031895-1
Date Analyzed: 18-MAR-95

Analyte	Method:EPA 8015	Concentration: ug/L
Benzene	< 0.30	
Toluene	< 0.30	
Ethylbenzene	< 0.30	
Xylenes (Total)	< 0.50	
Chlorobenzene	< 1.0	
1,3-Dichlorobenzene	< 1.0	
1,4-Dichlorobenzene	< 1.0	
1,2-Dichlorobenzene	< 1.0	
TPH as Gasoline	< 10.0	

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030097 Volatile Organics
Project ID (number): 2770 Method: EPA 8020
Project ID (name): Geomatrix Constultants Matrix: Solids

Matrix Spike and Matrix Spike Duplicate Results

Analyte	Original Concentration	Spike Amount	Matrix Spike Concentration	Matrix Spike Recovery, %	Matrix Spike Duplicate Concentration	Matrix Spike Duplicate Recovery, %	RPD, %	Acceptability Limits RPD, %	Acceptability Limits Recovery, %
EPA 8020	GTEL Sample ID:C5030143-14		Spike ID:F032195-3		Dup. ID:F032195-4				
Units: mg/kg	Analysis Date:15-MAR-95		21-MAR-95		21-MAR-95		Client ID:Batch QC		
Benzene	< 0.0050 **	0.0500	0.0497	99.4	0.0522	104.	4.5	40	48.8-129%
Toluene	< 0.0050 **	0.0500	0.0473	94.6	0.0498	99.6	5.1	40	52-123%
Ethylbenzene	< 0.0050 **	0.0500	0.0468	93.6	0.0486	97.2	3.7	40	55.4-122
Xylenes (Total)	< 0.015 **	0.150	0.154	103.	0.159	106.	2.8	40	55.1-130%

Notes:

**: C5030143-14: Benzene: For data validation purposes an estimated concentration of 0.000500, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Toluene: For data validation purposes an estimated concentration of 0.000700, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Ethylbenzene: For data validation purposes an estimated concentration of 0.000700, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Xylenes (Total): For data validation purposes an estimated concentration of 0.00200, which is below the reporting limit, was used to calculate the spike recovery results.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030097 Volatile Organics
Project ID (number): 2770 Method: EPA 8020
Project ID (name): Geomatrix Constultants Matrix: Solids

Method Blank Results

QC Batch No: F032195-1
Date Analyzed: 21-MAR-95

Analyte	Method:EPA 8020	Concentration: ug/L
Benzene	< 0.0050	
Toluene	< 0.0050	
Ethylbenzene	< 0.0050	
Chlorobenzene	< 0.50	
Xylenes (Total)	< 0.015	
1,2-Dichlorobenzene	< 0.10	
1,3-Dichlorobenzene	< 0.10	
1,4-Dichlorobenzene	< 0.10	
TPH as Gasoline	< 1.0	

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GEOMATRIX

GEOMATRIX CONSULTANTS

100 Pine Street, 10th Floor
San Francisco, California 94111
Tel: (415)434-9400 Fax: (415)434-1365

FAX TRANSMITTAL

TO: Bill Svoboda
GTEL

FAX: (510) 825-0720

FROM: Preston Gaines

PROJECT NO: 2770

DATE: 13 March 1995

TIME: 1715

COMMENTS:

Hi Bill;

- Per our telephone conversations Friday 3/10/95 and earlier today, please make the following changes to the various COC analytical requests:

→ Place on HOLD the following samples:

① COC No. 4037; 3/1/95, 1150 SRMW11 and 1200 SRMW102

② COC No. 4045, 3/8/95, 0930 PLB1-12.0 and 1450 MW1

→ Please Analyze the following sample for TPH as gasoline, motor oil and diesel and EPA Method 8020:

③ COC No. 4042, 3/7/95, 0900 FB3-10.0 -97.
15

PAGES INCLUDING THIS TRANSMITTAL: 1

Chain-of-Custody Record

No 4042 | Date 7 March 1995 | Page 4 of 4

Project No 2770

Samplers (Signatures)

195

LAB #	Date	Time	Sample Number	EPA Method 601C	EPA Method 602C	EPA Method 8240	EPA Method 827C	TPH as gasoline	TPH as diesel	TPH as BTEX	Mtbe	Hold	Cooled	Soil (S) or water (W)	Acidified	Number of containers
15	3-6	0900	FB3-10.0		X			X	X		X	X	X	S	N	1
16	↓	1530	WB2					X	X		X	X	X	W	Y/N	5
17	3-7	1040	WB1					X	X		X	X	X	W	Y/N	5

ANALYSES

REMARKS

Additional comments

For any results to:
Jeff Nelson
@ 415/434-3216

3 x VOAs, 2 x 1 lt. amber

3 x VOAs, 2 x 1 lt. amber

VOAs preserved w/ HCL

RE: GTEL Quote No.:
QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 11

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/7/95	Signature: John Weber	3/8/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1825	Signature	0900	Signature	
Printed name: JOHN WEBER		Printed name		Printed name	
Company: GTEL		Company		Company	

Method of shipment: Courier Pick-Up

Laboratory comments and Log No:
CONTAINERS INTACT, ON ICE AT 6°C

C5030097

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

2770 . 342

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 14, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 8, 1995 from your 2770.02 project.

Per your request, special attention was directed to carefully homogenize the samples. As seen from the duplicate results, the values found still had a degree of variability.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02
Date Samples Extracted: December 11, 1995
Date Extracts Analyzed: December 11, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR LEAD

Samples Processed Using Method 3050
Results Reported as mg/kg (ppm)

Sample ID	Lead
SRB13-1.5	590
SRB13-3.0	8
SRB14-1.5	170
SRB14-2.5	40
SRB15-1.0	22
SRB15-3.0	32
Method Blank	<4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR LEAD

Laboratory Code: 64693 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	6	7	15	0-30

Laboratory Code: 64693 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Lead	ug/g (ppm)	100	6	101	101	50-150	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02
Date Samples Extracted: December 11, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL BY GC/FID (Modified 8015)
Samples Processed Using Method 3550
Results Reported as µg/g (ppm)

Sample ID	Diesel	Motor Oil	Surrogate (% Recovery)
HFS2A-2.0	<10	<50	106
HFS3-0.5	530[a]	280	124
HFS3-2.0	660[a]	60	106
HFS4-0.5	20[a]	<50	106
HFS4-2.0	<10	<50	114
HFS5-0.5	<10	100	108
HFS5-2.0	<10	<50	112
HFS6-0.5	<10	<50	103
HFS6-2.0	10[a]	<50	111
Method Blank	<10	<50	102

[a] Material present is not indicative of Diesel.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (Modified 8015)

Laboratory Code: 64680 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	ug/g (ppm)	10	<10	nm	0-20

Laboratory Code: 64680 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel	ug/g (ppm)	500	10	110	105	59-143	5

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	Acceptance Criteria
Diesel	ug/g (ppm)	500	118	59-131

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

2770.02-034

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 14, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 7, 1995 from your 2770.02 project.

Per your request, special attention was directed to carefully homogenize the samples. As seen from the duplicate results, the values found still had a degree of variability.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02
Date Samples Extracted: December 8, 1995
Date Extracts Analyzed: December 8, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR ARSENIC, COPPER, LEAD, BARIUM AND ZINC

Samples Processed Using Method 3050

Results Reported as µg/g (ppm)

Sample ID	Arsenic	Copper	Lead	Barium	Cobalt	Zinc
E4-2.0	<2	32	8			
E7-0.5	2	86	64			
E7-2.0	6	18	12			
M13-3.5	2		6	72	10	27
M14-0.5	9		35	480	100	950
M14-2.0	23		46	110	38	190
M16-0.5	29		45	520	290	1,200
M16-2.0	4		12	130	42	280
E5-0.5	26	33	28			
E5-2.0	10	22	13			
M12-0.5	42		39	110	57	120
M12-2.0	11		11	120	23	61
SRB16-1.5	6					
SRB17-1.5	14					
SRB17-3.0	<2					
SRB18-1.5	10					
SRB18-3.5	4					
Method Blank	<2	<1	<2	<5	<1	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR ARSENIC, COPPER, LEAD, BARIUM AND ZINC

Laboratory Code: 64619 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	ug/g (ppm)	23	19	19	0-30
Copper	ug/g (ppm)	22	27	20	0-30
Lead	ug/g (ppm)	46	36	24	0-30
Barium	ug/g (ppm)	110	130	17	0-30
Cobalt	ug/g (ppm)	38	35	8	0-30
Zinc	ug/g (ppm)	190	220	15	0-30

Laboratory Code: (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	23	80	74	50-150	8
Copper	ug/g (ppm)	50	22	76	83	50-150	9
Lead	ug/g (ppm)	100	46	50	52	50-150	4
Barium	ug/g (ppm)	50	110	ai	ai	50-150	ai
Cobalt	ug/g (ppm)	100	17	100	99	50-150	1
Zinc	ug/g (ppm)	50	190	ai	ai	50-150	ai

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	96	94	80-120	2
Copper	ug/g (ppm)	50	96	98	80-120	2
Lead	ug/g (ppm)	100	96	95	80-120	1
Barium	ug/g (ppm)	50	109	108	80-120	1
Cobalt	ug/g (ppm)	100	110	110	80-120	0
Zinc	ug/g (ppm)	50	93	93	80-120	0

b - Variability attributable to sample.

ai - The amount spiked was insufficient to give meaningful recovery data.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR ARSENIC

Laboratory Code: 64652 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	ug/g (ppm)	14	6	80[a]	0-30

Laboratory Code: 64652 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	14	83	86	50-150	4

[a] - The analyte was detected less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02
Date Samples Extracted: December 7, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL BY GC/FID (Modified 8015)
Samples Processed Using Method 3550
Results Reported as µg/g (ppm)

Sample ID	Diesel	Motor Oil	Surrogate (% Recovery)
M13-3.5	80[a]	400	105
M14-0.5	10[a]	90	98
M14-2.0	70[a]	420	98
M16-0.5	350[a]	1,900	109
M16-2.0	130[a]	480	96
M12-0.5	40[a]	220	91
M12-2.0	<10	60	102
Method Blank	<10	<50	94

[a] Material present is not indicative of Diesel.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (Modified 8015)

Laboratory Code: 64646 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	ug/g (ppm)	<10	<10	nm	0-20

Laboratory Code: 64646 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel	ug/g (ppm)	500	<10	94	105	59-131	11

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	Acceptance Criteria
Diesel	ug/g (ppm)	500	97	58-139

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

KW
12.07.95
10:25

Chain-of-Custody Record

№ 8422

Date 5 December 1995

Project No 2770.02

Samplers (Signatures)
Preston Cowin
Richard A Tomlin

Date	Time	Sample Number	EPA Method 601C	EPA Method 8020	EPA Method 624C	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Copper	Lead	HOLD	Cooled	Soil (S) or water (W)	Acid/ice	Number of containers
12/5		E4 - 0.5													S	N	1
	1530	E4 - 2.0			64598					X	X	X			S	N	1
	1500	E4 - 4.5			64599								X		S	N	1
	1535	E7 - 0.5			64600					X	X	X			S	N	1
	1540	E7 - 2.0			64601										S	N	1
	1545	E7 - 4.5			64602								X		S	N	1
	1550	E8 - 0.5			64603										S	N	1
	1555	E8 - 2.0			64604										S	N	1
	1600	E8 - 4.5			64605								X		S	N	1
	1350	E9 - 0.5			64606										S	N	1
	1400	E9 - 2.0			64607										S	N	1
	1440	E9 - 4.5			64608								X		S	N	1

ANALYSES

REMARKS

Additional comments

Total
- Metals by EPA 6010
- Please homogenize each entire sample prior to analyzing.

As, Cu and Pb only

Fax results ASAP to Elizabeth Wells at 415 +434-1365

Turnaround time: 3 to 5 days (Standard)

Results to: Elizabeth Wells

Total No. of containers: 11

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name: Preston Cowin	1630	Printed name		Printed name	
Company: Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	12.7.95	Signature		Signature	
Printed name: C. DOWNING	9:15	Printed name		Printed name	
Company: HBI		Company		Company	

Method of shipment: Fed-Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

NW NL
12.7.95
10:25

Chain-of-Custody Record

№ 8421

Date 5 December 1995 Page 2 of 6

Project No 2770.02

Samplers (Signatures)
Preston Gaines
'95 Neil Pond M. Taylor

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold	Composite	Soil or water	Acidified	Number of containers
12-5	1310	E10-0.5															S	N	1
	1315	E10-2.0															S	N	1
	1410	E10-4.5															S	N	1
	0850	E11-0.5															S	N	1
	0855	E11-2.0															S	N	1
	0900	E11-4.5															S	N	1
	1040	M13-0.5															S	N	1
	1000	M13-3.5						X	X	X	X	X	X	X			S	N	1
	1020	M13-7.5													X		S	N	1
	1250	M14-0.5						X	X	X	X	X	X	X			S	N	1
	1320	M14-2.0						X	X	X	X	X	X	X			S	N	1
	1325	M14-5.0													X		S	N	1

Turnaround time 3-5 days

Results to Elizabeth Wells

Total No of containers 12

REMARKS

Additional comments

Total
- Metals analyses by EPA 6010 (As, Ba, Co, Pb, Zn only)
- TPH as diesel by modified EPA method 8015 Subsequent to silica gel cleanup. Run per EW 12/14/95
- Please homogenize ~~entire sample~~ prior to analysis; that portion of sample used for metals analysis.

Fax results ASAP to Elizabeth Wells at 415-434-1365

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Preston Gaines		Printed name		Printed name	
Company Geomatrix	1630	Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	12.7.95	Signature		Signature	
Printed name C. DOWNING	9:15	Printed name		Printed name	

Method of shipment Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor

KW AI 12.7.95 12125

Chain-of-Custody Record

№ 8423

Date 5 December 1995

Project No 2770.02

Samplers (Signatures) Tucker Cain

1995 Rutland A. Tapley

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12-5	1050	M16 - 0.5		64621				X		X	X	X	X	X		X	S	N	1
	1055	M16 - 2.0		64622				X		X	X	X	X	X		X	S	N	1
	1100	M16 - 4.0		64623											X	X	S	N	1
	1150	M17 - 0.5		64624											X	X	S	N	1
	1155	M17 - 2.0		64625											X	X	S	N	1
	1200	M17 - 4.5		64626											X	X	S	N	1
	1120	M18 - 0.5		64627											X	X	S	N	1
	1140	M18 - 2.0		64628											X	X	S	N	1
	1130	M18 - 4.0		64629											X	X	S	N	1
12-6	0855	E1 - 0.5		64630											X	X	S	N	1
	0900	E1 - 2.0		64631											X	X	S	N	1
	0905	E1 - 4.5		64632											X	X	S	N	1

Turnaround time 3 to 5 days

Results to Elizabeth Wells

Total No of containers 12

REMARKS

Additional comments

- Metals analyses by EPA 6010 (As, Ba, Co, Pb and Zn only).
- TPH as diesel by modified EPA Method 8015 ~~Subsequent to silica gel cleanup~~ with no extraction
- Please homogenize, prior to analyzing, that portion of each sample used for metals analyses.

~~Silica gel~~

Fax results ASAP to Elizabeth Wells at 415 / 434-1365

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature Tucker Cain	12/6/95	Signature		Signature	
Printed name Preston Gaines		Printed name		Printed name	
Company Geomatrix	1630	Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature Cathy Downing	12.7.95	Signature		Signature	
Printed name Cathy Downing	9:15	Printed name		Printed name	
Company F.R.T.		Company		Company	

Method of shipment Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 434-9400

Chain-of-Custody Record

№ 8452

Date 6 December 1995

Page 4 of

Project No 2770.02

Samplers (Signatures)

195 Nallaxi / A Tarpley

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Copper	Lead	Hold	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/6	0920	E2 - 0.5	64633										X	X	S	N	1
	0925	E2 - 2.0	64634										X	X	S	N	1
	0930	E2 - 4.5	64635										X	X	S	N	1
12/5	1630	E3 - 0.5	64636										X	X	S	N	1
12/5	1635	E3 - 2.5	64637										X	X	S	N	1
12/6	1000	E3 - 4.0	64638										X	X	S	N	1
	1020	E5 - 0.5	64639							X	X	X	X	X	S	N	1
	1025	E5 - 2.0	64640							X	X	X	X	X	S	N	1
	1030	E5 - 4.5	64641							X	X	X	X	X	S	N	1
	0820	E6 - 0.5	64642										X	X	S	N	1
	0825	E6 - 2.0	64643										X	X	S	N	1
	0830	E6 - 4.5	64644										X	X	S	N	1

ANALYSES

REMARKS

Additional comments

Total metals by EPA 6010 (As, Cu, Pb only)

Fax results to Elizabeth Wells @ 415 / 434-1365

Turnaround time: 3 to 5 days

Results to: Elizabeth Wells

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name: Preston Gerlos	1630	Printed name		Printed name	
Company: Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	12.7.95	Signature		Signature	
Printed name: C. Dowling	9:15	Printed name		Printed name	
Company: FMI		Company		Company	

Method of shipment: Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 434 9400

Chain-of-Custody Record

№ 8453

Date 6 December 1995 | Page 5 of 6

Project No 2770.02

Samplers (Signatures) Preston Cowie
Ian Nathaniel A Taylor

Date	Time	Sample Number
12/6	1050	M12 - 0.5
	1055	M12 - 2.0
	1140	M12 - 3.5
	0740	M15 - 0.5
	0750	M15 - 2.0
	0800	M15 - 4.5

ANALYSES

EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold
64645					X		X	X	X	X	X	
64646					X		X	X	X	X	X	
64647												X
64648												X
64649												X
64650												X

REMARKS

Cooled	Soil (S) or water (W)	Acidified	Number of containers
X	S	N	1
X	S	N	1
X	S	N	1
X	S	N	1
X	S	N	1
X	S	N	1

Additional comments

Total Metals analyses by EPA 6010 (As, Ba, Co, Pb, and Zn only)
-TPH as diesel by modified EPA Method 8015 ~~after passing~~ Silica gel ~~cleanup~~ with per sample
- Please homogenize prior to analyzing the portion of sample used for metals analysis.

Fax results to Elizabeth Wells @ 415/434-1365

Turnaround time 3 to 5 days

Results to Elizabeth Wells

Total No of containers 6

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Preston Cowie	1630	Printed name		Printed name	
Company Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	6:7:95	Signature		Signature	
Printed name Ian Downing	9:15	Printed name		Printed name	
Company FBF		Company		Company	

Method of shipment Fed Ex

Laboratory comments and Log No

Geometrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 434 9400

TW 12/7/95 10:25

Chain-of-Custody Record

№ 8424

Date 12-6-95

Page 6 of 6

Project No 2770 02

Samplers (Signatures) Peter Craig, Mikael A Tal-

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/6	1350	SRB16-1.5		64651						X		X	S	N	1
12/6	1420	SRB17-1.5		64652						X		X	S	N	1
12/6	1425	SRB17-3.0		64653						X		X	S	N	1
12/6	1430	SRB17-5.5		64654							X	X	S	N	1
12/6	1435	SRB17-8.5		64655							X	X	S	N	1
12/6	1515	SRB18-1.5		64656						X		X	S	N	1
12/6	1535	SRB18-3.5		64657						X		X	S	N	1
12/6	1455	SRB18-5.5		64658							X	X	S	N	1
12/6	1500	SRB18-8.5		64659							X	X	S	N	1

ANALYSES

REMARKS

Additional comments

- Method 6010 for Arsenic only (total not W) Homogenize prior to analyzing, that portion of each sample used for Arsenic Analysis.

Fax Results ASAP to Elizabeth Wells 415 / 434-1365

Turnaround time 3 to 5 days (Standard)

Results to Elizabeth Wells

Total No of containers 9

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Peter Craig		Printed name		Printed name	
Company Geomatrix	16:30	Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature		Signature		Signature	
Printed name	9:15	Printed name		Printed name	
Company FGL	9/11/95	Company		Company	

Method of shipment FED-EX

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 434 9400

KW B7
12.8.95
12:05

Chain-of-Custody Record

№ 8425

Date 12/7/95

Page 1 of 3

Project No: 2770.02

Samplers (Signatures): Nathaniel A Taylor

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	HLD			Coded	Soil (S) or water (W)	Acidified	Number of containers
12/7	0830	HFS2A-2.0						X		X			64668	Y	S	N	1
	0840	HFS2A-4.5									X		64669	Y	S	N	1
	0750	HFS3-0.5						X		X			64670	Y	S	N	1
	0900	HFS3-2.0						X		X			64671	Y	S	N	1
	0910	HFS3-4.5									X		64672	Y	S	N	1
	0950	HFS4-0.5						X		X			64673	Y	S	N	1
	0900	HFS4-2.0						X		X			64674	Y	S	N	1
	0910	HFS4-4.5									X		64675	Y	S	N	1
	0930	HFS5-0.5						X		X			64676	Y	S	N	1
	0935	HFS5-2.0						X		X			64677	Y	S	N	1
	0940	HFS5-4.5									X		64678	Y	S	N	1
	0945	HFS6-0.5						X		X			64679	Y	S	N	1

ANALYSES

REMARKS

Additional comments

- TPH as diesel/motor oil by Modified EPA method 8015, subsequent to silica gel clean-up

Please Fax Results to: Elizabeth Wells at 415 / 434-9400

Turnaround time: 3 to 5 days (standard)

Results to: Elizabeth Wells

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathaniel A. Taylor	12/7/95				
Signature: NATHANIEL A. TAYLOR		Signature		Signature	
Printed name: GEOMATRIX	1500	Printed name		Printed name	
Company		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment: FED-EX

Laboratory comments and Log No

5 Day TAT?

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

KW 12.8.95 12:05

Chain-of-Custody Record

№ 8426

Date 12/7/95

Project No
2770.02

Samplers (Signatures)
Nathaniel A Taylor
'95 Paula Cruz

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	Lead (Pb)	HOLD	Coolec	Soil (S) or water (W)	Acidifec	Number of containers
12/7	0950	HFS6-2.0						X		X		64680		Y	S	N	1
12/7	0955	HFS6-4.5										64681	X	Y	S	N	1
	1400	SRB 13 1.5									X	64682		Y	S	N	1
	1405	SRB 13-3.0									X	64683		Y	S	N	1
	1340	SRB 13-5.5										64684	X	Y	S	N	1
	1350	SRB 13-5.5										64685	X	Y	S	N	1
	1240	SRB 14-1.5									X	64686		Y	S	N	1
	1320	SRB 14-2.5									X	64687		Y	S	N	1
	1255	SRB 14-5.5										64688	X	Y	S	N	1
	1300	SRB 14-5.5										64689	X	Y	S	N	1
	1410	SRB 15-1.0									X	64690		Y	S	N	1
	1415	SRB 15-3.0									X	64691		Y	S	N	1

ANALYSES

REMARKS

Additional comments

- Total Lead by EPA method 6010
- Homogenize entire metals sample prior to analysis
- TPH as diesel and motor oil by modified 8015, subsequent to silica gel clean-up

Please Fax Results ASAP to: 415 743 4505 Elizabeth Wells

Turnaround time: 3 to 5 Days (standard)

Results to: Elizabeth Wells

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathaniel A Taylor	12/7/95				
Signature: NATHANIEL A. TAYLOR	1500	Signature		Signature	
Printed name: GEOMATRIX		Printed name		Printed name	
Company		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment: FED-EX

Laboratory comments and Log No

Geometrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

KW B+
12.8
12:05

Chain-of-Custody Record

№ 8427

Date 12/7/95

Page 3 of 3

Project No 2770.02

Samplers (Signatures)
Nathaniel A. Taylor
Peter Cini
'95

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	HOLD		Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/7	1425	SB315-5.5								X	64692	X	S	N	1
12/7	1430	SB315-5.5								X	64693	X	S	N	1

ANALYSES

REMARKS

Additional comments

Hold both samples please.

~~Fax Results ASAP to:~~
~~Elizabeth Wells~~
~~415/434-1365~~

Turnaround time HOLD
~~3 hr 5 Days (Standard)~~

Results to Elizabeth Wells

Total No of containers 2

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathaniel A. Taylor	12/7/95				
Signature NATHANIEL A. TAYLOR	1500	Signature		Signature	
Printed name GEOMATRIX		Printed name		Printed name	
Company		Company		Company	
Received by	Time	Received by	Time	Received by	Time
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment FED-EX

Laboratory comments and Log No

Geometrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

2770-0342

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 21, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 13, 1995 from your 2770.02 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1221R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 21, 1995
Date Received: December 13, 1995
Project: 2770.02
Date Samples Extracted: December 14, 1995
Date Extracts Analyzed: December 14, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR LEAD

Results Reported as µg/g (ppm)

Sample ID	Lead
SRB14-5.5	5
SRB15-5.5	6
Method Blank	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 21, 1995
Date Received: December 13, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR LEAD

Laboratory Code: 64620 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	11	13	17	0-30

Laboratory Code: 64620 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	100	11	97	50-150

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Lead	ug/g (ppm)	100	100	101	80-120	1

P.1/1

FAX TRANSMITTAL

GEOMATRIX

TO: Friedman & Bruya

COMPANY: Kelley Wilt

FAX NO.: (206) 283-5044

FROM: Elizabeth Wells

DATE: 12/13/95

PROJECT NO.: 2770.02

TOTAL PAGES. 1

REQUEST FOR CHEMICAL ANALYSES OF SAMPLES HELD AT FRIEDMAN & BRUYA

Page 1 of 1

Sample No.	Sample Date	Sample Time	Chain-of-Custody No.	Analyses Requested	Comments
SRB14-5.5	12/7	?	~~8428~~ 8426	Pb 64688	
SRB15-5.5	12/7	1425	8427	Pb 64692	
Turnaround time: 3-5 days				Results to: Elizabeth Wells	

DEC 13 '95 04:28PM GEOMATRIX S.F.

CONTR\2770\CHEM FAX

Southern Pacific
Transportation Company

Southern Pacific Building • One Market Plaza • San Francisco, California 94105

WATER QUALITY CONTROL BOARD REGION 1

AUG 15 '90

August 13, 1990

Santa Rosa -- UST

☐BK ___ ☐RK ___
☐CJ ___ ☐LR ___
☐FR ___ ☐BB ___
☐RT ___ ☐KD ___
☐JH ___ ☐JS ___
☐SH ___ ☐MC ___
☐ ___ ☐REPLY
☐ALL STAFF ☐FILE

Mr. Michael Cloud
Regional Water Quality Control Board
1440 Guerneville Road
Santa Rosa, CA 95403

RE: Third Street Culvert, Santa Rosa

Dear Mike:

I enjoyed meeting with you at the subject site on August 8, 1990. I have completed the questionnaire you sent a few weeks ago and have attached it to this letter.

Based upon our discussion, I checked our files for underground tanks. Southern Pacific Transportation Co. (SPTCo.) pulled five tanks from the study area in December, 1987. Laboratory analyses of soils samples from each of the five tank pits indicated non-detectable levels of BTX, TVPH, TEPH, EDB, and lead. Only one tank, a 50 gallon fuel oil tank, appeared to have corrosion holes. At the request of the Fire Dept. person on site at the time of the pull (Mr. John Zanzi), water found in the tank was sampled for BTX; the results were non-detect for BTX. According to the Fire Dept. Site Report, the tank appeared to be abandoned for many years. There was no evidence of product. I have attached a copy of the tank removal report for your information.

Our files indicate that the Regional Board queried SPTCo. about these same tanks on the same parcel back in 1988. The conclusion on September 21, 1988, by Christine Scheib, Intern Environmental Specialist with the RWQCB, was that the subject case was closed. I have no new information that updates what was provided to your office two years ago.

Per your request, I searched our records for any information regarding an underground fuel tank on former railroad property adjacent to and south of 3rd Street, near the creek. I found no reference to any such tank in the SP files. Records indicate that the property in question was sold by the San Francisco & North Pacific Railroad to California Fruit Canners Association in 1916.

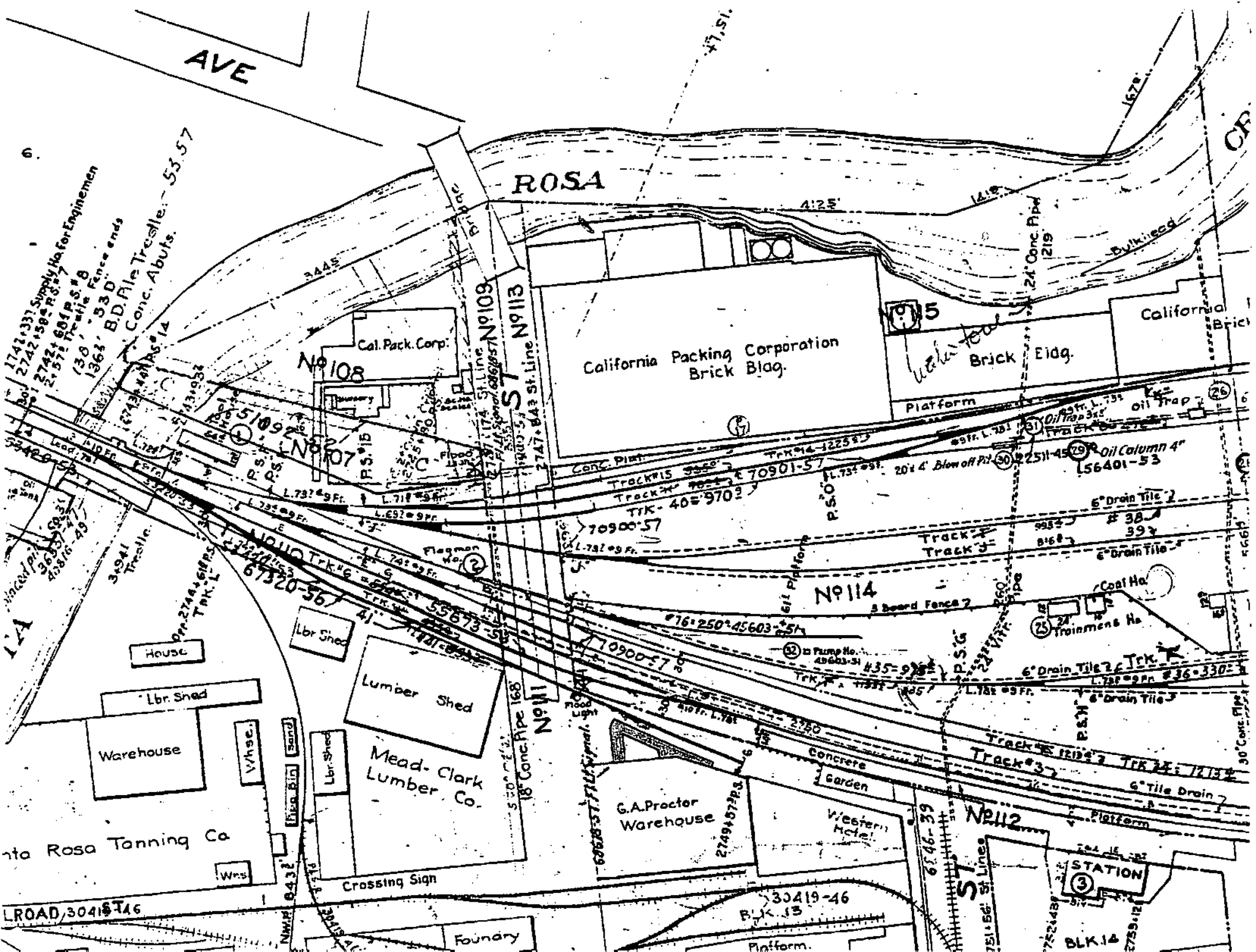
Please call me at 415/541-2559 if I can be of any further assistance.

Sincerely,

Randall T. Smith
SP ENVIRONMENTAL SYSTEMS, INC.

attachment

strosa.rts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Cal. Pack. Corp.
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Brick Bldg.
Platform
Lumber Shed
Mead-Clark Lumber Co.
Warehouse
Lbr. Shed
House
Foundry
G.A. Proctor Warehouse
Western Hotel
Garden
Concrete
Crossing Sign
Coal Ho.
Trainmen's Ho.
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Santa Rosa Tanning Co
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
NORTH COAST REGION

CHEMICAL STORAGE AND USE QUESTIONNAIRE

I. COMPANY NAME: Southern Pacific Transportation Co.

II. FACILITY ADDRESS: Fourth St. near Wilson, Santa Rosa, CA

III. CHEMICAL STORAGE AND USE AT THE SITE. Complete Sections A-G for all chemicals in current use or that have been used in the past, use additional sheets if necessary.

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: Diesel

C. METHOD OF STORAGE: UNDERGROUND TANK ✓ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 10,000 gal

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: NA

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___ NA

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: Leaded gasoline

C. METHOD OF STORAGE: UNDERGROUND TANK ✓ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 10,000 gallons in one tank, 230 gallons in other

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: Fuel Oil

C. METHOD OF STORAGE: UNDERGROUND TANK X ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: 230 gal + 50 gal tanks.

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: _____

C. METHOD OF STORAGE: UNDERGROUND TANK ___ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: _____

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

A. CHEMICAL NAME: _____ B. COMMON/TRADE NAME: _____

C. METHOD OF STORAGE: UNDERGROUND TANK ___ ABOVE GROUND TANK ___ BARRELS ___
OTHER (specify) _____

D. QUANTITY STORED: _____

E. WASTE DISPOSAL METHOD: SEWERED ___ HAULED ___ ON-SITE DISPOSAL ___

F. IS THE WASTE TREATED PRIOR TO DISPOSAL: YES ___ NO ___
If yes, method of treatment: _____

G. IS THE WASTE STORED PRIOR TO DISPOSAL: YES ___ NO ___

IV. FACILITY INFORMATION

A. STANDARD INDUSTRIAL CODE (SIC): 4011

B. GENERATOR NUMBER (EPA/STATE): No number for this site

C. BRIEF DESCRIPTION OF OPERATIONS:

Equipment storage at present. Formerly, vehicle fueling, freight loading, passenger train service, and steam locomotive fueling

D. HISTORY: DATE OPERATIONS BEGAN: 1900s, perhaps late 1800s
PRIOR OWNERS: Peter Donahue
J.M. Donahue, John F. Boyce

E. ASSESSOR'S PARCEL NUMBER: 010-171-05; 00-171-04

V. THIS QUESTIONNAIRE SHALL BE SIGNED BELOW AS FOLLOWS:

A. In the case of corporations, by a principal executive officer at the level of vice-president or his duly authorized representative if such representative is responsible for the overall operation of the facility, or

B. In the case of a partnership, by a general partner, or

C. In the case of a sole proprietorship, by the proprietor, or

D. In the case of a municipal, state, or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.

This questionnaire has been completed under penalty of perjury and, to the best of my knowledge, is true and correct.

Signature: Randy T. Smith Date: Aug 13, 1990

Printed Name: RANDALL T. SMITH

Title: Project Consultant Phone: 415/541-2559

Contact Name: _____

Title: _____ Phone: _____

CanonieEnvironmental

Canonie Environmental Services Corp
1825 South Grant Street
Suite 260
San Mateo, California 94402
Phone: 415-573-8012

June 30, 1988

87-055.33

Mr. John Zanzi
Fire Inspector
Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404

Transmittal
Southern Pacific Transportation Company
Underground Storage Tank Removal
Santa Rosa, California

Dear Mr. Zanzi:

On behalf of Southern Pacific Transportation Company, we are submitting the Final Site Report for the underground storage tank removal that was done by Canonie Environmental Services Corp. for Southern Pacific. If you have any questions regarding the Final Site Report, please call us.

Very truly yours,

Alan Muellerleile
Project Engineer

Jeffrey A. Klaiber /SDL
Jeffrey A. Klaiber
Project Supervisor

AM/JAK/ssm

cc: Tim Becker, Southern Pacific

Canonie Environmental

Canonie Environmental Services Corp.
123 South Linden Street
Suite 200
San Mateo, California 94401
Phone 415/573-8011

June 27, 1988

87-055.33

Mr. Tim P. Becker
Southern Pacific Building
One Market Plaza, Room 1007
San Francisco, CA 94105

Final Site Report
Underground Storage Tank Removal
Santa Rosa, California

Dear Tim:

Enclosed, please find the results of the underground storage tank removal activities performed by Canonie Environmental Services Corp. (Canonie) at the Southern Pacific Transportation Co. (Southern Pacific) rail yard in Santa Rosa, California (Figure 1). This letter summarizes the underground storage tank removals and soil sampling associated with the removal of the five tanks from the site. The work was performed on December 11, 14, and 15, 1987, in accord with the July 17, 1987, engineering agreement between Canonie and Southern Pacific. As detailed herein, Canonie considers these tank removals completed.

In response to the California Administrative Code, Title 23, Chapter 3, Water Resources Control Board, Subchapter 16, Underground Storage Tank Regulations, Canonie was retained by Southern Pacific to remove underground storage tanks from many of their California sites. The activities at Santa Rosa included:

- Removal of one 10,000-gallon diesel tank
- Removal of one 10,000-gallon leaded gasoline tank
- Removal of one 230-gallon leaded gasoline tank
- Removal of one 230-gallon fuel oil tank
- Removal of one 50-gallon fuel oil tank
- Associated soil and ground water sampling
- Backfilled the tank pits with clean soil.
- Compacted the soil to minimize settling.

The tanks were manifested and transported by Erickson Trucking, Inc. as hazardous waste to Erickson Inc's TSD facility in Richmond, California for proper disposal. Copies of the certificates of disposal and uniform hazardous waste manifests are provided in Attachment B.

Tank Removal Activities

The activities associated with removal of the 10,000-gallon diesel tank located beside the fueling island, as shown on Figure 2, consisted of the following:

- Removed one 10,000-gallon diesel tank (Tank 24). The tank removal procedures are outlined in Attachment A. No holes, signs of leakage, or overfilling were noted upon removal.

- Obtained two soil samples at 11 feet below grade, SS-T1-I and SS-T1-0 in the tank pit sidewall directly above the soil-water interface. The samples were analyzed for total extractable petroleum hydrocarbons (TEPH). The sampling locations are shown on Figure 2 and sampling methodology and preservation are described in Attachment A.

The activities associated with removal of the leaded gasoline tanks, as shown on Figures 2 and 3 consisted of the following:

- Removed one 10,000-gallon and one 230-gallon gasoline tank (Tank 25, Figure 2; Tank C, Figure 3). A slight discoloration of the soil was evident, but no holes or signs of leakage were noted upon removal.

- Obtained two soil samples, SS-T2-I and SS-T2-0, at 11 feet below grade, directly above the soil-water interface, and one water sample, W-1g, from Tank Pit 25. The samples were analyzed for total volatile petroleum hydrocarbons (TVPH), lead (Pb), ethylene dibromide (EDB) and benzene, toluene, xylene (BTX). Obtained soil sample SS-C1 from Tank Pit C, two feet below the tank. The sample was analyzed for total entractable petroleum hydrocarbons (TEPH). The sampling locations are shown on Figures 2 and 3.

The activities associated with removal of the fuel oil tank located beside the office, as shown on Figure 2, consisted of the following:

- Removed one 230-gallon fuel oil tank (Tank A, Figure 2). No holes, signs of leakage, or overfilling were noted upon removal.

- Obtained one soil sample, SS-A1, 3.5 feet below grade to verify, by laboratory analysis, the observed lack of hydrocarbons in the tank pit. The sample was analyzed for total extractable petroleum hydrocarbons (TEPH). The sampling location is shown on Figure 2 and sampling methodology and preservation are described in Attachment A. Laboratory reports are provided in Attachment C.

The activities associated with removal of the 50-gallon fuel oil tank (Tank B, Figure 3) located south of the motor car shed were as follows:

- Removed the 50-gallon fuel oil tank. Upon removal, approximately 20 corrosion holes were noted in the tank.

- Obtained one soil sample, SS-B1, five feet below grade and analyzed for total extractable petroleum hydrocarbons (TEPH). In addition, a water sample, W-1 F.O. was obtained from water that had apparently infiltrated the tank from the surface. The sample was analyzed for BTX at the request of the on-site representative from the fire department.

Site Condition

From field observations and laboratory analyses, the following statements can be made about the soil and ground water conditions at the tank sites in Santa Rosa:

- Laboratory analyses resulted in nondetectable levels of BTX, TVPH TEPH, EDB and Pb for all the soil samples obtained from the five tank pits.

- The water sample obtained from inside the 50 gallon fuel oil tank (Tank B) showed nondetectable amounts of BTX.

- The water sample obtained from the 10,000 gallon gasoline tank pit (Tank 25) showed nondetectable levels of BTX and 0.05 ppm TVPH.

- During excavation, it appeared as though the slight sheen on the water in tank pit 25 resulted from the residual product that drained out of the product supply line when the line was removed from this tank.

Based upon these observations and analyses, Canonie recommends no additional work be performed at the site in connection with the five tanks that were removed.

In accordance with CAC Title 23, Chapter 3, Water Resources Control Board, Subchapter 16, Underground Storage Tank Regulations and the California Regional Water Quality Control Board, North Coast Region, Guidance on Procedures for Underground Tank Removal and Cleanup, August, 1986, Santa Rosa City Ordinance No. 2534, Section 18-44.80.141, and Chapter 6.5, Division 20 of the Health and Safety Code, August, 1987 regulations governing underground storage tank removals in Santa Rosa, California, copies of this letter and attachments should be forwarded to the following agencies:

Mr. John Zanzi
Fire Inspector
Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, CA 95404

We appreciate the opportunity to have been of service to Southern Pacific on the project. Should you have any questions or comments, please contact us.

Very truly yours,

Alan L. Muellerleile
Project Engineer

Jeffrey A. Klaiber, P.E.
Project Supervisor

ALM/JAK/ssm

Enclosures

FIGURES

102340

DRAWN BY	CHECKED BY	DRAWING NUMBER
R. PACHER	APPROVED BY	87-055-A29
10-22-87		

SCALE

2,000 0 2,000 FEET

QUADRANGLE LOCATION

SITE LOCATION PLAN
SANTA ROSA, CALIFORNIA

PREPARED FOR

SOUTHERN PACIFIC
TRANSPORTATION COMPANY

Canonie Environmental

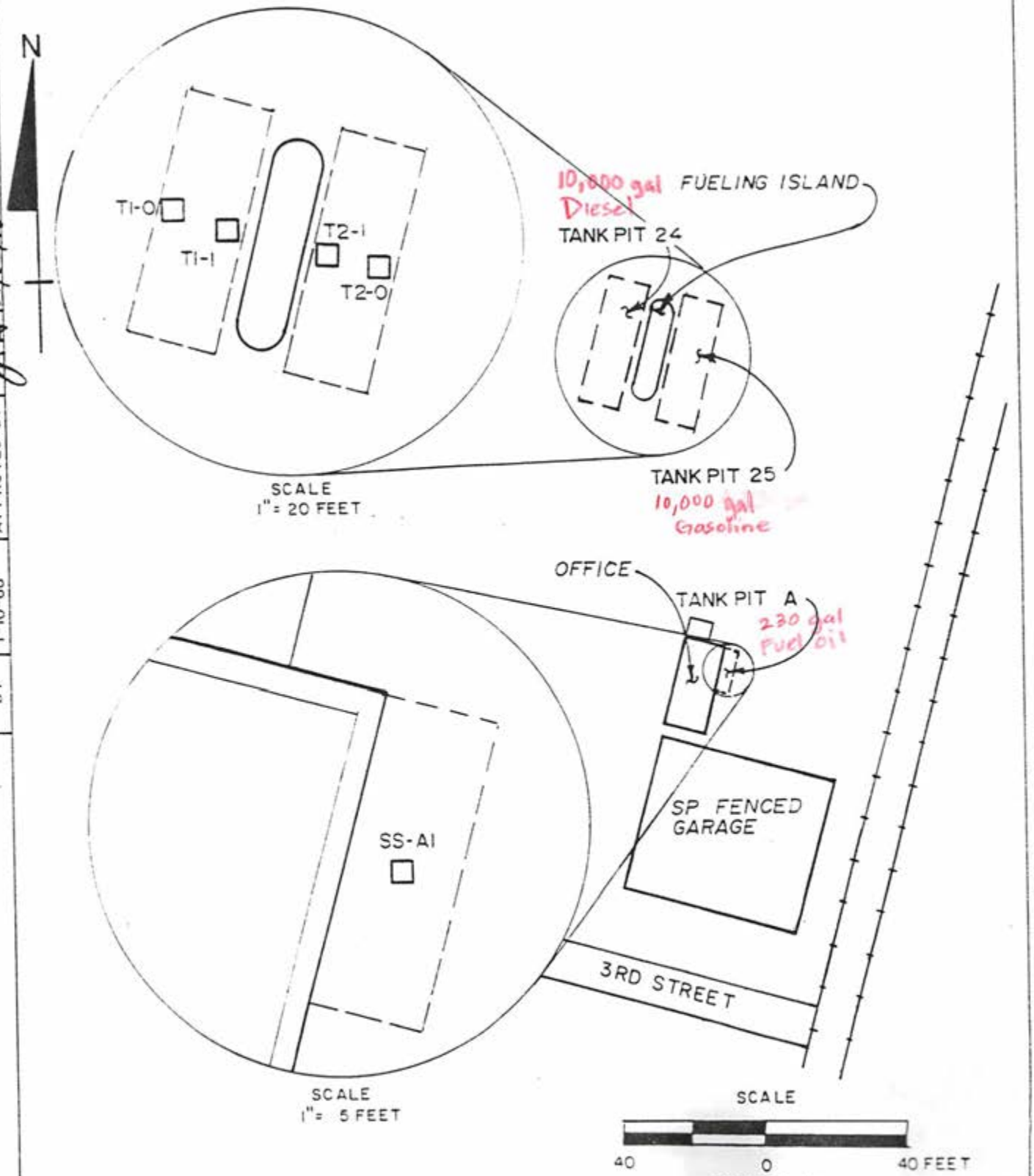
REFERENCE

USGS 7.5 MIN. TOPOGRAPHIC MAP
TITLED SANTA ROSA, CALIFORNIA
DATED 1954 (REV. 1980)

DATE: 10-22-87	FIGURE 1	DRAWING NUMBER
SCALE AS SHOWN		87-055-A29

REVISIONS	NO.	DATE

113525



LEGEND:

——— LIMITS OF EXCAVATION

□ SOIL SAMPLE LOCATION

SITE PLAN
SANTA ROSA, CALIFORNIA

PREPARED FOR

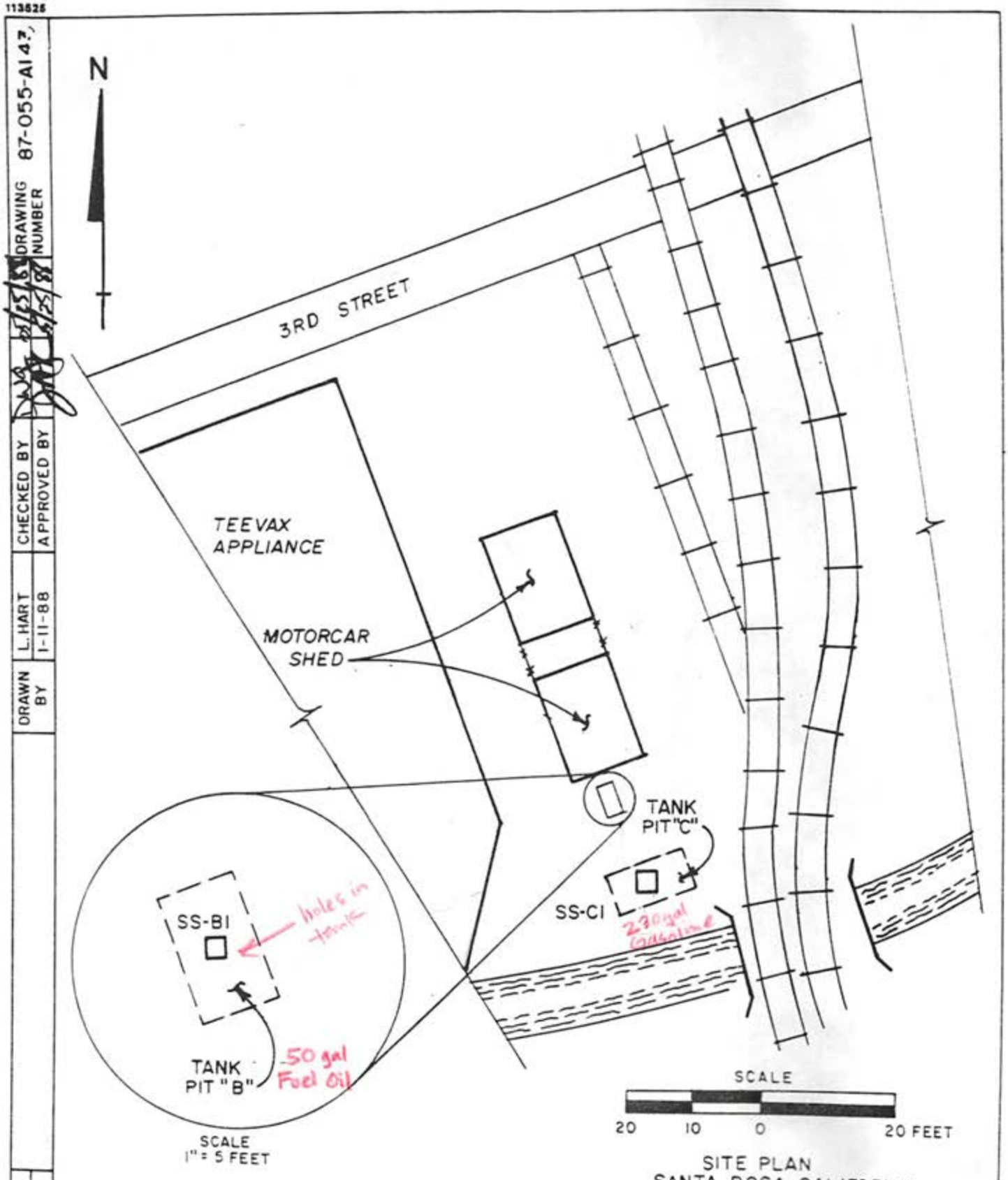
SOUTHERN PACIFIC
TRANSPORTATION COMPANY

Canonie Environmental

DATE: 1-10-88	FIGURE 2	DRAWING NUMBER
SCALE: AS SHOWN		87-055-A1,2

REVISIONS		DRAWN BY	CHECKED BY	DRAWING NUMBER
NO.	DATE	L. HART	APPROVED BY	87-055-A1,2
		1-10-88		

113625



LEGEND:

——— LIMITS OF EXCAVATION

□ SOIL SAMPLE LOCATION

SITE PLAN
SANTA ROSA, CALIFORNIA
PREPARED FOR
SOUTHERN PACIFIC
TRANSPORTATION COMPANY

Canonie Environmental

DRAWING NUMBER	87-055-A143
CHECKED BY	DAS 1/25/88
APPROVED BY	DAS 1/25/88
DRAWN BY	L. HART
	1-11-88

REVISIONS

NO.	DATE

DATE: 1-11-88
SCALE: AS SHOWN
FIGURE 3
DRAWING NUMBER 87-055-A143

Laboratory Report for

Ms. Audrey Ogburn
Canonie Environmental
1825 S. Grant Street, Suite 260
San Mateo, CA 94402

January 7, 1988

By

Canonie Environmental
212 Frank West Circle, Suite A
Stockton, CA 95206
(209) 983-1340

87-055-33-3279

Table 1
Codes of Samples Received
From SP - Santa Rosa
Project: 87-055-33

Sampler ID	Date Sampled	Date Received	Lab ID#	Sample Type	Container
Analysis: BTX					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube
W-1g	12-14-87	12-21-87	722384	Water	40ml vial
			722385	Water	40ml vial
Analysis: Ethylene Dibromide					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube
Analysis: Total Ext. Petroleum Hydrocarbons					
SS-A1 4	12-14-87	12-21-87	722381	Soil	Brass Tube
SS-B1	12-14-87	12-21-87	722382	Soil	Brass Tube
SS-C1	12-14-87	12-21-87	722383	Soil	Brass Tube
SS-T1-I	12-14-87	12-21-87	722377	Soil	Brass Tube
SS-T1-O	12-14-87	12-21-87	722378	Soil	Brass Tube
Analysis: Total Lead					
SS-T2-I	12-14-87	12-21-87	722379	Soil	Brass Tube
SS-T2-O	12-14-87	12-21-87	722380	Soil	Brass Tube

Table 2
Results of BTX Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-T2-I	SS-T2-O
Lab ID#:	722379	722380
Analyte(s)		
Benzene	ND 0.2	ND 0.2
Toluene	ND 0.2	ND 0.2
Xylene	ND 0.2	ND 0.2
Total Volatile Petroleum Hydrocarbons	ND 1.0	ND 1.0

Analyst Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak.

Table 3
Results of BTX Analysis on Water
Samples Received From SP - Santa Rosa
Results in mg/l

Sampler ID:	W-1g
Lab ID#:	722384
Analyte(s)	
Benzene	ND 0.0005
Toluene	ND 0.0005
Xylene	ND 0.0005
Total Volatile Petroleum Hydrocarbons	0.05

SA
Analyst

MLG
Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak.

Table 4
Results of Ethylene Dibromide Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

01-05-1988
87-055-33-3279
Page 4

Sampler ID:	SS-T2-I	SS-T2-O
Lab ID#:	722379	722380
Analyte(s)		
Ethylene Dibromide	ND 0.020	ND 0.020

Analyst Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak.

Table 5
Results of Total Ext. Petroleum Hydrocarbons Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-A1 4	SS-B1	SS-C1	SS-T1-I	SS-T1-O
Lab ID#:	722381	722382	722383	722377	722378
Analyte(s)					
Total Extractable Petroleum Hydrocarbons	ND 10.	ND 10.	ND 10.	ND 10.	ND 10.

Analyst Checked by

Note:
ND X denotes none detected to a level of X
#ND X denotes none detected to a level of X due to an interfering peak

Table 6
Results of Total Lead Analysis on Soil
Samples Received From SP - Santa Rosa
Results in mg/kg

Sampler ID:	SS-T2-1	SS-T2-0
Lab ID#:	722379	722380
Analyte(s)		
Total Lead	ND 5.0	ND 5.0

M.A. Analyst Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak.

Table 1
Codes of Samples Received
From SP - Santa Rosa
Project: 87-055-33

Sampler ID	Date Sampled	Date Received	Lab ID#	Sample Type	Container
Analysis: Purgeable Aromatics					
WS-1F.0.	12-14-87	12-22-87	722456	Water	40ml vial

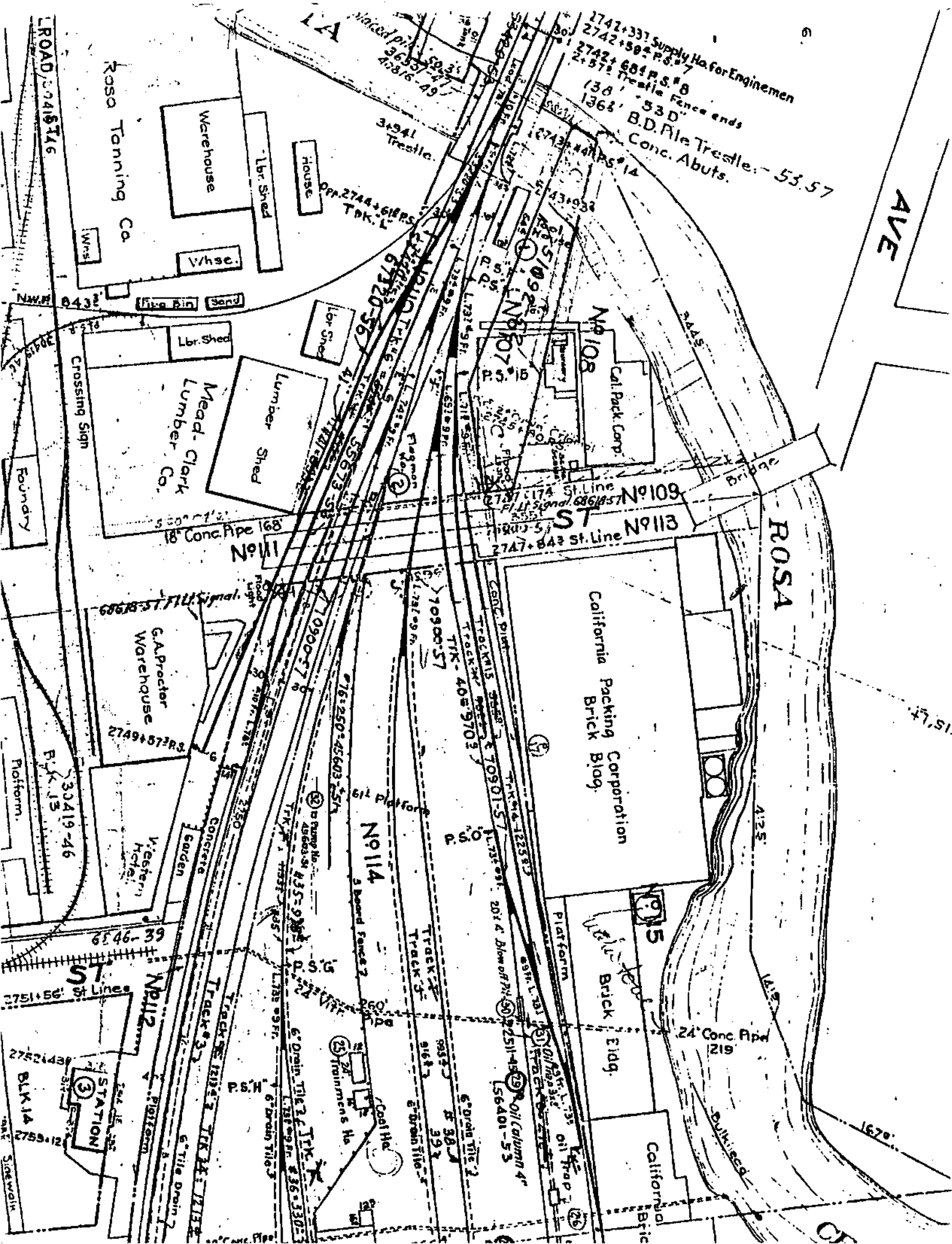
Table 2
Results of Purgeable Aromatics Analysis on Water
Samples Received From SP - Santa Rosa
Results in mg/l

Sampler ID:	WS-1F.O.
Lab ID#:	722456
Analyte(s)	
Benzene	ND 0.005
Chlorobenzene	ND 0.005
1,2-Dichlorobenzene	ND 0.005
1,3-Dichlorobenzene	ND 0.005
1,4-Dichlorobenzene	ND 0.005
Ethylbenzene	ND 0.005
Toluene	ND 0.005
Xylene	ND 0.005

SA
Analyst

MLG
Checked by

Note:
ND X denotes none detected to a level of X.
#ND X denotes none detected to a level of X due to an interfering peak.


Rosa Tanning Co.
Warehouse
Lbr. Shed
House
Wrhse.
V/hse.
Fire Bin
Sand
Lbr. Shed
Lbr. Shed
Mead-Clark Lumber Co.
Lumber Shed
Crossing Sign
Foundry
Cal. Pack. Corp.
No 108
No 109
No 113
No 111
No 114
No 115
No 112
ROSA
AVE
ST
Bridge
California Packing Corporation Brick Bldg.
G.A. Proctor Warehouse
Western Hotel
Platform
Concrete
Garden
Coal Ho.
Trainmens Ho.
STATION
Sidewalk
Oil Column 4"
Oil Trap
24" Conc. Pipe 219
18" Conc. Pipe 168'
Flagman
Flood Light
686+18 St. Fill Signal
2747+84 St. Line
2751+56 St. Line
2749+57 P.S.
2742+33 Supply Ha. for Enginemen
2742+59 P.S. 7
2742+68 P.S. 8
2743+40 P.S. 14
2744+61 P.S. 15
2744+61 P.S. 16
Opp. 2744+61 P.S. Trk. L
3+94 Trestle
43+93
Trestle Fence ends
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Conc. Piers
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Trk. 36 = 330
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GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

DEPARTMENT OF
HEALTH SERVICES

FEB 0 3 1998

ENVIRONMENTAL
HEALTH DIVISION

Prepared for

Southern Pacific Transportation Company
One Market Plaza
San Francisco, California 94105

October 1996
Project 2770.02

Geomatrix Consultants

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

WATER QUALITY
CONTROL BOARD
REGION 1

MAR 5 '98

☐ BK ☐ RK
☐ CJ ☐ LR
☐ FR ☐ TW
☐ RT ☐ KD
☐ JH ☐ PG
☐ SW ☐ JS
☐ TD ☒
☐ ALL STAFF ☐ FILE

14 October 1996
Project 2770.02

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Subject: Results of Soil and Groundwater Sampling
Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Dear Ms. Fleck:

On behalf of the Southern Pacific Transportation Company (SPTCo), we are submitting the enclosed report that documents soil and groundwater sampling (Phase II and III sampling programs) performed by Geomatrix Consultants, Inc. (Geomatrix), at property near the Santa Rosa Station along the Northwestern Pacific Railroad. As indicated in the report, the property includes the Santa Rosa Station property that is located south of Third Street and the eastern portion of the Station property that is north of Third Street. The soil and groundwater sampling was performed on behalf of SPTCo in preparation of sale of the property to a consortium of public agencies (NWP Taskforce).

The purpose of the sampling programs was to evaluate whether significant environmental impacts to soil and groundwater occurred on the property as a result of current and historical railroad operations, and to supplement the sampling performed by others in the vicinity of the former underground storage tanks (USTs) that were located in the southern portion of the property. Please note that additional characterization near the former fuel oil tank, which was located in the northwestern portion of the Santa Rosa Station property, will be performed relative to the schedule for sale of this portion of the property to the NWP Taskforce. The additional characterization currently is scheduled to be completed before the end of the year.

Geomatrix's investigation results indicate that total petroleum hydrocarbons characterized as diesel, total petroleum hydrocarbons characterized as motor oil, volatile organic compounds, and semi-volatile organic compounds are not present in site soils, except for trace levels of naphthalene and methylnaphthalene in 1 out of 16 samples. Metals concentrations in soil are low, except for lead in two shallow soil samples in the southern section. The lead concentrations are all below project remedial criteria.

WATER QUALITY
CONTROL BOARD
REGION 1

MAR 3 '71

Groundwater under the southern section is affected by total petroleum hydrocarbons characterized as gasoline (TPHg). The TPHg concentrations are highest along the upgradient boundary of the site, adjacent to the former Mead Clark Lumber Company which has a known gasoline leak. Based on these data, we conclude that the TPHg observed at the site originates off site, likely from the Mead Clark Lumber site.

Please call Greg Shepherd of SPTCo (415-541-2545) or the undersigned if you have any questions regarding the enclosed report. Meanwhile, we will keep you informed of upcoming sampling activities on the northwestern portion of the property.

Sincerely,

GEOMATRIX CONSULTANTS, INC.

Susan Gallardo

Susan Gallardo, P.E.
Principal Engineer

SMG/cll
2770\SANTALTR.DOC

Enclosure

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Prepared for

Southern Pacific Transportation Company
One Market Plaza
San Francisco, California 94105

October 1996
Project 2770.02

Geomatrix Consultants

GEOMATRIX

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GEOMATRIX

PHASE II AND PHASE III PROGRAM FINDINGS

Northwestern Pacific Railroad
Property near Santa Rosa Station
Santa Rosa, California

1.0 INTRODUCTION

This report presents the results of the Phase II and III sampling programs performed near the Santa Rosa Station (Station) property along the Northwestern Pacific Railroad right-of-way (NWPRR). The property location is shown in Figure 1. The work was performed on behalf of Southern Pacific Transportation Company (SPTCo), the former property owner, in preparation for sale of the property to the Northwest Pacific task force consisting of the Golden Gate Bridge Highway and Transportation District and Marin and Sonoma counties (NWP Task Force). The purpose of the Phase II and III programs was to evaluate whether significant environmental impacts to soil and groundwater occurred on the property as a result of historical and current railroad operations. The Phase II and III sampling programs were developed based on the findings of the preliminary site assessment performed by Geomatrix Consultants, Inc. (Geomatrix). The findings of the preliminary site assessment that are relevant to the sampling programs are included in this report.

2.0 BACKGROUND

Geomatrix performed a preliminary site assessment (Phase I) in 1992 and 1993 as part of the environmental due-diligence program for the property transaction. The purpose of the Phase I was to initially identify potential areas of environmental concern along the NWPRR. Previous soil and groundwater investigation activities related to former underground storage tanks (USTs) at the Santa Rosa property also had been performed by the North Coast Regional Water Quality Control Board (NCRWQCB) and Industrial Compliance (IC). The findings of the Phase I program and investigative activities by others are summarized in this section.

The Station property is located at milepost 53.7 in the City of Santa Rosa. The property is bordered by construction companies, lumberyards, and other commercial and light industrial facilities, and residential areas. Currently, the property is occupied only by an active rail line. West Third Street bisects the property into two portions. For discussion purposes, the property is referred to as the southern and northern sections, as indicated on Figures 2A and 2B. Note that the western portion of the northern section is not included in the sale property boundaries. It is currently planned that this property, designated an "option property," will be evaluated in November/December 1996.

2.1 PHASE I ASSESSMENT

The Phase I program included the following tasks: site reconnaissance; review of both publicly available and SPTCo historical information; review of publicly maintained and available records pertaining to on-site and nearby environmental investigations; review of chemical usage and the presence of underground storage tanks on the property and at facilities immediately adjacent to the property; interviews with SPTCo personnel regarding general railroad operations; and review of regional geology and hydrogeology.

Phase I findings indicated that the southern portion of the property contained a tool house, and 230-gallon gasoline and 50-gallon fuel oil USTs (Figure 2A). This portion of the property was historically part of the Station facilities. The two USTs reportedly were removed by Canonie Environmental on behalf of SPTCo in December 1987; the results of soil sampling during UST removal are discussed below. The northern portion of the property contained two former freight houses (Figure 2B). Note that other facilities associated with station operations including a former aboveground oil tank, oil traps, oil column, and former fuel storage house (fueling facilities) were located within the "option" portion of the Station not included in the investigations described herein.

Based on regulatory records reviewed, numerous toxic and fuel leak sites were identified within 1/2 mile and 1/4 mile, respectively, of the property including sites that have documented groundwater contamination that appear upgradient based on the interpreted groundwater flow

direction to the southwest and west. The interpretation of groundwater flow direction is based on the direction reported for many of the toxic and fuel leak sites.

The following nearby environmental sites are considered most likely to significantly affect the Site.

- Grace Brothers Hotel, located at 2nd and Railroad Streets, has elevated concentrations of diesel and motor oil in groundwater; barium, cadmium, chromium, and zinc also were detected in groundwater at this site.

- The former Mead Clark Lumber Company, located immediately adjacent to, and upgradient of the Station at 175 Railroad Street. Free product has been observed in wells at this location which is a documented fuel leak site. According to agency files, the soil and groundwater samples were analyzed only for petroleum hydrocarbons. Therefore, there is no information regarding the presence or absence of other compounds at these locations.

- La Rose Hotel, located upgradient of the Station at 101 Fifth Street. Gasoline and diesel have been detected in the groundwater at concentrations of 59,000 and 6900 µg/l, respectively at the La Rose Hotel site.

2.2 WORK PERFORMED BY OTHERS

Previous soil and groundwater investigation activities[1] have been performed in the southern portion of the property. Soil samples collected during removal of the USTs did not contain detectable concentrations of total petroleum hydrocarbons (TPH) or benzene, toluene, ethylbenzene, and xylenes (BTEX) (Brunsing Associates, 1990). In 1991, the North Coast Regional Water Quality Control Board (NCRWQCB) performed a soil and groundwater sampling program due to the detection of petroleum hydrocarbons and related constituents in Santa Rosa Creek, located west and adjacent to the property. The NCRWQCB program included one soil boring (RB-5) and the installation of a monitoring well (MW-1) in the southern section of the property (see Figure 2A). The soil sample collected at a depth of approximately 5 feet below ground surface (bgs) in boring RB-5 reportedly contained 140 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons characterized as diesel

[1] Information was obtained from NCRWQCB files and the 30 July 1992 IC report.

(TPHd). Information reviewed by Geomatrix in the regulatory file did not indicate that deeper soil samples had been collected at boring RB-5 for chemical analysis[2]. Soil samples collected by the NCRWQCB from well MW-1 contained TPHd at concentrations of 61 and 59 mg/kg in samples collected at 5 and 17 feet bgs, respectively. Soil samples collected below the groundwater surface at depths of 20.5 and 30 feet bgs reportedly contained TPHd at concentrations of 640 and 1400 mg/kg, respectively. Another sample from the MW-1 boring collected at 25 feet bgs did not contain diesel above the analytical laboratory reporting limits. The NCRWQCB also reported that the groundwater sample collected from monitoring well MW-1 contained naphthalene (40 micrograms per liter [µg/l]), 2-methylnaphthalene (18 µg/l), TPHd (1500 µg/l), benzene (1120 µg/l), toluene (40 µg/l), ethylbenzene (248 µg/l), xylene (200 µg/l), and total petroleum hydrocarbons as gasoline (TPHg) (6300 µg/l).

Subsequently in 1992, IC performed soil and groundwater sampling at two boring locations (S-5 and S-7) in the vicinity of the former USTs (Figure 2A). TPH reported in the gasoline, oil, and kerosene ranges was not detected above laboratory reporting limits in all soil samples collected. TPH reported in the diesel range was not detected above laboratory detection limits in soil samples collected at 6, 11, and 16 feet bgs; but was detected at a depth of 21 feet bgs at concentrations of 37 mg/kg and 46 mg/kg in the samples collected from borings S-5 and S-7, respectively. With the exception of the sample collected from boring S-5 at a depth of 21 feet bgs, which contained 0.11 mg/kg of xylenes, BTEX in soil was not detected. TPH as gasoline in grab groundwater was not detected above the laboratory reporting limit in any of the samples. TPH reported as diesel, benzene, ethylbenzene, and xylenes in grab groundwater was detected in the sample collected from borings S-5 at concentrations of 14,000 µg/l, 18 µg/l, 21 µg/l, and 21 µg/l, respectively. The same constituents were detected in the grab groundwater sample collected from boring S-7 at concentrations of 6500 µg/l, 2 µg/l, 2.5 µg/l, and 1.5 µg/l, respectively. The magnitude of the concentrations of TPH reported in the diesel range suggested the presence of non-dissolved petroleum in the samples and/or the presence of

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[2] The 13 August 1996 letter from the NCRWQCB to SPTCo state that "...analytical results of the soil samples collected from...B-5...indicate the presence of TPH as diesel from... 4 to 7 feet bgs. Diesel odors were reported in B-5 from 4.5 to 9 feet."

lighter-end hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel.

3.0 OBJECTIVES

Based on the findings, Geomatrix developed and implemented Phase II and Phase III sampling programs. The objectives of the Phase II program were to (1) supplement the sampling performed by IC in the vicinity of the former USTs in the southern section of the property by evaluating groundwater quality upgradient (to the east) of the former USTs and monitoring well MW-1; and (2) evaluate general soil quality in the vicinity of the tool house in the southern section and at locations along the rail line in the southern and northern sections of the property. Phase III work was conducted to further evaluate the possible presence of impacted soil and/or groundwater at locations that appeared to be chemically affected based on the results of the Phase II program and to obtain sufficient data to evaluate whether additional action could be required.

4.0 FIELD AND ANALYTICAL METHODS

The Phase II and III program consisted of soil and grab groundwater sampling at the locations shown on Figures 2A and 2B. A groundwater sample also was collected from monitoring well MW-1 during the Phase II sampling.

4.1 PRE-FIELD ACTIVITIES

Prior to sampling, utility clearance for each sampling location was achieved by contacting Underground Service Alert (USA), a regional utility notification center, and SP Telecommunications. In addition, Geomatrix retained a private utility locator to clear each boring location prior to sampling. Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department.

4.2 MONITORING WELL SAMPLING

Monitoring well MW-1, located at Santa Rosa Station-South (Figure 2A), was sampled by Geomatrix on 16 March 1995 as part of the Phase II program.

Fifty-five gallons of water were purged from the well using a diaphragm pump prior to sampling. During purging of the well, the water quality parameters pH, temperature, and specific electrical conductance were measured. A disposable bailer was used to collect all the groundwater samples. The groundwater sample to be analyzed for total petroleum hydrocarbons (TPH) characterized as gasoline was collected in 40-milliliter volatile organic analysis (VOA) vials containing hydrochloric acid as a preservative. Samples to be analyzed for TPH as diesel and motor oil and for semi-volatile organic compounds were collected in 1-liter amber glass bottles. Samples to be analyzed for metals were collected in 500-milliliter plastic bottles. All samples were placed in an ice-chilled cooler for delivery to a state-certified analytical laboratory under Geomatrix chain-of-custody procedures. The samples to be analyzed for metals were filtered and preserved by the analytical laboratory prior to analysis. Copies of the chain-of-custody records are included in Appendix A.

4.3 SOIL BORINGS AND GRAB GROUNDWATER SAMPLING

Geomatrix retained Precision Sampling, Inc., of San Rafael, California, a state-licensed drilling contractor to drill the Phase II and III borings. Soil borings were advanced using an XD-1, direct-push (DP) technology rig using stainless-steel liners in the core barrel, or by hand-augering followed by sample collection using a manually driven sampler containing a single, 6-inch-long brass tube. Following sampling, the ends of the soil collection tubes were covered with Teflon sheets and plastic end caps and sealed with duct tape.

Grab groundwater samples were collected using DP technology by installing a 1-inch-diameter temporary polyvinyl chloride (PVC) casing consisting of a 5- or 10-foot-long, 0.01-inch-slot well screen attached to blank PVC, which was placed inside the drive casing. The drive casing was then withdrawn thereby exposing the screen to water-yielding sediments. Groundwater samples to be analyzed for purgeable TPH and volatile organic compounds (VOCs) were

collected with a disposable PVC bailer and the groundwater transferred into 40-milliliter HCl-acidified VOA vials using a bottom-emptying device with a stopcock. Groundwater samples to be analyzed for TPH and Title 22 metals were collected using a stainless steel bailer and decanted directly into 1-liter amber bottles and 500-milliliter plastic bottles, respectively.

Borings were grouted to ground surface using a neat cement/bentonite slurry. Prior to, and after drilling was complete, all drilling and sampling equipment was steam-cleaned.

Soil and grab groundwater samples were labeled and placed in an ice-chilled cooler for delivery to the analytical laboratory under Geomatrix chain-of-custody procedures. Samples were analyzed by Pace Incorporated (Pace), of Petaluma, California; GTEL Environmental Laboratories, Inc. (GTEL), of Concord, California; or Friedman & Bruya, Inc., of Seattle, Washington, all of which are California-certified analytical laboratories. The analytical laboratory composited selected soil samples, as requested, prior to analysis. Groundwater samples to be analyzed for metals were filtered and preserved by the laboratory prior to analysis.

The analytical methods for soil and groundwater samples are as follows:

- Total petroleum hydrocarbons quantified as gasoline (TPHg), as diesel (TPHd), and as motor oil (TPHm) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- volatile organic compounds (VOCs) according to EPA Method 8240;
- semi-volatile organic compounds (SVOCs) according to EPA Method 8270; and
- silver, arsenic, barium, beryllium, cadmium, cobalt, total chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium, thallium, vanadium, and zinc according to EPA Method 6000/7000 series.

Analytical results are presented in Tables 1 through 3 and are discussed below. Laboratory analytical data sheets are included in Appendix A.

5.0 PHASE II & III SAMPLING PROGRAM

The sampling locations, analytical methods, and results for southern and northern sections of the property are presented separately below.

5.1 SOUTHERN SECTION

5.1.1 Sampling Program

The Phase II sampling program in the southern portion of the property included an evaluation of whether TPH detected in the groundwater in MW-1 and in the grab groundwater sample collected by IC resulted from a significant on-site source, or likely migrated onto the site from the adjacent Mead Clark Lumber Company property. Four Phase II soil borings (SRB1 through SRB4) were drilled on the portion of the Station located south of West Third Street (Figure 2A). Soil samples were collected from four depths in each of the borings; grab groundwater samples also were collected from each of the borings. The two shallower samples from each of these borings were composited into one sample for analysis and designated SRB1-A, SRB2-A, SRB3-A, and SRB4-A. The two deeper soil samples from each of these borings also were composited into one sample for analysis and designated samples SRB1-B, SRB2-B, SRB3-B, and SRB4-B. The composited soil samples from each of the four borings were analyzed for TPHd, total petroleum hydrocarbons as motor oil (TPHm), semi-volatile organic compounds (SVOCs), and metals. One discrete soil sample, SRB1-11.5, also was collected and analyzed for VOCs. In addition, existing on-site monitoring well MW-1 was sampled (Figure 5A). The four grab groundwater samples were analyzed for TPHg, TPHd, and VOCs. The groundwater sample from MW-1 was analyzed for TPHg, TPHd, VOCs, SVOCs, and metals.

During Phase II drilling, groundwater was encountered at depths ranging from approximately 13 to 14.5 feet bgs. The depth to groundwater measured in MW-1 on 16 March 1995 was approximately 11.5 feet below the top of the well casing.

Three Phase III soil borings (SRB13, SRB14, and SRB15) were drilled surrounding Phase II boring location SRB2 to further evaluate the distribution of lead in soil. Four discrete soil samples were collected from within the upper 9 feet in each of the borings. Sampling depths are presented in Tables 1 and 2. Groundwater was not encountered at the time of drilling.

5.1.2 Analytical Results

5.1.2.1 Soil

TPHd and TPHm were not detected above method reporting limits in the eight Phase II composite soil samples (Table 1). Naphthalene and 2-methylnaphthalene were detected at relatively low concentrations of 0.740 mg/kg and 0.710 mg/kg, respectively, in composite sample SRB3-B; no other SVOCs were detected above method reporting limits. VOCs were not detected above method reporting limits in the discrete Phase II soil sample SRB1-11.5. Lead was detected at a concentration of 65 mg/kg in Phase II sample SRB2-A, which is elevated relative to project screening criteria (i.e., 10 times the Soluble Threshold Limit Concentration [STLC] for hazardous waste) (Table 2). No other metals were detected above background concentrations for the NWPRR (Appendix A) in any of the composite samples.

In Phase III samples SRB13-1.5 and SRB14-1.5, lead was detected at elevated concentrations (170 mg/kg and 590 mg/kg, respectively) relative to the screening criteria of 10 times the STLC (Table 2). However, lead concentrations in deeper soil samples at boring locations SRB13 and SRB14 (3.0 and 5.5 feet bgs, respectively) decreased to below background concentrations (Shacklette and Boerngern, 1984).

5.1.2.2 Groundwater

TPHg was detected in the Phase II grab groundwater samples at concentrations ranging from 1 milligram per liter (mg/l) in SRB2 to 31 mg/l in SRB3 (Table 3). TPHd was not detected above method reporting limits in the groundwater samples. Benzene, ethylbenzene, and xylenes were detected in grab groundwater samples SRB1, SRB3, and SRB4. The concentrations in these grab groundwater samples ranged from 0.078 to 1.1 mg/l for benzene,

1.1 to 2.1 mg/l for ethylbenzene, and 1.8 to 2.5 mg/l for xylenes. These maximum concentrations are associated with the maximum reported TPHg concentrations. Toluene was detected in sample SRB1 at a concentration of 0.095 mg/l, and toluene and 4-methyl-2-pentanone were detected in sample SRB3 at concentrations of 0.078 mg/l and 0.42 mg/l, respectively; no other VOCs were detected in these grab groundwater samples. Analytical results of grab groundwater samples are presented in Table 4.

The groundwater sample from monitoring well MW-1 also contained TPHg, and benzene, ethylbenzene and xylenes. Concentrations of these constituents in MW-1 were less than concentrations detected in grab groundwater samples SRB1 and SRB3 located along the eastern, upgradient project boundary. Trace concentrations of naphthalene (0.037 mg/l), and 2-methylnaphthalene (0.038 mg/l) also were detected in the MW-1 sample, as well as arsenic (0.025 mg/l), barium (0.095 mg/l), and cadmium (0.008 mg/l).

The reported concentrations of TPHg in groundwater are shown on Figure 3. These data indicate that the highest concentrations occur in SRB1 and SRB3 which are located along the upgradient boundary of the Station property, adjacent to Mead Lumber Company. As discussed earlier, there has been a known release of gasoline at the Mead Lumber Company. The location of the shallow wells on the Mead Lumber Company property closest to the Station property are also indicated on Figure 3; these wells have historically had free product in them. These data indicate that the observed TPHg and TPH constituents at the Station property are probably associated with the Mead Lumber Company gasoline release and not with operations at the Station.

5.2 NORTHERN SECTION

5.2.1 Sampling Program

As shown on Figure 2B, sampling locations in the northern section of the property generally were distributed along the rail line and at locations near the former freight houses. Soil samples were collected from four depths in each of eight borings (SRB5 through SRB12). The samples were composited into one sample per boring for chemical analysis. These composite samples

were analyzed for TPHd, TPHm, SVOCs, and metals. In addition, two discrete soil samples, SRB5-8.5 and SRB10-6.0, were collected and analyzed for VOCs only. During the Phase II drilling, groundwater was encountered at depths ranging from approximately 7.5 to 10 feet bgs.

Three Phase III soil borings (SRB16, SRB17, and SRB18) were drilled surrounding Phase II boring SRB8 to further evaluate arsenic concentrations in soil. Four discrete soil samples were collected from the interval between the ground surface and 8.5 feet bgs in these borings, with the exception of SRB16. Only one sample could be collected from this boring at a depth of 1.5 feet bgs due to refusal in the borehole. Samples were analyzed sequentially, as previously discussed. Initially, the upper one or two samples from each boring were analyzed for arsenic (Table 3). Deeper samples were analyzed based on the results of the initial samples. Groundwater was encountered at depths ranging from approximately 7.5 to 10 feet bgs at the time of the Phase III drilling.

5.2.2 Analytical Results

5.2.2.1 Soil

TPHd, TPHm, and SVOCs were not detected above method reporting limits in the Phase II composite soil samples (Table 1). VOCs were not detected above method reporting limits in the Phase II discrete soil samples. Metals were not detected above screening criteria (10 times the STLC) in these samples (Table 2). However, the arsenic in one composite sample (SRB8-C) appeared slightly elevated (at 25 mg/kg) relative to other samples; additional Phase II investigation was undertaken to evaluate whether individual soil samples in the vicinity exceeded project screening criteria.

Arsenic was not detected at elevated concentrations in the Phase III discrete soil samples (Table 2). Arsenic concentrations in the five samples ranged from less than the method reporting limit to 14 mg/kg.

STLC) in these samples (Table 2). However, the arsenic in one composite sample (SRB8-C) appeared slightly elevated (at 25 mg/kg) relative to other samples; additional Phase II investigation was undertaken to evaluate whether individual soil samples in the vicinity exceeded project screening criteria.

Arsenic was not detected at elevated concentrations in the Phase III discrete soil samples (Table 2). Arsenic concentrations in the five samples ranged from less than the method reporting limit to 14 mg/kg.

6.0 RECOMMENDATIONS

Recommendations based on the analytical results for the sampling programs performed in the southern and northern sections of the Station properties are presented in this section.

6.1 SOUTHERN SECTION

Based on Phase II soil analytical results, no on-site source for TPH and related constituents detected in groundwater was identified. As previously noted, a fuel leak case is documented for the immediately adjacent, and upgradient property (Mead-Clark Lumber Company site). Results from grab groundwater samples collected by Geomatrix in March 1995 indicate that concentrations of petroleum hydrocarbons and related constituents are higher along the eastern (upgradient) portion of the station property. Additionally, data from monitoring wells in the Mead Clark Lumber Company site near the southern portion of the Station suggest that TPH (product and dissolved constituents) may be migrating onto the NWPRR. Previous results from groundwater samples collected by the NCRWQCB from monitoring well MW-1 also indicate the presence of gasoline at elevated concentrations. No current or historical on-site feature that could be the source of the gasoline in groundwater is in the vicinity of MW-1. Finally, although TPHd was reported in the grab groundwater samples collected by IC, the magnitude of the concentrations suggest that the TPH reported in the diesel range may be attributable to the presence of non-dissolved petroleum in the samples and/or the presence of lighter-end

hydrocarbons other than diesel (such as gasoline) that eluted in the range quantified as diesel. Based on the above, it appears that TPH in groundwater detected at the property is migrating onto the property, and therefore, we recommend no further action related to TPH in groundwater at the southern section of the Station property.

Analytical results of Phase II and Phase III soil samples indicate that lead is locally present in shallow soil at concentrations above background for the NWPRR. Three shallow soil samples contained lead at a concentration greater than the screening criteria. However, the analytical results indicate that concentrations of lead are vertically limited to the upper 3 feet, and are well below the Preliminary Remediation Goals for industrial soil (EPA, 1996). Therefore, Geomatrix recommends no further action at this location.

6.2 NORTHERN SECTION

The results of the Phase II and III sampling indicate that TPHd, TPHm, VOCs, and arsenic is generally not present above screening criteria in the northern portion of the Station, Geomatrix recommends no further action at this location.

7.0 REFERENCES

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Industrial Compliance (IC), 1992, Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California, 30 July.

Shacklette, H.T., and Boerngen, J.G., 1984, Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States, U.S. Geological Survey Profession Paper 1270.

U.S. Environmental Protection Agency (EPA), 1996, Region IX Preliminary Remediation Goals (PRGs) - 1996, San Francisco, California, 1 August.

TABLES

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TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY						
SRB1A-C[6]	3/1/95	2.0, 6.5	<10	<100	---[7]	ND[8]
SRB1B-C	3/1/95	12.5, 17.0	<10	<100	---	ND
SRB1-11.5	3/1/95	11.5	---	---	ND	---
SRB2A-C	3/1/95	2.0, 5.0	<10	<100	---	ND
SRB2B-C	3/1/95	9.0, 12.5	<10	<100	---	ND
SRB3A-C	3/1/95	1.5, 5.5	<10	<100	---	ND
SRB3B-C	3/1/95	10.5, 14.0	<10	<100	---	0.740 - Naphthalene 0.710 - 2-Methylnaphthalene
SRB4A-C	3/1/95	2.0, 5.5	<10	<100	---	ND
SRB4B-C	3/1/95	9.5, 12.5	<10	<100	---	ND

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TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
NORTHERN SECTION OF SANTA ROSA STATION PROPERTY						
SRB5-C	3/2/95	1.5, 5.5, 7.5, 9.5	<10	<100	---	ND
SRB5-8.5	3/2/95	8.5	---	---	ND	---
SRB6-C	3/2/95	1.5, 3.5, 6.0, 8.5	<10	<100	---	ND
SRB7-C	3/2/95	1.5, 3.0, 5.5, 8.5	<10	<100	---	ND
SRB8-C	3/2/95	1.5, 3.0, 5.5, 8.5	<10	<100	---	ND
SRB9-C	3/2/95	1.5, 3.5, 5.5, 7.0	<10	<100	---	ND
SRB10-C	3/3/95	1.5, 3.0, 5.5, 9.0	<10	<100	---	ND
SRB10-6.0	3/3/95	6.0	---	---	ND	---

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TABLE 1

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES
PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, ft (below final ground surface)[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Volatile Organic Compounds[4] (mg/kg)	Semi-Volatile Organic Compounds[5] (mg/kg)
SRB11-C	3/3/95	1.5, 3.5, 5.5, 8.0	<10	<100	---	ND
SRB12-C	3/3/95	1.5, 3.5, 6.0, 9.0	<10	<100	---	ND

Notes:

1 Chemical analyses performed by PACE, Inc., of Novato, California; GTEL Environmental Laboratories, Inc., of Concord, California; or Friedman & Bruya, Inc., of Seattle, Washington. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix B.

2 If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.

3 TPH = Total petroleum hydrocarbons quantified as diesel or motor oil. Analyses by modified EPA Method 8015.

4 Volatile organic compounds analyzed by EPA Test Method 8240. Only those compounds shown in this table were detected.

5 Semi-volatile organic compounds analyzed by EPA Test Method 8270. Only those compounds shown in this table were detected.

6 C = laboratory composite sample (i.e., laboratory composited and analyzed sample composed of discrete samples from locations indicated in sample depth column).

7 --- indicates sample not analyzed by that method.

8 ND = no constituent detected at a concentration greater than the method detection limit.

TA

ANALYTIC
FOR METALS
PHASE II AND PI
Northwestern Pac
Property Near
Santa Ro

Sample Name	Date Sampled	Sample Depth, Ft	Ag	As	Ba	Be	Cd	Co
Shacklette Background[3]	---	---	---[4]	<1-4.1	500-700	<1	---[4]	15-70
STLC[5] (mg/l)	---	---	5	5.0	100	0.75	1.0	80
TTLC[6] (mg/kg)	---	---	500	500	10,000	75	100	8000
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY								
SRB1A-C[7]	2/28/95	2.0, 6.5	<1	5	160	0.6	<0.5	17
SRB1B-C	2/28/95	12.5, 17.0	<1	2.8	150	<0.5	<0.5	14
SRB2A-C	2/28/95	2.0, 5.0	<1	7.4	180	0.7	<0.5	19
SRB2B-C	2/28/95	9.0, 12.5	<1	4.5	190	0.6	<0.5	22
SRB3A-C	2/28/95	1.5, 5.5	<1	8.9	140	0.6	<0.5	15
SRB3B-C	2/28/95	10.5, 14.0	<1	3.8	130	<0.5	<0.5	17
SRB4A-C	2/28/95	2.0, 5.5	<1	9.6	120	0.8	<0.5	11
SRB4B-C	2/28/95	9.5, 12.5	<1	2.4	95	<0.5	<0.5	13
SRB13-1.5	12/7/95	1.5	---[8]	---	---	---	---	---
SRB13-3.0	12/7/95	3.0	---	---	---	---	---	---
SRB14-1.5	12/7/95	1.5	---	---	---	---	---	---
SRB14-2.5	12/7/95	2.5	---	---	---	---	---	---
SRB14-5.5	12/7/95	5.5	---	---	---	---	---	---
SRB15-1.0	12/7/95	1.0	---	---	---	---	---	---
SRB15-3.0	12/7/95	3.0	---	---	---	---	---	---
SRB15-5.5	12/7/95	5.5	---	---	---	---	---	---

ABLE 2

CAL RESULTS[1]
IN SOIL SAMPLES
HASE III PROGRAMS
ific Railroad Corridor
Santa Rosa Station
sa, California

Metals[2] (mg/kg)

Total Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
100-1000	30-700	0.08-5.1	<3	30-300	15-300	---[4]	0.15-0.5	---[4]	70-500	74-400
560	25	0.2	350	20	5	15	1.0	7.0	24	250
2500	2500	20	3500	2000	1000	500	100	700	2400	5000
85	26	<0.1	<1	140	<5	<5	<5	<5	48	53
52	23	<0.1	<1	90	6	<5	<5	<5	35	48
84	30	0.3	<1	140	65	<5	<5	<5	52	95
78	31	<0.1	<1	160	6	<5	<5	<5	54	63
68	57	<0.1	<1	98	<5	<5	<5	<5	46	57
68	31	<0.1	<1	120	<5	<5	<5	<5	46	62
62	47	<0.1	<1	75	15	<5	<5	<5	78	62
53	28	<0.1	<1	90	<5	<5	<5	<5	42	56
---	---	---	---	---	590	---	---	---	---	---
---	---	---	---	---	8	---	---	---	---	---
---	---	---	---	---	170	---	---	---	---	---
---	---	---	---	---	40	---	---	---	---	---
---	---	---	---	---	5	---	---	---	---	---
---	---	---	---	---	22	---	---	---	---	---
---	---	---	---	---	32	---	---	---	---	---
---	---	---	---	---	6	---	---	---	---	---

TA

ANALYTIC
FOR METALS
PHASE II AND PI
Northwestern Pac
Property Near
Santa Ro

Sample Name	Date Sampled	Sample Depth, Ft	Ag	As	Ba	Be	Cd	Co
Shacklette Background[1]	---	---	---[4]	<1-4.1	500-700	<1	---[4]	15-70
STLC[5] (mg/l)	---	---	5	5.0	100	0.75	1.0	80
TTLC[6] (mg/kg)	---	---	500	500	10,000	75	100	8000
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY								
SRB1A-C[7]	2/28/95	2.0, 6.5	<1	5	160	0.6	<0.5	17
SRB1B-C	2/28/95	12.5, 17.0	<1	2.8	150	<0.5	<0.5	14
SRB2A-C	2/28/95	2.0, 5.0	<1	7.4	180	0.7	<0.5	19
SRB2B-C	2/28/95	9.0, 12.5	<1	4.5	190	0.6	<0.5	22
SRB3A-C	2/28/95	1.5, 5.5	<1	8.9	140	0.6	<0.5	15
SRB3B-C	2/28/95	10.5, 14.0	<1	3.8	130	<0.5	<0.5	17
SRB4A-C	2/28/95	2.0, 5.5	<1	9.6	120	0.8	<0.5	11
SRB4B-C	2/28/95	9.5, 12.5	<1	2.4	95	<0.5	<0.5	13
SRB13-1.5	12/7/95	1.5	---[8]	---	---	---	---	---
SRB13-3.0	12/7/95	3.0	---	---	---	---	---	---
SRB14-1.5	12/7/95	1.5	---	---	---	---	---	---
SRB14-2.5	12/7/95	2.5	---	---	---	---	---	---
SRB14-5.5	12/7/95	5.5	---	---	---	---	---	---
SRB15-1.0	12/7/95	1.0	---	---	---	---	---	---
SRB15-3.0	12/7/95	3.0	---	---	---	---	---	---
SRB15-5.5	12/7/95	5.5	---	---	---	---	---	---

.BLE 2

:AL RESULTS[1]
IN SOIL SAMPLES
IASE III PROGRAMS
ific Railroad Corridor
Santa Rosa Station
sa, California

Metals[2] (mg/kg)										
Total Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
100-1000	30-700	0.08-5.1	<3	30-300	15-300	---[4]	0.15-0.5	---[4]	70-500	74-400
560	25	0.2	350	20	5	15	1.0	7.0	24	250
2500	2500	20	3500	2000	1000	500	100	700	2400	5000
85	26	<0.1	<1	140	<5	<5	<5	<5	48	53
52	23	<0.1	<1	90	6	<5	<5	<5	35	48
84	30	0.3	<1	140	65	<5	<5	<5	52	95
78	31	<0.1	<1	160	6	<5	<5	<5	54	63
68	57	<0.1	<1	98	<5	<5	<5	<5	46	57
68	31	<0.1	<1	120	<5	<5	<5	<5	46	62
62	47	<0.1	<1	75	15	<5	<5	<5	78	62
53	28	<0.1	<1	90	<5	<5	<5	<5	42	56
---	---	---	---	---	590	---	---	---	---	---
---	---	---	---	---	8	---	---	---	---	---
---	---	---	---	---	170	---	---	---	---	---
---	---	---	---	---	40	---	---	---	---	---
---	---	---	---	---	5	---	---	---	---	---
---	---	---	---	---	22	---	---	---	---	---
---	---	---	---	---	32	---	---	---	---	---
---	---	---	---	---	6	---	---	---	---	---

TA

ANALYTIC
FOR METALS
PHASE II AND PI
Northwestern Pac
Property Near
Santa Ro

Sample Name	Date Sampled	Sample Depth, Ft	Ag	As	Ba	Be	Cd	Co
Shacklette Background[3]	---	---	---[4]	<1-4.1	500-700	<1	---[4]	15-70
STLC[5] (mg/l)	---	---	5	5.0	100	0.75	1.0	80
TTLC[6] (mg/kg)	---	---	500	500	10,000	75	100	8000
NORTHERN SECTION OF SANTA ROSA STATION PROPERTY								
SRB5-C	3/2/95	1.5, 5.5 7.5, 9.5	<1	13	160	<0.5	<0.5	26
SRB6-C	3/2/95	1.5, 3.5 6.0, 8.5	<1	7	160	0.6	<0.5	17
SRB7-C	3/2/95	1.5, 3.0 5.5, 8.5	<1	11	140	0.7	<0.5	15
SRB8-C	3/2/95	1.5, 3.0 5.5, 8.5	<1	25	130	0.5	<0.5	19
SRB9-C	3/2/95	1.5, 3.5 5.5, 7.0	<1	16	160	0.6	<0.5	16
SRB10-C	3/3/95	1.5, 3.0 5.5, 9.0	<1	3.7	180	0.7	0.5	18
SRB11-C	3/3/95	1.5, 3.5 5.5, 8.0	<1	3.9	140	0.7	<0.5	18
SRB12-C	3/3/95	1.5, 3.5 6.0, 9.0	<1	3.1	170	0.5	<0.5	20
SRB16-1.5	12/6/95	1.5	---	6	---	---	---	---
SRB17-1.5	12/6/95	1.5	---	14	---	---	---	---
SRB17-3.0	12/6/95	3.0	---	<2	---	---	---	---
SRB18-1.5	12/6/95	1.5	---	10	---	---	---	---
SRB18-3.5	12/6/95	3.5	---	4	---	---	---	---

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AL RESULTS[1]
N SOIL SAMPLES
ASE III PROGRAMS
fic Railroad Corridor
anta Rosa Station
a, California

	Metals[2] (mg/kg)									
Total Cr	Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
100-1000	30-700	0.08-5.1	<3	30-300	15-300	—[4]	0.15-0.5	—[4]	70-500	74-400
560	25	0.2	350	20	5	15	1.0	2.0	24	250
2500	2500	20	3500	2000	1000	500	100	700	2400	5000
63	33	<0.1	<1	98	<5	<5	<5	<5	61	63
65	41	0.5	<1	110	27	<5	<5	<5	45	120
71	29	0.6	<1	110	7	<5	<5	<5	51	57
62	25	<0.1	<1	110	34	<5	<5	<5	49	68
80	25	<0.1	<1	120	7	<5	<5	<5	53	54
61	27	<0.1	<1	100	17	<5	<5	<5	46	62
78	27	<0.1	<1	130	12	<5	<5	<5	50	58
71	27	<0.1	<1	110	14	<5	<5	<5	45	59
---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---	---	---

AN
FOR MI
PHASE II
Northwest
Property
Sa

Notes:

[1] Chemical analyses performed by PACE, Inc., of Novato, California, GTEL Environmental Laboratories, Inc., of Concord
detection limits for each constituent, and analytical results are included in Appendix B.
[2] Metals analyzed include: silver (Ag), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), cobalt (Co), total chromi
zinc (Zn), by EPA Methods 6000/7000 series.
[3] Background concentrations from maps presented in Shacklette, H.T., and Boerngen, J.G., 1984, Element Concentrations i
[4] No background concentration available.
[5] STLC = soluble threshold limit concentration, California Code of Regulations, Title 22, Section 66261.24.
[6] TTLC = total threshold limit concentration, California Code of Regulations, Title 22, Section 66261.24.
[7] C= laboratory composite sample (i.e., laboratory composited and analyzed sample composed of discrete samples from loc
[8] --- = Sample not analyzed for this metal.

ABLE 2

CAL RESULTS[1]
IN SOIL SAMPLES
HASE III PROGRAMS
ific Railroad Corridor
Santa Rosa Station
sa, California

nia, or Friedman & Bruya, Inc., of Seattle, Washington. The laboratory analytical reports detailing the analyses performed, method

copper (Cu), mercury (Hg), molybdenum (Mo), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), thallium (Tl), vanadium (V) and

nd Other Surficial Materials of the Conterminous United States, U.S. Geological Survey Professional Paper 1270.

dicated in sample depth column).

GEOMATRIX

TABLE 3

ANALYTICAL RESULTS[1] FOR GROUNDWATER SAMPLES[2] PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Sample Name	Date Collected	TPH[3] as Gasoline (mg/l)	TPH as Diesel (mg/l)	TPH as Motor Oil (mg/l)	Volatile Organic Compounds[4] (mg/l)	Semi-Volatile Organic Compounds[5] (mg/l)	CCR[6] Dissolved Metals (mg/l)
SOUTHERN SECTION OF SANTA ROSA STATION PROPERTY							
SR-MW1	3/16/95	5.1	<0.05	---[7]	0.039 - Benzene 0.18 - Ethylbenzene 0.012 - Xylenes	0.037 - Naphthalene 0.038 - 2-Methylnaphthalene	0.025 - Arsenic 0.095 - Barium 0.008 - Cadmium
SRB1	3/1/95	30	<2.5	---	0.76 - Benzene 0.095 - Toluene 1.1 - Ethylbenzene 2.1 - Xylenes	---	---
SRB2	3/1/95	1	<0.05	---	ND[8]	---	---
SRB3	3/1/95	31	<2.5	---	1.1 - Benzene 0.42 - 4-methyl-2-pentanone 0.078 - Toluene 2.1 - Ethylbenzene 2.5 - Xylenes	---	---
SRB4	3/1/95	22	<1	---	0.078 - Benzene 1.7 - Ethylbenzene 1.8 - Xylenes	---	---

GEOMATRIX

TABLE 3

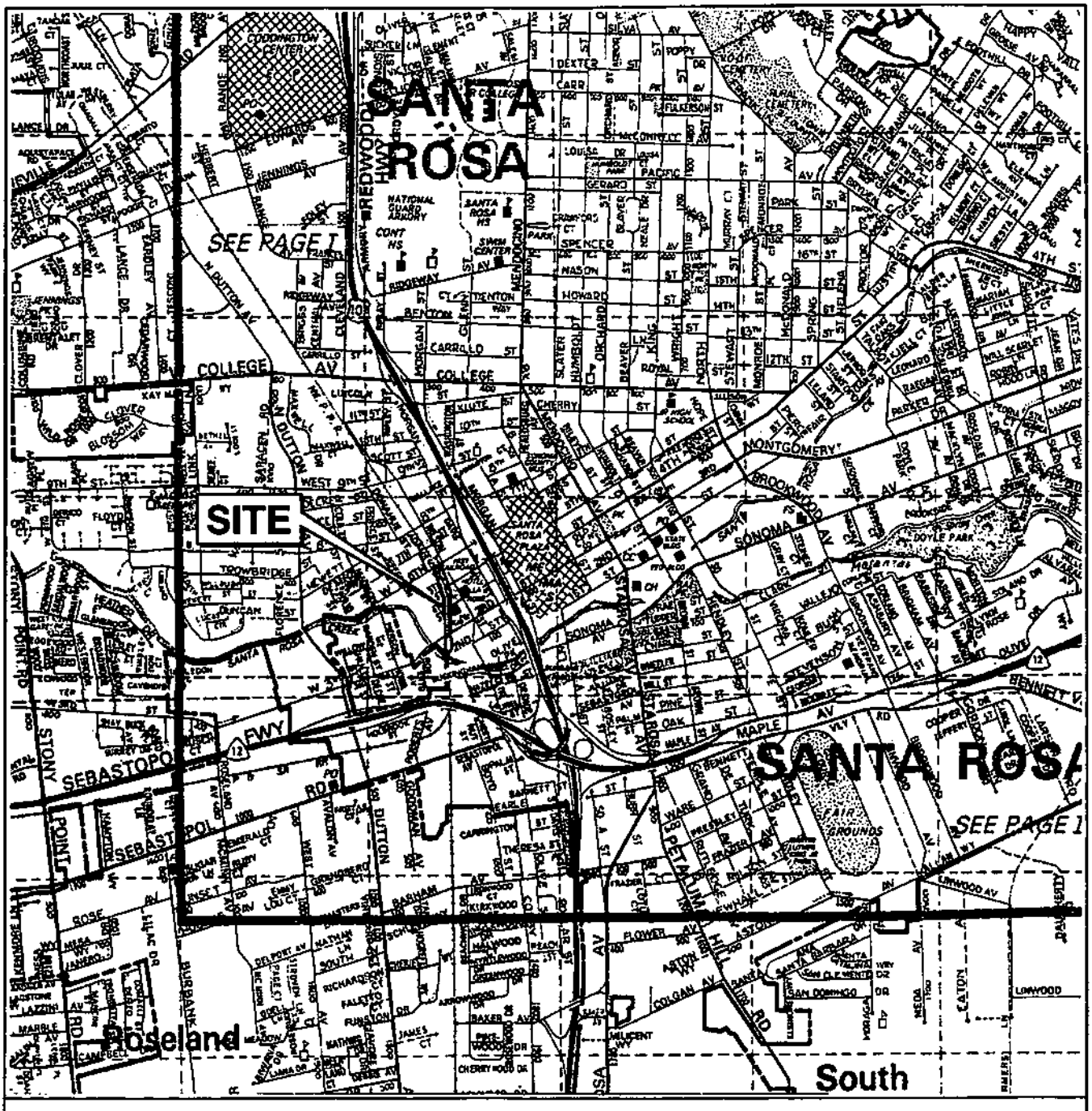
ANALYTICAL RESULTS[1] FOR GROUNDWATER SAMPLES[2] PHASE II AND PHASE III PROGRAMS

Northwestern Pacific Railroad
Property Near Santa Rosa Station
Santa Rosa, California

Notes:

1 Chemical analyses performed by GTEL Environmental Laboratories, Inc., of Concord, California, or Friedman & Bruya, Inc., of Seattle, Washington. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix B.
2 All samples analyzed were grab groundwater samples, with the exception of SR-MW1, which was collected from monitoring well MW1 subsequent to purging.
3 TPH as gasoline, diesel, and motor oil analyses by modified EPA Method 8015.
4 Volatile Organic Compounds analyzed by EPA Method 8240. Only the compounds shown in this table were detected.
5 Semi-Volatile Organic Compounds analyzed by EPA Method 8270. Only the compounds shown in this table were detected.
6 California Code of Regulations (CCR) metals analyzed by EPA Methods 6010, 7060, 7421, and 7470. Only those compounds shown in this table were detected.
7 --- indicates sample not analyzed by that method.
8 ND = no constituent detected at a concentration greater than the method detection limit.

FIGURES



Base map from *The Thomas Guide, 1992 Sonoma/Marin Counties Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

N

0 2000 Feet

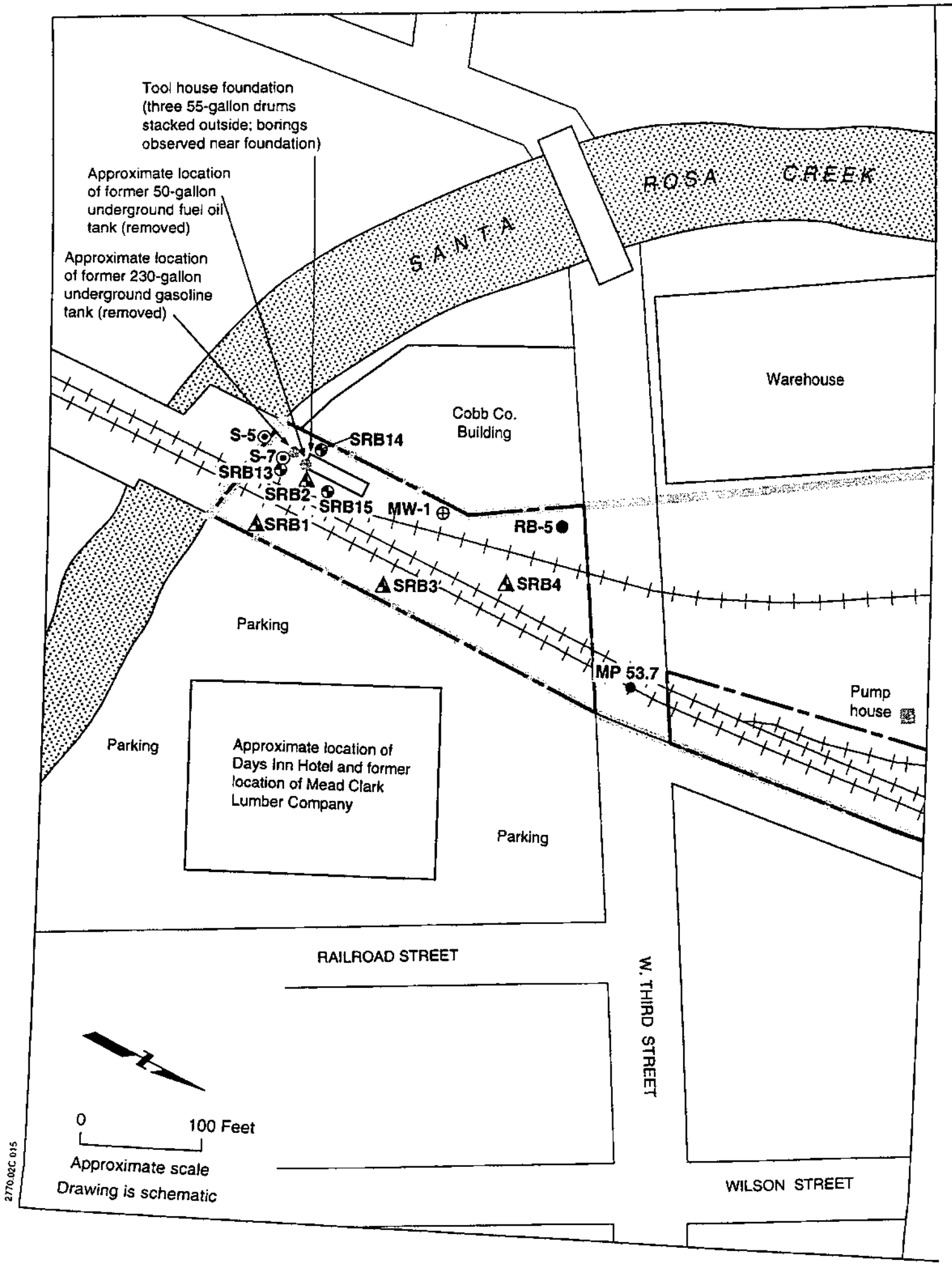
GEOMATRIX

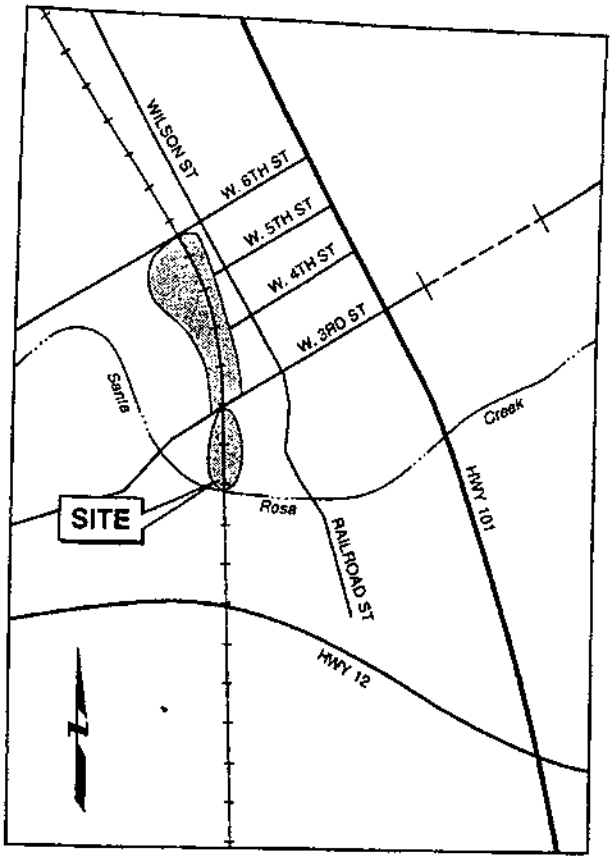
SITE LOCATION MAP
Northwest Pacific Railroad
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018


Tool house foundation
(three 55-gallon drums
stacked outside; borings
observed near foundation)
Approximate location
of former 50-gallon
underground fuel oil
tank (removed)
Approximate location
of former 230-gallon
underground gasoline
tank (removed)
SANTA
ROSA CREEK
Warehouse
Cobb Co.
Building
S-5
S-7
SRB13
SRB14
SRB2
SRB15
MW-1
SRB1
RB-5
SRB3
SRB4
Parking
MP 53.7
Pump
house
Parking
Approximate location of
Days Inn Hotel and former
location of Mead Clark
Lumber Company
Parking
RAILROAD STREET
W. THIRD STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
2770.02C 015



LOCATION MAP

EXPLANATION

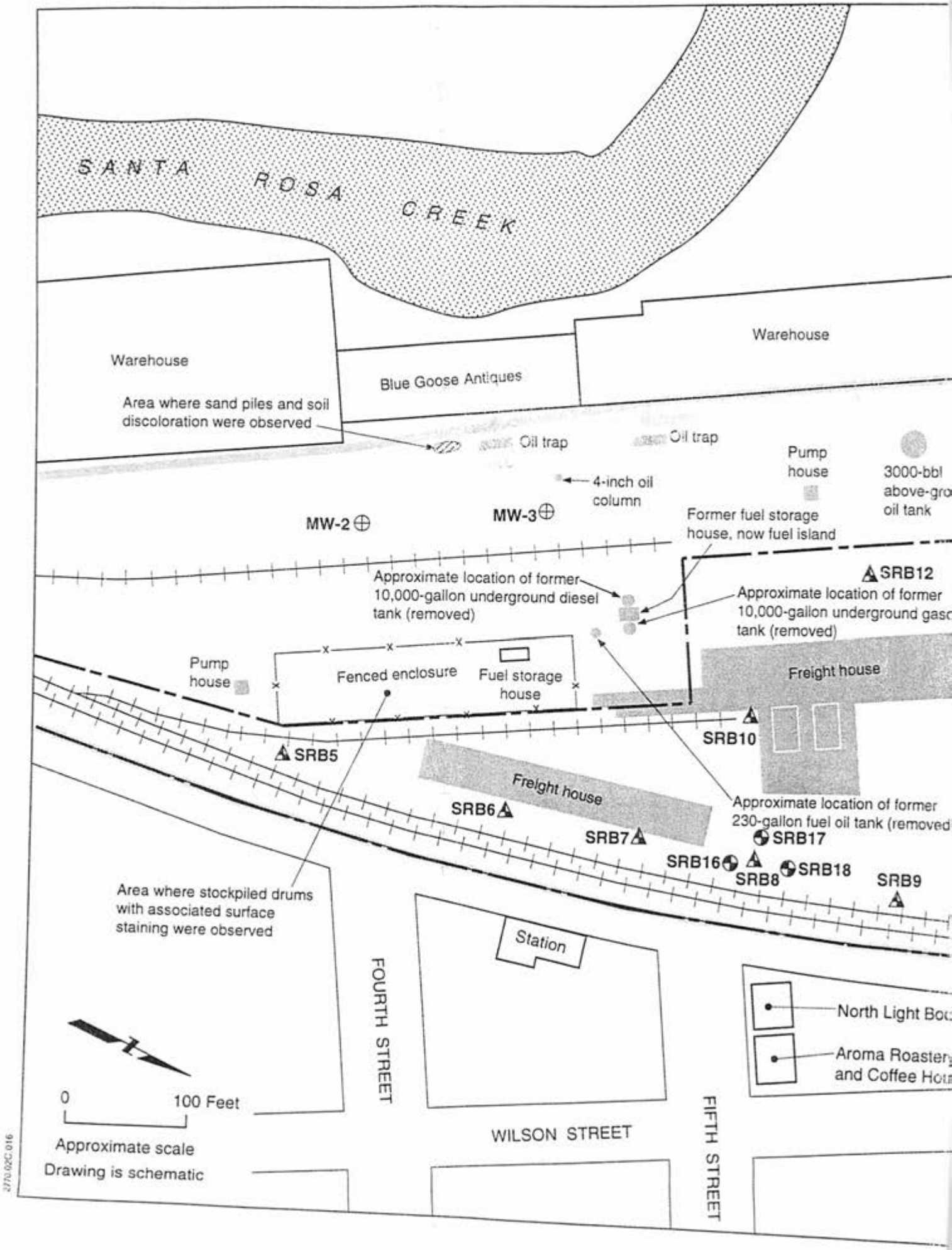
	Indicates historical feature for which no surface features were observed
MW-1 ⊕	Monitoring well installed by NCRWQCB (April 1990)
SRB13 ◔	Phase III boring location
SRB3 ▲	Phase II boring location
RB-5 ●	Soil boring installed by NCRWQCB (April 1990)
S-5 ⊙	Soil boring installed by Industrial Compliance (May 1992)
	Approximate location of NWPRR right-of-way
	Property sale boundary

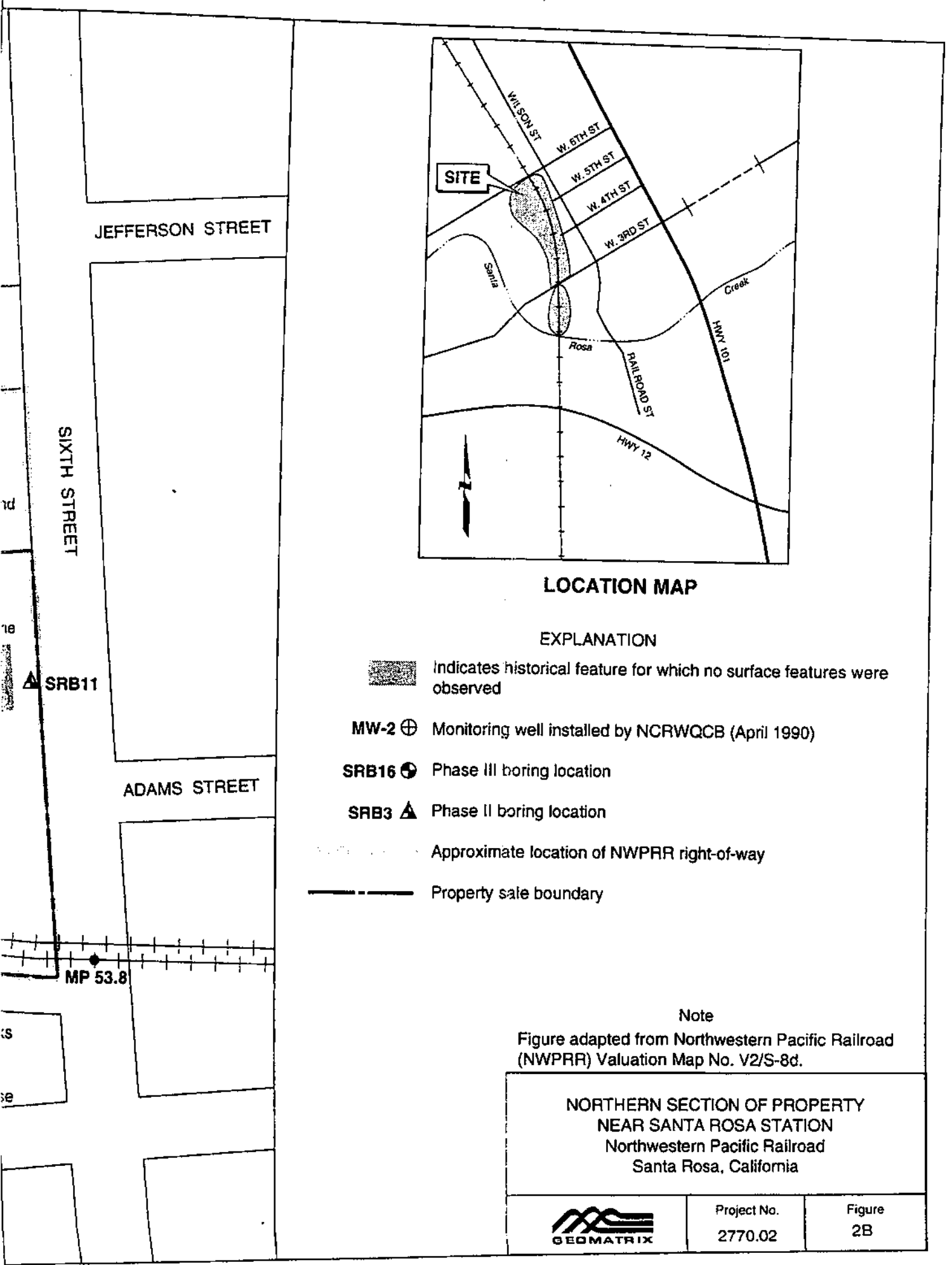
Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-8d.

SOUTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No.	Figure
	2770.02	2A


SANTA ROSA CREEK
Warehouse
Blue Goose Antiques
Warehouse
Area where sand piles and soil discoloration were observed
Oil trap
Oil trap
4-inch oil column
Pump house
3000-bbl above-gro oil tank
MW-2
MW-3
Former fuel storage house, now fuel island
SRB12
Approximate location of former 10,000-gallon underground diesel tank (removed)
Approximate location of former 10,000-gallon underground gaso tank (removed)
Pump house
Fenced enclosure
Fuel storage house
Freight house
SRB10
SRB5
Freight house
SRB6
SRB7
Approximate location of former 230-gallon fuel oil tank (removed
SRB17
SRB16
SRB8
SRB18
SRB9
Area where stockpiled drums with associated surface staining were observed
Station
FOURTH STREET
North Light Boo
Aroma Roastery and Coffee Hou
0
100 Feet
Approximate scale
Drawing is schematic
WILSON STREET
FIFTH STREET
270.02C.016



LOCATION MAP

EXPLANATION

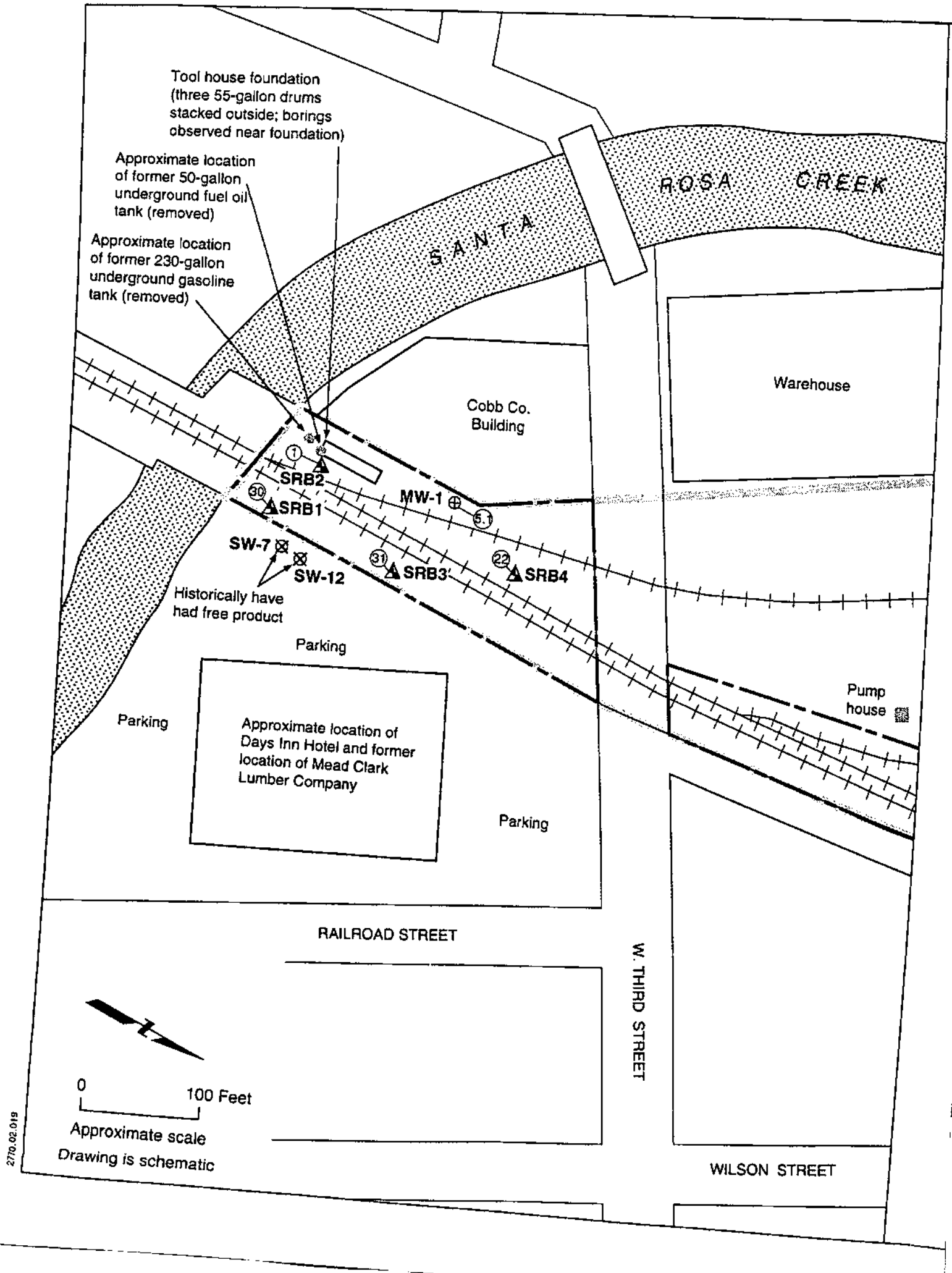
- Indicates historical feature for which no surface features were observed
- **MW-2** ⊕ Monitoring well installed by NCRWQCB (April 1990)
- **SRB16** ◔ Phase III boring location
- **SRB3** ▲ Phase II boring location
- Approximate location of NWPRR right-of-way
- Property sale boundary

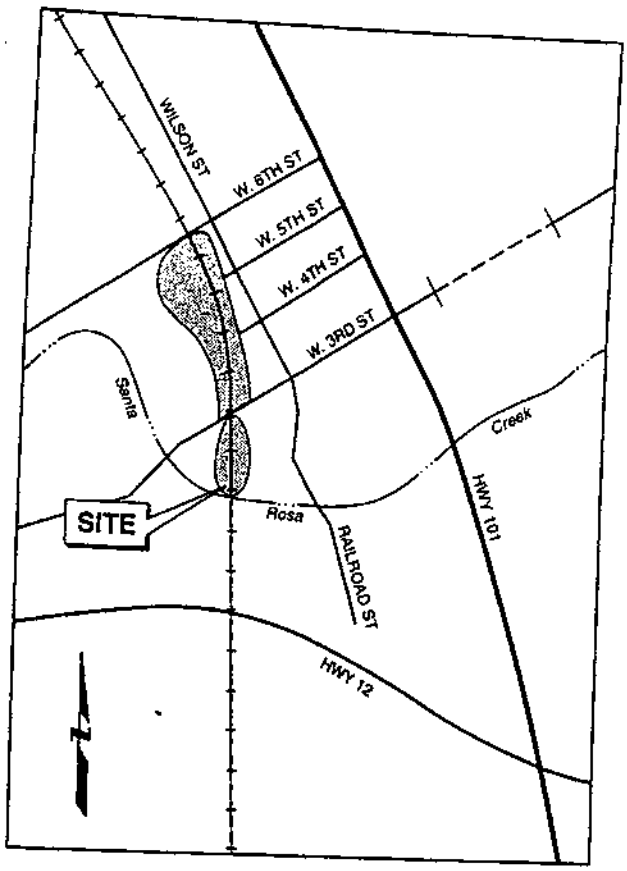
Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V2/S-8d.

NORTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No. 2770.02	Figure 2B


Tool house foundation
(three 55-gallon drums
stacked outside; borings
observed near foundation)
Approximate location
of former 50-gallon
underground fuel oil
tank (removed)
Approximate location
of former 230-gallon
underground gasoline
tank (removed)
SANTA ROSA CREEK
Warehouse
Cobb Co.
Building
SRB2
SRB1
MW-1
SW-7
SW-12
SRB3
SRB4
Historically have
had free product
Parking
Parking
Parking
Approximate location of
Days Inn Hotel and former
location of Mead Clark
Lumber Company
Pump
house
RAILROAD STREET
W. THIRD STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
2770.02.019



LOCATION MAP

EXPLANATION

Indicates historical feature for which no surface features were observed

MW-1 ⊕ Monitoring well installed by NCRWQCB (April 1990)

SRB3 ▲ Phase II boring location

SW-7 ⊠ Approximate location of nearest wells on former Mead Clark Lumber Company

① Total Petroleum Hydrocarbons detected as gasoline in groundwater in milligrams per liter (mg/l)

Approximate location of NWPRR right-of-way

Property sale boundary

Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V-2/S-8d.

GROUNDWATER CONCENTRATIONS: TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
SOUTHERN SECTION OF PROPERTY
NEAR SANTA ROSA STATION
Northwestern Pacific Railroad
Santa Rosa, California

GEOMATRIX	Project No. 2770.02	Figure 3

GEOMATRIX

APPENDIX A

CHAIN-OF-CUSTODY RECORDS AND LABORATORY ANALYTICAL REPORTS

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

March 13, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/02/95, under chain of custody records 4035 and 4251.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			01	02	03	04
Client Identification			SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled			03/02/95	03/02/95	03/02/95	03/02/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06/95	03/06/95	03/06/95	03/06/95
Date Analyzed (Method 7060)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	13	7	11	25
Barium	EPA 6010A	1	160	160	140	130
Beryllium	EPA 6010A	0.5	<0.5	0.6	0.7	0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	63	65	71	62
Cobalt	EPA 6010A	1	26	17	15	19
Copper	EPA 6010A	1	33	41	29	25
Lead	EPA 6010A	5	<5	27	7	34
Mercury	EPA 7470	0.1	<0.1	0.5	0.6	0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	98	110	110	110
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	61	45	51	49
Zinc	EPA 6010A	2	63	120	57	68
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			05	030395		
Client Identification			SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled			03/02/95	–		
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95		
Date Analyzed (Method 6010A)			03/06/95	03/06/95		
Date Analyzed (Method 7060)			03/06-07/95	03/06-07/95		
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95		
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5		
Arsenic	EPA 7060	0.5	16	<0.5		
Barium	EPA 6010A	1	160	<1		
Beryllium	EPA 6010A	0.5	0.6	<0.5		
Cadmium	EPA 6010A	0.5	<0.5	<0.5		
Chromium, total	EPA 6010A	1	80	<1		
Cobalt	EPA 6010A	1	16	<1		
Copper	EPA 6010A	1	25	<1		
Lead	EPA 6010A	5	7	<5		
Mercury	EPA 7470	0.1	<0.1	<0.1		
Molybdenum	EPA 6010A	1	<1	<1		
Nickel	EPA 6010A	2	120	<2		
Selenium	EPA 6010A	5	<5	<5		
Silver	EPA 6010A	1	<1	<1		
Thallium	EPA 6010A	5	<5	<5		
Vanadium	EPA 6010A	1	53	<1		
Zinc	EPA 6010A	2	54	<2		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		06	030395 MSSO-1		
Client Identification		SRB5-8.5	METHOD BLANK		
Date Sampled		03/02/95	--		
Date Analyzed		03/03/95	03/03/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10		
Bromomethane	10	<10	<10		
Vinyl chloride	10	<10	<10		
Chloroethane	10	<10	<10		
Methylene chloride	5	<5	<5		
Acetone	50	<50	<50		
Carbon disulfide	5	<5	<5		
1,1-Dichloroethene	5	<5	<5		
1,1-Dichloroethane	5	<5	<5		
1,2-Dichloroethene, total	5	<5	<5		
Chloroform	5	<5	<5		
1,2-Dichloroethane	5	<5	<5		
2-Butanone	20	<20	<20		
1,1,1-Trichloroethane	5	<5	<5		
Carbon tetrachloride	5	<5	<5		
Vinyl acetate	50	<50	<50		
Bromodichloromethane	5	<5	<5		
1,2-Dichloropropane	5	<5	<5		
cis-1,3-Dichloropropene	5	<5	<5		
Trichloroethene	5	<5	<5		
Dibromochloromethane	5	<5	<5		
1,1,2-Trichloroethane	5	<5	<5		
Benzene	5	<5	<5		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		06	030395 MSSO-1		
Client Identification		SRB5-8.5	METHOD BLANK		
Date Sampled		03/02/95	--		
Date Analyzed		03/03/95	03/03/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5		
2-Chloroethylvinyl ether	10	<10	<10		
Bromoform	5	<5	<5		
4-Methyl-2-pentanone	20	<20	<20		
2-Hexanone	20	<20	<20		
Tetrachloroethene	5	<5	<5		
1,1,2,2-Tetrachloroethane	5	<5	<5		
Toluene	5	<5	<5		
Chlorobenzene	5	<5	<5		
Ethylbenzene	5	<5	<5		
Styrene	5	<5	<5		
1,2-Dichlorobenzene	10	<10	<10		
1,3-Dichlorobenzene	10	<10	<10		
1,4-Dichlorobenzene	10	<10	<10		
Xylene, total	10	<10	<10		
Trichlorofluoromethane	5	<5	<5		
Detection Limit Multiplier		1	1		
DCE surrogate, % recovery		101	101		
TOL surrogate, % recovery		109	105		
BFB surrogate, % recovery		87.0	108		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/95	03/02/95	03/02/95	03/02/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/07/95	03/07/95	03/07/95	03/07/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/95	03/02/95	03/02/95	03/02/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/07/95	03/07/95	03/07/95	03/07/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		82.0	84.6	79.8	68.9
2-Fluorobiphenyl surr., % rec.		87.1	90.9	81.3	68.6
d14-Terphenyl surr., % rec.		94.5	98.6	98.4	86.8
d5-Phenol surr., % rec.		87.6	90.2	89.2	78.7
2-Fluorophenol surr., % rec.		88.9	87.7	87.4	79.9
2,4,6-Tribromophenol surr., % rec.		91.1	85.5	83.8	74.3

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		05	030395BNAS		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/95	-		
Date Extracted		03/03/95	03/03/95		
Date Analyzed		03/07/95	03/06/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300		
bis(2-Chloroethyl)ether	300	<300	<300		
2-Chlorophenol	300	<300	<300		
1,3-Dichlorobenzene	300	<300	<300		
1,4-Dichlorobenzene	300	<300	<300		
Benzyl alcohol	300	<300	<300		
1,2-Dichlorobenzene	300	<300	<300		
2-Methylphenol	300	<300	<300		
bis-(2-Chloroisopropyl)ether	300	<300	<300		
4-Methylphenol	300	<300	<300		
N-Nitroso-di-propylamine	300	<300	<300		
Hexachloroethane	300	<300	<300		
Nitrobenzene	300	<300	<300		
Isophorone	300	<300	<300		
2-Nitrophenol	300	<300	<300		
2,4-Dimethylphenol	300	<300	<300		
Benzoic acid	1500	<1500	<1500		
bis(2-Chloroethoxy)methane	300	<300	<300		
2,4-Dichlorophenol	300	<300	<300		
1,2,4-Trichlorobenzene	300	<300	<300		
Naphthalene	300	<300	<300		
4-Chloroaniline	300	<300	<300		
Hexachlorobutadiene	300	<300	<300		
4-Chloro-3-methylphenol	300	<300	<300		
2-Methylnaphthalene	300	<300	<300		
Hexachlorocyclopentadiene	300	<300	<300		
2,4,6-Trichlorophenol	300	<300	<300		
2,4,5-Trichlorophenol	1500	<1500	<1500		
2-Chloronaphthalene	300	<300	<300		
2-Nitroaniline	1500	<1500	<1500		
Dimethylphthalate	300	<300	<300		
Acenaphthylene	300	<300	<300		
3-Nitroaniline	1500	<1500	<1500		
Acenaphthene	300	<300	<300		
2,4-Dinitrophenol	1500	<1500	<1500		
4-Nitrophenol	1500	<1500	<1500		

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		05	030396BNAS		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/96	–		
Date Extracted		03/03/96	03/03/96		
Date Analyzed		03/07/96	03/06/96		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300		
2,4-Dinitrotoluene	300	<300	<300		
2,6-Dinitrotoluene	300	<300	<300		
Diethylphthalate	300	<300	<300		
4-Chlorophenyl-phenylether	300	<300	<300		
Fluorene	300	<300	<300		
4-Nitroaniline	1500	<1500	<1500		
4,6-Dinitro-2-methylphenol	1500	<1500	<1500		
N-Nitrosodiphenylamine	300	<300	<300		
4-Bromophenyl-phenylether	300	<300	<300		
Hexachlorobenzene	300	<300	<300		
Pentachlorophenol	1500	<1500	<1500		
Phenanthrene	300	<300	<300		
Anthracene	300	<300	<300		
Di-n-butylphthalate	300	<300	<300		
Fluoranthene	300	<300	<300		
Pyrene	300	<300	<300		
Butylbenzylphthalate	300	<300	<300		
3,3'-Dichlorobenzidine	600	<600	<600		
Benzo(a)anthracene	300	<300	<300		
bis(2-Ethylhexyl)phthalate	300	<300	<300		
Chrysene	300	<300	<300		
Di-n-octylphthalate	300	<300	<300		
Benzo(b)fluoranthene	300	<300	<300		
Benzo(k)fluoranthene	300	<300	<300		
Benzidine	600	<600	<600		
Benzo(a)pyrene	300	<300	<300		
Indeno(1,2,3-cd)pyrene	300	<300	<300		
Dibenz(a,h)anthracene	300	<300	<300		
Benzo(g,h,i)perylene	300	<300	<300		
Detection Limit Multiplier		1	1		
d5-Nitrobenzene surr., % rec.		79.7	86.4		
2-Fluorobiphenyl surr., % rec.		76.1	99.6		
d14-Terphenyl surr., % rec.		101	116		
d5-Phenol surr., % rec.		86.9	92.9		
2-Fluorophenol surr., % rec.		86.2	92.2		
2,4,6-Tribromophenol surr., % rec.		81.9	83.8		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB5-1.5 5.5/7.5/9.5	SRB6-1.5 3.5/6.0/8.5	SRB7-1.5 3.0/5.5/8.5	SRB8-1.5 3.0/5.5/8.5
Date Sampled		03/02/95	03/02/95	03/02/95	03/02/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/11/95	03/11/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		92.7	82.6	94.7	87.9

GTEL Sample Number		05	GCJ 031095		
Client Identification		SRB9-1.5 3.5/5.5/7.0	METHOD BLANK		
Date Sampled		03/02/95	--		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/11/95	03/10/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10		
TPH as motor oil	100	<100	<100		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		97.1	120		

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0038

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030027-05	50.0	ug/Kg	112	106	5.5	59 - 172
Trichloroethene	C5030027-05	50.0	ug/Kg	98.0	99.4	1.4	62 - 137
Benzene	C5030027-05	50.0	ug/Kg	96.0	94.8	1.3	66 - 142
Toluene	C5030027-05	50.0	ug/Kg	79.4	90.2	12.7	59 - 139
Chlorobenzene	C5030027-05	50.0	ug/Kg	91.2	92.4	1.3	60 - 133
GC-FID:							
Diesel	C5030027-01	750	mg/Kg	91.8	89.0	3.1	58 - 144
Metals:							
Antimony	C5030027-11	100	mg/Kg	86.2	84.6	1.91	80 - 120
Arsenic	C5030027-11	100	mg/Kg	104	102	1.3	75 - 125
Barium	C5030027-11	100	mg/Kg	94	88	2.43	80 - 120
Beryllium	C5030027-11	40	mg/Kg	92.9	89.6	3.64	80 - 120
Cadmium	C5030027-11	50	mg/Kg	95.3	92.2	3.34	80 - 120
Chromium	C5030027-11	100	mg/Kg	88.4	82.3	3.6	80 - 120
Cobalt	C5030027-11	100	mg/Kg	94.6	91.4	2.92	80 - 120
Copper	C5030027-11	100	mg/Kg	93.9	91.2	2.21	80 - 120
Lead	C5030027-11	100	mg/Kg	100	96.5	3.64	80 - 120
Mercury	C5030027-24	2.5	mg/Kg	106	92	14.1	75 - 125
Molybdenum	C5030027-11	50	mg/Kg	91.7	88.9	3.09	80 - 120
Nickel	C5030027-11	100	mg/Kg	93.3	86.9	2.79	80 - 120
Selenium	C5030027-11	100	mg/Kg	93.1	86.9	6.87	75 - 125
Silver	C5030027-11	20	mg/Kg	101	96.6	3.97	80 - 120
Thallium	C5030027-11	100	mg/Kg	93.5	92.9	0.63	75 - 125
Vanadium	C5030027-11	100	mg/Kg	93.8	89.9	2.8	80 - 120
Zinc	C5030027-11	100	mg/Kg	97.6	95.1	1.68	80 - 120

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 625/8270:							
Phenol	C5030038-01	3330	ug/Kg	72.6	75.5	3.9	26 - 90
2-Chlorophenol	C5030038-01	3330	ug/Kg	80.4	77.6	3.5	25 - 102
4-Chloro-3-methylphenol	C5030038-01	3330	ug/Kg	85.5	83.4	2.5	26 - 103
4-Nitrophenol	C5030038-01	3330	ug/Kg	95.7	89.0	7.3	11 - 114
Pentachlorophenol	C5030038-01	3330	ug/Kg	102	97.7	4.3	17 - 109
1,4-Dichlorbenzene	C5030038-01	1667	ug/Kg	81.8	76.0	7.4	28 - 104
N-Nitroso-di-n-propylamine	C5030038-01	1667	ug/Kg	79.2	72.2	9.2	41 - 126
1,2,4-Trichlorobenzene	C5030038-01	1667	ug/Kg	84.4	81.4	3.6	38 - 107
2,4-Dinitrotoluene	C5030038-01	1667	ug/Kg	83.2	81.0	2.7	28 - 89
Acenaphthene	C5030038-01	1667	ug/Kg	89.6	86.6	3.4	31 - 137
Pyrene	C5030038-01	1667	ug/Kg	95.0	91.6	3.6	75 - 142
EPA 625/8270:							
Phenol	LCS/LCS DUP	3330	ug/Kg	73.8	72.3	2.0	26 - 90
2-Chlorophenol	LCS/LCS DUP	3330	ug/Kg	82.6	81.8	1.0	25 - 102
4-Chloro-3-methylphenol	LCS/LCS DUP	3330	ug/Kg	84.2	80.7	4.2	26 - 103
4-Nitrophenol	LCS/LCS DUP	3330	ug/Kg	70.4	85.7	19.6	11 - 114
Pentachlorophenol	LCS/LCS DUP	3330	ug/Kg	83.4	93.6	11.5	17 - 109
1,4-Dichlorbenzene	LCS/LCS DUP	1667	ug/Kg	85.2	82.6	3.1	28 - 104
N-Nitroso-di-n-propylamine	LCS/LCS DUP	1667	ug/Kg	78.4	74.8	4.7	41 - 126
1,2,4-Trichlorobenzene	LCS/LCS DUP	1667	ug/Kg	86.8	84.8	4.6	38 - 107
2,4-Dinitrotoluene	LCS/LCS DUP	1667	ug/Kg	76.6	83.2	8.3	28 - 89
Acenaphthene	LCS/LCS DUP	1667	ug/Kg	88.8	89.6	0.9	31 - 137
Pyrene	LCS/LCS DUP	1667	ug/Kg	101	102	1.0	75 - 142

Chain-of-Custody Record

No. 4035 | Date: 2 March 1995 | Page 1 of 2

Project No.: 2770

Samplers (Signatures): Preston Gaines 195

LAB NO.	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	Title 22 Metals	Composite	Coolant	Soil (S) or water (W)	Acrylic	Number of containers	Additional comments
01	3-2	0865	SRB5-1.5				X		X		X	X	Composite (4 pnts)	X	S	N	1	TPH analysis for motor oil & diesel by mod. 8015 (EPA) CCR Metals by EPA 6010/7000
		0900	SRB5-5.5				X		X		X	X		X	S	N	1	Fax Results to Jeff Nelson @ 415/434-3210
		0905	SRB5-7.5				X		X		X	X		X	S	N	1	Composite Sample - SRB5
		0915	SRB5-9.5				X		X		X	X		X	S	N	1	
02		1025	SRB6-1.5				X		X		X	X	Composite (4 pnts)	X	S	N	1	Composite Sample - SRB6
		1030	SRB6-3.5				X		X		X	X		X	S	N	1	
		1105	SRB6-6.0				X		X		X	X		X	S	N	1	
		1115	SRB6-8.5				X		X		X	X		X	S	N	1	
03		1200	SRB7-1.5				X		X		X	X	Composite (4 pnts)	X	S	N	1	Composite Sample - SRB7
		1205	SRB7-3.0				X		X		X	X		X	S	N	1	
		1210	SRB7-5.5				X		X		X	X		X	S	N	1	
	↓	1230	SRB7-8.5				X		X		X	X		X	S	N	1	

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

RE: GTEL Quote No.: QC95003A Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/2/95	Signature: John Weber	3/2/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1750	Signature	1900	Signature: Ronald C. Jensen	3/2/95 19:00
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No.: 1 OF 2 C5030038

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

Nº 4251

Date: 2 March 1995

Project No.: 2770

Samplers (Signatures): Preston Gainer

UAB No. '95

ANALYSES: EPA Method 8010; EPA Method 8020; EPA Method 8240; EPA Method 8270; TPH as gasoline; TPH as diesel; TPH as BTEX; TPH as Motor Oil; Title 22 Metals

Date	Time	Sample Number	Cooler	Soil (S) or water (W)	Acidified	Number of containers
3-2	1320	SRB8 - 1.5	X	S	N	1
04	1325	SRB8 - 3.0	X	S	N	1
	1330	SRB8 - 5.5	X	S	N	1
	1340	SRB8 - 8.5	X	S	N	1
	1440	SRB9 - 1.5	X	S	N	1
05	1445	SRB9 - 3.5	X	S	N	1
	1450	SRB9 - 5.5	X	S	N	1
	1455	SRB9 - 7.0	X	S	N	1
06	0910	SRB5 - 8.5	X	S	N	1

Composite (4-part) — Composite Sample - SRB8

Composite (4-part) — Composite Sample - SRB9

REMARKS

Additional comments:

- TPH analysis for motor oil and diesel by modified EPA Method 8015
- CCR Metals by EPA 6010/7000
- Fax results to Jeff Nelson @ 415 / 434 - 3216

RE: GTEL Quote No.: QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 9

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by	Date:
Signature: Preston Gainer	3/2/95	Signature: John Weber	3/2/95	Signature:	
Printed name: Preston Gainer		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company:	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by**	**Time**
Signature: John Weber	1750	Signature		Signature: Ronald C. Jensen	3/2/95 19:00
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No.

2 OF 2

C5030038

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

7770 - 61

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 15, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 03/03/95, under chain of custody records 4038 and 4040.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes. This report is to be reproduced only in full.

GTEL is certified by the California State Department of Health Services, Laboratory certification number E1075, to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

William Linbrade
for

Rashmi Shah
Laboratory Director

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			01	02	03	08
Client Identification			SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/8.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled			03/03/95	03/03/95	03/03/95	03/03/95
Date Prepared (Method 3055[c])			03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed (Method 6010A)			03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed (Method 7060)			03/07/95	03/07/95	03/07/95	03/07/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	3.7	3.9	3.1	9.9
Barium	EPA 6010A	1	180	140	170	120
Beryllium	EPA 6010A	0.5	0.7	0.7	0.5	0.6
Cadmium	EPA 6010A	0.5	0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	61	78	71	36
Cobalt	EPA 6010A	1	18	18	20	13
Copper	EPA 6010A	1	27	27	27	13
Lead	EPA 6010A	5	17	12	14	6
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	100	130	110	58
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	46	50	45	29
Zinc	EPA 6010A	2	62	58	59	32
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0068

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			09	030795		
Client Identification			FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled			03/03/95	–		
Date Prepared (Method 3055[c])			03/07/95	03/07/95		
Date Analyzed (Method 6010A)			03/07/95	03/07/95		
Date Analyzed (Method 7060)			03/07/95	03/07/95		
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95		
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5		
Arsenic	EPA 7060	0.5	3.0	<0.5		
Barium	EPA 6010A	1	120	<1		
Beryllium	EPA 6010A	0.5	<0.5	<0.5		
Cadmium	EPA 6010A	0.5	<0.5	<0.5		
Chromium, total	EPA 6010A	1	34	<1		
Cobalt	EPA 6010A	1	13	<1		
Copper	EPA 6010A	1	19	<1		
Lead	EPA 6010A	5	<5	<5		
Mercury	EPA 7470	0.1	<0.1	<0.1		
Molybdenum	EPA 6010A	1	<1	<1		
Nickel	EPA 6010A	2	58	<2		
Selenium	EPA 6010A	5	<5	<5		
Silver	EPA 6010A	1	<1	<1		
Thallium	EPA 6010A	5	<5	<5		
Vanadium	EPA 6010A	1	29	<1		
Zinc	EPA 6010A	2	38	<2		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		07	030895 MSC		
Client Identification		SRB10-6.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Analyzed		03/08/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10		
Bromomethane	10	<10	<10		
Vinyl chloride	10	<10	<10		
Chloroethane	10	<10	<10		
Methylene chloride	5	<5	<5		
Acetone	50	<50	<50		
Carbon disulfide	5	<5	<5		
1,1-Dichloroethene	5	<5	<5		
1,1-Dichloroethane	5	<5	<5		
1,2-Dichloroethene, total	5	<5	<5		
Chloroform	5	<5	<5		
1,2-Dichloroethane	5	<5	<5		
2-Butanone	20	<20	<20		
1,1,1-Trichloroethane	5	<5	<5		
Carbon tetrachloride	5	<5	<5		
Vinyl acetate	50	<50	<50		
Bromodichloromethane	5	<5	<5		
1,2-Dichloropropane	5	<5	<5		
cis-1,3-Dichloropropene	5	<5	<5		
Trichloroethene	5	<5	<5		
Dibromochloromethane	5	<5	<5		
1,1,2-Trichloroethane	5	<5	<5		
Benzene	5	<5	<5		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		07	030895 MSC		
Client Identification		SRB10-6.0	METHOD BLANK		
Date Sampled		03/03/95	--		
Date Analyzed		03/08/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5		
2-Chloroethylvinyl ether	10	<10	<10		
Bromoform	5	<5	<5		
4-Methyl-2-pentanone	20	<20	<20		
2-Hexanone	20	<20	<20		
Tetrachloroethene	5	<5	<5		
1,1,2,2-Tetrachloroethane	5	<5	<5		
Toluene	5	<5	<5		
Chlorobenzene	5	<5	<5		
Ethylbenzene	5	<5	<5		
Styrene	5	<5	<5		
1,2-Dichlorobenzene	10	<10	<10		
1,3-Dichlorobenzene	10	<10	<10		
1,4-Dichlorobenzene	10	<10	<10		
Xylene, total	10	<10	<10		
Trichlorofluoromethane	5	<5	<5		
Detection Limit Multiplier		1	1		
DCE surrogate, % recovery		105	102		
TOL surrogate, % recovery		104	104		
BFB surrogate, % recovery		95.3	103		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	08
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		01	02	03	08
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	FB1-1.5 3.5/5.5/7.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		76.1	81.2	82.9	78.3
2-Fluorobiphenyl surr., % rec.		77.3	80.9	85.3	81.8
d14-Terphenyl surr., % rec.		85.9	95.3	95.5	97.2
d5-Phenol surr., % rec.		78.2	87.0	84.6	83.9
2-Fluorophenol surr., % rec.		73.4	84.8	80.5	80.4
2,4,6-Tribromophenol surr., % rec.		69.2	85.4	72.2	86.4

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	030795BNAS		
Client Identification		FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/09/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300		
bis(2-Chloroethyl)ether	300	<300	<300		
2-Chlorophenol	300	<300	<300		
1,3-Dichlorobenzene	300	<300	<300		
1,4-Dichlorobenzene	300	<300	<300		
Benzyl alcohol	300	<300	<300		
1,2-Dichlorobenzene	300	<300	<300		
2-Methylphenol	300	<300	<300		
bis-(2-Chloroisopropyl)ether	300	<300	<300		
4-Methylphenol	300	<300	<300		
N-Nitroso-di-propylamine	300	<300	<300		
Hexachloroethane	300	<300	<300		
Nitrobenzene	300	<300	<300		
Isophorone	300	<300	<300		
2-Nitrophenol	300	<300	<300		
2,4-Dimethylphenol	300	<300	<300		
Benzoic acid	1500	<1500	<1500		
bis(2-Chloroethoxy)methane	300	<300	<300		
2,4-Dichlorophenol	300	<300	<300		
1,2,4-Trichlorobenzene	300	<300	<300		
Naphthalene	300	<300	<300		
4-Chloroaniline	300	<300	<300		
Hexachlorobutadiene	300	<300	<300		
4-Chloro-3-methylphenol	300	<300	<300		
2-Methylnaphthalene	300	<300	<300		
Hexachlorocyclopentadiene	300	<300	<300		
2,4,6-Trichlorophenol	300	<300	<300		
2,4,5-Trichlorophenol	1500	<1500	<1500		
2-Chloronaphthalene	300	<300	<300		
2-Nitroaniline	1500	<1500	<1500		
Dimethylphthalate	300	<300	<300		
Acenaphthylene	300	<300	<300		
3-Nitroaniline	1500	<1500	<1500		
Acenaphthene	300	<300	<300		
2,4-Dinitrophenol	1500	<1500	<1500		
4-Nitrophenol	1500	<1500	<1500		

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	030795BNAS		
Client Identification		FB2-2.0 4.0/6.0/7.0	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Extracted		03/07/95	03/07/95		
Date Analyzed		03/09/95	03/08/95		
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300		
2,4-Dinitrotoluene	300	<300	<300		
2,6-Dinitrotoluene	300	<300	<300		
Diethylphthalate	300	<300	<300		
4-Chlorophenyl-phenylether	300	<300	<300		
Fluorene	300	<300	<300		
4-Nitroaniline	1500	<1500	<1500		
4,6-Dinitro-2-methylphenol	1500	<1500	<1500		
N-Nitrosodiphenylamine	300	<300	<300		
4-Bromophenyl-phenylether	300	<300	<300		
Hexachlorobenzene	300	<300	<300		
Pentachlorophenol	1500	<1500	<1500		
Phenanthrene	300	<300	<300		
Anthracene	300	<300	<300		
Di-n-butylphthalate	300	<300	<300		
Fluoranthene	300	<300	<300		
Pyrene	300	<300	<300		
Butylbenzylphthalate	300	<300	<300		
3,3'-Dichlorobenzidine	600	<600	<600		
Benzo(a)anthracene	300	<300	<300		
bis(2-Ethylhexyl)phthalate	300	<300	<300		
Chrysene	300	<300	<300		
Di-n-octylphthalate	300	<300	<300		
Benzo(b)fluoranthene	300	<300	<300		
Benzo(k)fluoranthene	300	<300	<300		
Benzidine	600	<600	<600		
Benzo(a)pyrene	300	<300	<300		
Indeno(1,2,3-cd)pyrene	300	<300	<300		
Dibenz(a,h)anthracene	300	<300	<300		
Benzo(g,h,i)perylene	300	<300	<300		
Detection Limit Multiplier		1	1		
d5-Nitrobenzene surr., % rec.		74.4	77.0		
2-Fluorobiphenyl surr., % rec.		81.8	78.9		
d14-Terphenyl surr., % rec.		97.3	93.7		
d5-Phenol surr., % rec.		85.7	86.3		
2-Fluorophenol surr., % rec.		83.4	90.0		
2,4,6-Tribromophenol surr., % rec.		86.1	94.8		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Water

Method: GC-FID[a]

GTEL Sample Number		06	GCJ 031295		
Client Identification		SRB13	METHOD BLANK		
Date Sampled		03/03/95	–		
Date Extracted		03/06/95	03/06/95		
Date Analyzed		03/12/95	03/12/95		
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<50	<50		
TPH as motor oil	250	<250	<250		
Detection Limit Multiplier		1	1		
O-Terphenyl Surrogate, % recovery		142	99.4		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		SRB10-1.5 3.0/5.5/9.0	SRB11-1.5 3.5/5.5/8.0	SRB12-1.5 3.5/6.0/9.0	SRB13-5.0
Date Sampled		03/03/95	03/03/95	03/03/95	03/03/95
Date Extracted		03/08/95	03/08/95	03/08/95	03/08/95
Date Analyzed		03/12/95	03/12/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		71.3	54.3	68.4	53.2

GTEL Sample Number		05	08	09	GCJ 031395
Client Identification		SRB13-11.0	FB1-1.5 3.5/5.5/7.0	FB2-2.0 4.0/6.0/7.0	METHOD BLANK
Date Sampled		03/03/95	03/03/95	03/03/95	--
Date Extracted		03/08/95	03/08/95	03/08/95	03/08/95
Date Analyzed		03/13/95	03/13/95	03/13/95	03/14/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		64.9	60.8	75.0	81.3

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS/LCS DUP	750	ug/L	98.2	83.2	16.5	63 - 127

Client Number: GMX01GMX01
Consultant Project Number: 2770
Project ID: Geomatrix
Work Order Number: C5-03-0058

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030058-07	50.0	ug/Kg	98.2	84.2	15.3	59 - 172
Trichloroethene	C5030058-07	50.0	ug/Kg	92.2	91.0	1.3	62 - 137
Benzene	C5030058-07	50.0	ug/Kg	102	93.4	8.8	66 - 142
Toluene	C5030058-07	50.0	ug/Kg	115	92.6	21.6*	59 - 139
Chlorobenzene	C5030058-07	50.0	ug/Kg	96.8	95.0	1.9	60 - 133
GC-FID:							
Diesel	C5030060-01	750	mg/Kg	72.9	65.8	10.2	58 - 144
Metals:							
Antimony	C5030058-08	100	mg/Kg	93.9	92	2.03	80 - 120
Arsenic	C5030058-08	100	mg/Kg	76.5	71.3	6.21	75 - 125
Barium	C5030058-08	100	mg/Kg	108	103	2.28	80 - 120
Beryllium	C5030058-08	40	mg/Kg	105	98	6.88	80 - 120
Cadmium	C503058-08	50	mg/Kg	104	98.5	5.39	80 - 120
Chromium	C5030058-08	100	mg/Kg	111	101	6.56	80 - 120
Cobalt	C5030058-08	100	mg/Kg	105	98.2	5.9	80 - 120
Copper	C5030058-08	100	mg/Kg	104	96.2	6.48	80 - 120
Lead	C5030058-08	100	mg/Kg	108	99.2	7.67	80 - 120
Mercury	C5030058-08	2.5	mg/Kg	103	103	0.39	75 - 125
Molybdenum	C5030058-08	50	mg/Kg	103	96.1	6.93	80 - 120
Nickel	C5030058-08	100	mg/Kg	108	104	2.53	80 - 120
Selenium	C5030058-08	100	mg/Kg	105	98	7.15	75 - 125
Silver	C5030058-08	20	mg/Kg	107	100	6.85	80 - 120
Thallium	C5030058-08	100	mg/Kg	106	98.5	7.09	75 - 125
Vanadium	C5030058-08	100	mg/Kg	107	98.4	6.16	80 - 120
Zinc	C5030058-08	100	mg/Kg	111	103	6.03	80 - 120

* Toluene RPD was high due to matrix interference.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 625/8270:							
Phenol	C5030058-01	3330	ug/Kg	68.4	71.8	4.8	26 - 90
2-Chlorophenol	C5030058-01	3330	ug/Kg	81.4	84.0	3.1	25 - 102
4-Chloro-3-methylphenol	C5030058-01	3330	ug/Kg	82.0	91.9	11.4	26 - 103
4-Nitrophenol	C5030058-01	3330	ug/Kg	80.4	86.6	7.4	11 - 114
Pentachlorophenol	C5030058-01	3330	ug/Kg	96.0	107	10.8	17 - 109
1,4-Dichlorbenzene	C5030058-01	1667	ug/Kg	80.6	81.4	1.0	28 - 104
N-Nitroso-di-n-propylamine	C5030058-01	1667	ug/Kg	68.6	69.4	1.2	41 - 126
1,2,4-Trichlorobenzene	C5030058-01	1667	ug/Kg	81.2	85.8	5.5	38 - 107
2,4-Dinitrotoluene	C5030058-01	1667	ug/Kg	86.2	85.6	0.7	28 - 89
Acenaphthene	C5030058-01	1667	ug/Kg	84.6	86.2	1.9	31 - 137
Pyrene	C5030058-01	1667	ug/Kg	76.0	76.0	0	75 - 142
EPA 625/8270:							
Phenol	LCS	3330	ug/Kg	63.9	NA	NA	26 - 90
2-Chlorophenol	LCS	3330	ug/Kg	77.1	NA	NA	25 - 102
4-Chloro-3-methylphenol	LCS	3330	ug/Kg	86.7	NA	NA	26 - 103
4-Nitrophenol	LCS	3330	ug/Kg	71.9	NA	NA	11 - 114
Pentachlorophenol	LCS	3330	ug/Kg	97.0	NA	NA	17 - 109
1,4-Dichlorbenzene	LCS	1667	ug/Kg	78.8	NA	NA	28 - 104
N-Nitroso-di-n-propylamine	LCS	1667	ug/Kg	70.4	NA	NA	41 - 126
1,2,4-Trichlorobenzene	LCS	1667	ug/Kg	83.6	NA	NA	38 - 107
2,4-Dinitrotoluene	LCS	1667	ug/Kg	81.0	NA	NA	28 - 89
Acenaphthene	LCS	1667	ug/Kg	84.8	NA	NA	31 - 137
Pyrene	LCS	1667	ug/Kg	93.2	NA	NA	75 - 142

NA = Not Applicable.

Chain-of-Custody Record

No 4038

Date 3 March 1995

Project No 2770

Samplers (Signatures)

AB NO

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	Title 22 Metals	Cooled	Soil (S) or water (W)	Acid Pr	Number of containers
3-3	0850	SRB10 - 1.5				X		X		X	X	X	S	N	1
	0920	SRB10 - 3.0											S	N	1
01	0930	SRB10 - 5.5											S	N	1
	0940	SRB10 - 9.0											S	N	1
	1020	SRB11 - 1.5											S	N	1
	1025	SRB11 - 3.5											S	N	1
02	1030	SRB11 - 5.5											S	N	1
	1035	SRB11 - 8.0											S	N	1
	1115	SRB12 - 1.5											S	N	1
	1120	SRB12 - 3.5											S	N	1
03	1125	SRB12 - 6.0											S	N	1
	1130	SRB12 - 9.0											S	N	1

Composite (4-part) — Composite Sample SRB-10

Composite (4-part) — Composite Sample SRB-11

Composite (4-part) — Composite Sample SRB-12

ANALYSES

REMARKS

Additional comments

TPH analysis for motor oil and diesel by modified EPA method 8015
CCR metals by EPA 6010/7000
Fax results to Jeff Nelson
B 415 / 434 - 3216

RE: GTEL Quote No. QC95030034 / Proj No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	3/3/95	Signature	3/3/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	1745	Signature	19:15	Signature	3/3/95 19:15
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No

5°C

1 OF 2

C5030058

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4040

Date 3 March 1995

Project No 2770

Samplers (Signatures)

'95

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	Title 22 Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
3-3	1310	SRB13 - 5.0						X		X		X	S	N	1	TPH analysis for motor oil and diesel by modified EPA Method 8015
	1340	SRB13 - 11.0						X		X		X	S	N	1	CCR Metals by EPA 6010/7000
	1400	SRB13						X		X		X	W	N	2	Fax Results to Jeff Nelson 415/434-3216
	0935	SRB10 - 6.0			X							X	S	N	1	x 1 lt. ambers
	1555	FB1 - 1,5				X		X		X	X	X	S	N	1	
	1600	FB1 - 3,5				X		X		X	X	X	S	N	1	Composite Sample FB-1
	1605	FB1 - 5,5				X		X		X	X	X	S	N	1	Composite (4-part)
	1610	FB1 - 7.0				X		X		X	X	X	S	N	1	
	1510	FB2 - 2.0				X		X		X	X	X	S	N	1	
	1515	FB2 - 4.0				X		X		X	X	X	S	N	1	Composite Sample FB-2
	1520	FB2 - 6,0				X		X		X	X	X	S	N	1	Composite (4-part)
	1525	FB2 - 7,0				X		X		X	X	X	S	N	1	

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 13

RE: GTEL Quote No. QC950034 Proj No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/3/95	Signature: John Weber	3/3/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1745	Signature		Signature: Ronald C. Jensen	3/3/95 19:15
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	19:15
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No

2 OF 2

C5030058

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 22, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/01/95 under Chain-of-Custody Number(s) 4250, 4034, 4252, 4036, 4037.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

William Sobotka
for
Rashmi Shah
Laboratory Director

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-17	C5030027-18	C5030027-21
Client ID	SRB4 (AQ)	TB-1 (AQ)	SRB2 (AQ)	SRB1 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/04/95	03/04/95	03/04/95	03/04/95
Dilution Factor	10.0	1.00	1.00	10.0

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Bromomethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Vinyl chloride	10.	ug/L	< 100	< 10.	< 10.	< 100
Chloroethane	10.	ug/L	< 100	< 10.	< 10.	< 100
Methylene chloride	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Acetone	20.	ug/L	< 200	< 20.	< 20.	< 200
Carbon disulfide	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1-Dichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Chloroform	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
2-Butanone	20.	ug/L	< 200	< 20.	< 20.	< 200
1,1,1-Trichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Carbon tetrachloride	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Vinyl acetate	20.	ug/L	< 200	< 20.	< 20.	< 200
Bromodichloromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichloropropane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
cis-1,3-Dichloropropene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Trichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Dibromochloromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1,2-Trichloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Benzene	5.0	ug/L	78.	< 5.0	< 5.0	760
2-Chloroethyl vinyl ether	10.	ug/L	< 100	< 10.	< 10.	< 100
trans-1,3-Dichloropropene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Bromoform	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
4-Methyl-2-pentanone	20.	ug/L	< 200	< 20.	< 20.	< 200
2-Hexanone	20.	ug/L	< 200	< 20.	< 20.	< 200
Tetrachloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Toluene	5.0	ug/L	< 50.	< 5.0	< 5.0	95.
Chlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Ethylbenzene	5.0	ug/L	1700	< 5.0	< 5.0	1100
Styrene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Xylenes (total)	10.	ug/L	1800	< 10.	< 10.	2100
1,3-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,4-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-Dichlorobenzene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
Trichlorofluoromethane	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
trans-1,2-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-17	C5030027-18	C5030027-21
Client ID	SRB4 (AQ)	TB-1 (AQ)	SRB2 (AQ)	SRB1 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/04/95	03/04/95	03/04/95	03/04/95
Dilution Factor	10.0	1.00	1.00	10.0

Analyte	Reporting Limit	Units	Concentration:			
cis-1,2-Dichloroethene	5.0	ug/L	< 50.	< 5.0	< 5.0	< 50.
1,2-DCA-d4 (surrogate)	--	%	95.9	100.	102.	101.
Toluene-d8 (surrogate)	--	%	107.	102.	105.	112.
BFB (surrogate)	--	%	107.	98.4	101.	101.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1,2-DCA-d4, Toluene-d8 and BFB are 76-114, 88-110 and 86-115 respectively.

C5030027-16:

Detection limit raised due to high levels of target and nontarget compounds.

C5030027-21:

Detection limit raised due to high levels of target and nontarget compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030027-22
Client ID	SRB3 (AQ)
Date Sampled	03/01/95
Date Analyzed	03/07/95
Dilution Factor	10.0

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 100	--	--	--
Bromomethane	10.	ug/L	< 100	--	--	--
Vinyl chloride	10.	ug/L	< 100	--	--	--
Chloroethane	10.	ug/L	< 100	--	--	--
Methylene chloride	5.0	ug/L	< 50.	--	--	--
Acetone	20.	ug/L	< 200	--	--	--
Carbon disulfide	5.0	ug/L	< 50.	--	--	--
1,1-Dichloroethene	5.0	ug/L	< 50.	--	--	--
1,1-Dichloroethane	5.0	ug/L	< 50.	--	--	--
Chloroform	5.0	ug/L	< 50.	--	--	--
1,2-Dichloroethane	5.0	ug/L	< 50.	--	--	--
2-Butanone	20.	ug/L	< 200	--	--	--
1,1,1-Trichloroethane	5.0	ug/L	< 50.	--	--	--
Carbon tetrachloride	5.0	ug/L	< 50.	--	--	--
Vinyl acetate	20.	ug/L	< 200	--	--	--
Bromodichloromethane	5.0	ug/L	< 50.	--	--	--
1,2-Dichloropropane	5.0	ug/L	< 50.	--	--	--
cis-1,3-Dichloropropene	5.0	ug/L	< 50.	--	--	--
Trichloroethene	5.0	ug/L	< 50.	--	--	--
Dibromochloromethane	5.0	ug/L	< 50.	--	--	--
1,1,2-Trichloroethane	5.0	ug/L	< 50.	--	--	--
Benzene	5.0	ug/L	1100	--	--	--
2-Chloroethyl vinyl ether	10.	ug/L	< 100	--	--	--
trans-1,3-Dichloropropene	5.0	ug/L	< 50.	--	--	--
Bromoform	5.0	ug/L	< 50.	--	--	--
4-Methyl-2-pentanone	20.	ug/L	420	--	--	--
2-Hexanone	20.	ug/L	< 200	--	--	--
Tetrachloroethene	5.0	ug/L	< 50.	--	--	--
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 50.	--	--	--
Toluene	5.0	ug/L	78.	--	--	--
Chlorobenzene	5.0	ug/L	< 50.	--	--	--
Ethylbenzene	5.0	ug/L	2100	--	--	--
Styrene	5.0	ug/L	< 50.	--	--	--
Xylenes (total)	10.	ug/L	2500	--	--	--
1,3-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
1,4-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
1,2-Dichlorobenzene	5.0	ug/L	< 50.	--	--	--
Trichlorofluoromethane	5.0	ug/L	< 50.	--	--	--
trans-1,2-Dichloroethene	5.0	ug/L	< 50.	--	--	--

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: GMX01GMX01 ANALYTICAL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): NW Pacific RR Matrix: Aqueous

GTEL Sample Number	C5030027-22	--	--	--	--
Client ID	SRB3 (AQ)	--	--	--	--
Date Sampled	03/01/95	--	--	--	--
Date Analyzed	03/07/95	--	--	--	--
Dilution Factor	10.0	--	--	--	--

Analyte	Reporting Limit	Units	Concentration:			
cis-1,2-Dichloroethene	5.0	ug/L	< 50.	--	--	--
1,2-DCA-d4 (surrogate)	--	%	102.	--	--	--
Toluene-d8 (surrogate)	--	%	106.	--	--	--
BFB (surrogate)	--	%	99.4	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1,2-DCA-d4, Toluene-d8 and BFB are 76-114, 88-110 and 86-115 respectively.

C5030027-22:

Detection limit raised due to high levels of target and nontarget compounds.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): NW Pacific RR Matrix: Aqueous

Method Blank Results

	QC Batch No:	030495MSC-1	030695MSC-1
	Date Analyzed:	04-MAR-95	06-MAR-95
Analyte		Method:EPA 8240A	Concentration: ug/L
Chloromethane		< 10.	< 10.
Bromomethane		< 10.	< 10.
Vinyl chloride		< 10.	< 10.
Chloroethane		< 10.	< 10.
Methylene chloride		< 5.0	< 5.0
Acetone		< 20.	< 20.
Carbon disulfide		< 5.0	< 5.0
1,1-Dichloroethene		< 5.0	< 5.0
1,1-Dichloroethane		< 5.0	< 5.0
Chloroform		< 5.0	< 5.0
1,2-Dichloroethane		< 5.0	< 5.0
2-Butanone		< 20.	< 20.
1,1,1-Trichloroethane		< 5.0	< 5.0
Carbon tetrachloride		< 5.0	< 5.0
Vinyl acetate		< 20.	< 20.
Bromodichloromethane		< 5.0	< 5.0
1,2-Dichloropropane		< 5.0	< 5.0
cis-1,3-Dichloropropene		< 5.0	< 5.0
Trichloroethene		< 5.0	< 5.0
Dibromochloromethane		< 5.0	< 5.0
1,1,2-Trichloroethane		< 5.0	< 5.0
Benzene		< 5.0	< 5.0
2-Chloroethyl vinyl ether		< 10.	< 10.
trans-1,3-Dichloropropene		< 5.0	< 5.0
Bromoform		< 5.0	< 5.0
4-Methyl-2-pentanone		< 20.	< 20.
2-Hexanone		< 20.	< 20.
Tetrachloroethene		< 5.0	< 5.0
1,1,2,2-Tetrachloroethane		< 5.0	< 5.0
Toluene		< 5.0	< 5.0
Chlorobenzene		< 5.0	< 5.0
Ethylbenzene		< 5.0	< 5.0
Styrene		< 5.0	< 5.0
Xylenes (Total)		< 10.	< 10.
1,3-Dichlorobenzene		< 5.0	< 5.0
1,4-Dichlorobenzene		< 5.0	< 5.0
1,2-Dichlorobenzene		< 5.0	< 5.0
Trichlorofluoromethane		< 5.0	< 5.0
trans-1,2-Dichloroethene		< 5.0	< 5.0
cis-1,2-Dichloroethene		< 5.0	< 5.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Modified EPA 8020:							
Benzene	C5030027-18	20.0	ug/L	92.6	95.6	3.19	57.3 - 138
Toluene	C5030027-18	20.0	ug/L	120	122	1.65	63.0 - 134
Ethylbenzene	C5030027-18	20.0	ug/L	98.2	95.0	3.31	59.3 - 137
Xylene, total	C5030027-18	60.0	ug/L	103	98.9	4.06	59.3 - 144

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8015
Matrix: Aqueous

GTEL Sample Number	C5030027-16	C5030027-18	C5030027-21	C5030027-22
Client ID	SRB4 (AQ)	SRB2 (AQ)	SRB1 (AQ)	SRB3 (AQ)
Date Sampled	03/01/95	03/01/95	03/01/95	03/01/95
Date Analyzed	03/11/95	03/10/95	03/10/95	03/10/95
Dilution Factor	50.0	1.00	10.0	10.0

Analyte	Reporting Limit	Units	Concentration:			
TPH as GAS	100	ug/L	22000	1000	30000	31000
BFB (Surrogate)	--	%	75.8	83.2	75.7	74.4

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030027 Volatile Organics
Project ID (number): 2770 Method: EPA 8015
Project ID (name): NW Pacific RR Matrix: Aqueous

Method Blank Results

QC Batch No: E031195-1
Date Analyzed: 11-MAR-95

Analyte	Method: EPA 8015 Concentration: ug/L
Benzene	< 0.30
Toluene	< 0.30
Ethylbenzene	< 0.30
Xylenes (Total)	< 0.50
Chlorobenzene	< 1.00
1,3-Dichlorobenzene	< 1.00
1,4-Dichlorobenzene	< 1.00
1,2-Dichlorobenzene	< 1.00
TPH as Gasoline	< 10.

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030027
Project ID (number): 2770
Project ID (name): NW Pacific RR

QUALITY CONTROL RESULTS

Volatile Organics
Method: EPA 8015
Matrix: Aqueous

Matrix Spike and Matrix Spike Duplicate Results

Analyte	Original Concentration	Spike Amount	Matrix Spike Concentration	Matrix Spike Recovery, %	Matrix Spike Duplicate Concentration	Matrix Spike Duplicate Recovery, %	RPD, %	Acceptability Limits RPD, %	Acceptability Limits Recovery, %
EPA 8015 GTEL Sample ID:C5030063-03			Spike ID:E031195-3		Dup. ID:E031195-4				
Units: ug/L Analysis Date:09-MAR-95			11-MAR-95		11-MAR-95		Client ID:Batch QC		
Benzene	< 0.50	20.0	19.6	98.0	20.5	103.	4.9	34	57.3-138%
Toluene	< 1.0	20.0	18.9	94.5	19.9	99.5	5.1	31	63-134%
Ethylbenzene	< 1.0	20.0	19.5	96.8	20.4	101.	4.2	38	59.3-137%
Xylenes (Total)	< 2.0	60.0	59.2	98.7	62.1	104.	5.2	31	59.3-144%

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			03	04	07	08
Client Identification			PB-1	PB-2	PB-3	PB-4
Date Sampled			02/28/95	02/28/95	02/28/95	02/28/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	0.5	1.1	2.2	3.2
Barium	EPA 6010A	1	62	150	190	98
Beryllium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	11	14	16	19
Cobalt	EPA 6010A	1	3	8	8	7
Copper	EPA 6010A	1	7	13	14	11
Lead	EPA 6010A	5	5	12	6	8
Mercury	EPA 7470	0.1	<0.1	0.1	0.3	0.4
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	14	19	19	21
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	11	19	19	22
Zinc	EPA 6010A	2	14	22	18	23
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			09	10	030395	
Client Identification			PB-5	PB-6	METHOD BLANK	
Date Sampled			02/28/95	02/28/95	–	
Date Prepared (Method 3055[c])			03/03-03/95	03/03-03/95	03/03-03/95	
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	
Arsenic	EPA 7060	0.5	0.9	1.9	<0.5	
Barium	EPA 6010A	1	83	72	<1	
Beryllium	EPA 6010A	0.5	<0.5	<0.5	<0.5	
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	
Chromium, total	EPA 6010A	1	14	13	<1	
Cobalt	EPA 6010A	1	5	6	<1	
Copper	EPA 6010A	1	8	16	<1	
Lead	EPA 6010A	5	<5	<5	<5	
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1	
Molybdenum	EPA 6010A	1	<1	<1	<1	
Nickel	EPA 6010A	2	15	18	<2	
Selenium	EPA 6010A	5	<5	<5	<5	
Silver	EPA 6010A	1	<1	<1	<1	
Thallium	EPA 6010A	5	<5	<5	<5	
Vanadium	EPA 6010A	1	15	15	<1	
Zinc	EPA 6010A	2	14	18	<2	
Detection Limit Multiplier			1	1	1	

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			11	12	14	15
Client Identification			SRB-1A	SRB-2A	SRB-4A	SRB-3A
Date Sampled			02/28/95	02/28/95	03/01/95	03/01/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic	EPA 7060	0.5	5	7.4	9.6	8.9
Barium	EPA 6010A	1	160	180	120	140
Beryllium	EPA 6010A	0.5	0.6	0.7	0.8	0.6
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	85	84	62	68
Cobalt	EPA 6010A	1	17	19	11	15
Copper	EPA 6010A	1	26	30	47	57
Lead	EPA 6010A	5	<5	65	15	<5
Mercury	EPA 7470	0.1	<0.1	0.3	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel	EPA 6010A	2	140	140	75	98
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	48	52	78	46
Zinc	EPA 6010A	2	53	95	62	57
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			030395			
Client Identification			METHOD BLANK			
Date Sampled			–			
Date Prepared (Method 3055[c])			03/03-03/95			
Date Analyzed (Method 6010A)			03/06-07/95			
Date Analyzed (Method 7060)			03/06-08/95			
Date Prepared and Analyzed (Method 7470)			03/08/95			
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5			
Arsenic[d]	EPA 7060	0.5	<0.5			
Barium[d]	EPA 6010A	1	<1			
Beryllium	EPA 6010A	0.5	<0.5			
Cadmium	EPA 6010A	0.5	<0.5			
Chromium, total	EPA 6010A	1	<1			
Cobalt	EPA 6010A	1	<1			
Copper	EPA 6010A	1	<1			
Lead	EPA 6010A	5	<5			
Mercury	EPA 7470	0.1	<0.1			
Molybdenum	EPA 6010A	1	<1			
Nickel[d]	EPA 6010A	2	<2			
Selenium	EPA 6010A	5	<5			
Silver	EPA 6010A	1	<1			
Thallium	EPA 6010A	5	<5			
Vanadium	EPA 6010A	1	<1			
Zinc	EPA 6010A	2	<2			
Detection Limit Multiplier			1			

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			23	24	25	26
Client Identification			SRB-1B	SRB-2B	SRB-4B	SRB-3B
Date Sampled			03/01/95	03/01/95	03/01/95	03/01/95
Date Prepared (Method 3055[c])			03/03-06/95	03/03-06/95	03/03-06/95	03/03-06/95
Date Analyzed (Method 6010A)			03/06-07/95	03/06-07/95	03/06-07/95	03/06-07/95
Date Analyzed (Method 7060)			03/06-08/95	03/06-08/95	03/06-08/95	03/06-08/95
Date Prepared and Analyzed (Method 7470)			03/08/95	03/08/95	03/08/95	03/08/95
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5	<5	<5	<5
Arsenic[d]	EPA 7060	0.5	2.8	4.5	2.4	3.8
Barium[d]	EPA 6010A	1	150	190	95	130
Beryllium	EPA 6010A	0.5	<0.5	0.6	<0.5	<0.5
Cadmium	EPA 6010A	0.5	<0.5	<0.5	<0.5	<0.5
Chromium, total	EPA 6010A	1	52	78	53	68
Cobalt	EPA 6010A	1	14	22	13	17
Copper	EPA 6010A	1	23	31	28	31
Lead	EPA 6010A	5	6	6	<5	<5
Mercury	EPA 7470	0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum	EPA 6010A	1	<1	<1	<1	<1
Nickel[d]	EPA 6010A	2	90	160	90	120
Selenium	EPA 6010A	5	<5	<5	<5	<5
Silver	EPA 6010A	1	<1	<1	<1	<1
Thallium	EPA 6010A	5	<5	<5	<5	<5
Vanadium	EPA 6010A	1	35	54	42	46
Zinc	EPA 6010A	2	48	63	56	62
Detection Limit Multiplier			1	1	1	1

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.
d. Matrix spike recovery for this analyte demonstrated a matrix effect. Laboratory control sample indicated that the analysis was within control limits.

ANALYTICAL RESULTS

CCR List of Metals in Soil (TTLC)[a]

GTEL Sample Number			030695			
Client Identification			METHOD BLANK			
Date Sampled			--			
Date Prepared (Method 3055[c])			03/01/95			
Date Analyzed (Method 6010A)			03/06/95			
Date Analyzed (Method 7060)			03/06-07/95			
Date Prepared and Analyzed (Method 7470)			03/06-08/95			
Analyte	EPA Method[b]	Detection Limit, mg/Kg	Concentration, mg/Kg			
Antimony	EPA 6010A	5	<5			
Arsenic[d]	EPA 7060	0.5	<0.5			
Barium[d]	EPA 6010A	1	<1			
Beryllium	EPA 6010A	0.5	<0.5			
Cadmium	EPA 6010A	0.5	<0.5			
Chromium, total	EPA 6010A	1	<1			
Cobalt	EPA 6010A	1	<1			
Copper	EPA 6010A	1	<1			
Lead	EPA 6010A	5	<5			
Mercury	EPA 7470	0.1	<0.1			
Molybdenum	EPA 6010A	1	<1			
Nickel[d]	EPA 6010A	2	<2			
Selenium	EPA 6010A	5	<5			
Silver	EPA 6010A	1	<1			
Thallium	EPA 6010A	5	<5			
Vanadium	EPA 6010A	1	<1			
Zinc	EPA 6010A	2	<2			
Detection Limit Multiplier			1			

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992. Results reported on a wet weight basis.
c. Draft EPA method 3055 SW-846 Third Addition Revision 1 Sept. 1991.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		03	04	07	08
Client Identification		PB-1	PB-2	PB-3	PB-4
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/06/95	03/06/95	03/07/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		03	04	07	08
Client Identification		PB-1	PB-2	PB-3	PB-4
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/06/95	03/06/95	03/07/95	03/06/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		83.9	82.3	81.5	81.4
2-Fluorobiphenyl surr., % rec.		83.9	80.6	89.4	82.4
d14-Terphenyl surr., % rec.		95.8	94.4	94.6	114
d5-Phenol surr., % rec.		96.1	91.8	90.1	93.0
2-Fluorophenol surr., % rec.		91.2	88.6	88.0	102
2,4,6-Tribromophenol surr., % rec.		83.3	91.3	88.7	90.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Resu reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	10	11	12
Client Identification		PB-5	PB-6	SRB-1A	SRB-2A
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/07/95	03/07/95
Date Analyzed		03/07/95	03/07/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		09	10	11	12
Client Identification		PB-5	PB-6	SRB-1A	SRB-2A
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/03/95	03/03/95	03/07/95	03/07/95
Date Analyzed		03/07/95	03/07/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		74.7	78.1	71.6	77.1
2-Fluorobiphenyl surr., % rec.		69.9	63.0	74.6	77.8
d14-Terphenyl surr., % rec.		91.5	100	92.4	84.0
d5-Phenol surr., % rec.		85.0	92.6	78.0	84.4
2-Fluorophenol surr., % rec.		85.3	91.0	77.2	73.3
2,4,6-Tribromophenol surr., % rec.		84.1	78.5	80.5	90.8

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Result reported on a wet weight basis.

Client Number: GMX01GMX01
Consultant Project Number: 2770
Work Order Number: C5-03-0027

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		14	15	23	24
Client Identification		SRB-4A	SRB-3A	SRB-1B	SRB-2B
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	<300	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	<300	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		14	15	23	24
Client Identification		SRB-4A	SRB-3A	SRB-1B	SRB-2B
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/09/95	03/09/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		73.6	75.3	80.4	77.6
2-Fluorobiphenyl surr., % rec.		77.0	75.2	83.0	71.4
d14-Terphenyl surr., % rec.		98.2	91.6	91.9	95.3
d5-Phenol surr., % rec.		81.3	82.0	88.5	85.3
2-Fluorophenol surr., % rec.		83.5	84.7	84.3	85.0
2,4,6-Tribromophenol surr., % rec.		73.4	97.4	73.2	71.0

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Result reported on a wet weight basis.

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		26	28	030395 BNAS	030795 BNAS
Client Identification		SRB-4B	SRB-3B	METHOD BLANK	METHOD BLANK
Date Sampled		02/28/95	02/28/95	--	--
Date Extracted		03/07/95	03/07/95	03/03/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/06/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Phenol	300	<300	<300	<300	<300
bis(2-Chloroethyl)ether	300	<300	<300	<300	<300
2-Chlorophenol	300	<300	<300	<300	<300
1,3-Dichlorobenzene	300	<300	<300	<300	<300
1,4-Dichlorobenzene	300	<300	<300	<300	<300
Benzyl alcohol	300	<300	<300	<300	<300
1,2-Dichlorobenzene	300	<300	<300	<300	<300
2-Methylphenol	300	<300	<300	<300	<300
bis-(2-Chloroisopropyl)ether	300	<300	<300	<300	<300
4-Methylphenol	300	<300	<300	<300	<300
N-Nitroso-di-propylamine	300	<300	<300	<300	<300
Hexachloroethane	300	<300	<300	<300	<300
Nitrobenzene	300	<300	<300	<300	<300
Isophorone	300	<300	<300	<300	<300
2-Nitrophenol	300	<300	<300	<300	<300
2,4-Dimethylphenol	300	<300	<300	<300	<300
Benzoic acid	1500	<1500	<1500	<1500	<1500
bis(2-Chloroethoxy)methane	300	<300	<300	<300	<300
2,4-Dichlorophenol	300	<300	<300	<300	<300
1,2,4-Trichlorobenzene	300	<300	<300	<300	<300
Naphthalene	300	<300	740	<300	<300
4-Chloroaniline	300	<300	<300	<300	<300
Hexachlorobutadiene	300	<300	<300	<300	<300
4-Chloro-3-methylphenol	300	<300	<300	<300	<300
2-Methylnaphthalene	300	<300	710	<300	<300
Hexachlorocyclopentadiene	300	<300	<300	<300	<300
2,4,6-Trichlorophenol	300	<300	<300	<300	<300
2,4,5-Trichlorophenol	1500	<1500	<1500	<1500	<1500
2-Chloronaphthalene	300	<300	<300	<300	<300
2-Nitroaniline	1500	<1500	<1500	<1500	<1500
Dimethylphthalate	300	<300	<300	<300	<300
Acenaphthylene	300	<300	<300	<300	<300
3-Nitroaniline	1500	<1500	<1500	<1500	<1500
Acenaphthene	300	<300	<300	<300	<300
2,4-Dinitrophenol	1500	<1500	<1500	<1500	<1500
4-Nitrophenol	1500	<1500	<1500	<1500	<1500

ANALYTICAL RESULTS
Semi-Volatile Organics in Soil
EPA Method 8270[a]

GTEL Sample Number		25	26	030396 BNAS	030795 BNAS
Client Identification		SRB-4B	SRB-3B	METHOD BLANK	METHOD BLANK
Date Sampled		02/28/95	02/28/95	--	--
Date Extracted		03/07/95	03/07/95	03/03/95	03/07/95
Date Analyzed		03/09/95	03/09/95	03/06/95	03/08/95
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Dibenzofuran	300	<300	<300	<300	<300
2,4-Dinitrotoluene	300	<300	<300	<300	<300
2,6-Dinitrotoluene	300	<300	<300	<300	<300
Diethylphthalate	300	<300	<300	<300	<300
4-Chlorophenyl-phenylether	300	<300	<300	<300	<300
Fluorene	300	<300	<300	<300	<300
4-Nitroaniline	1500	<1500	<1500	<1500	<1500
4,6-Dinitro-2-methylphenol	1500	<1500	<1500	<1500	<1500
N-Nitrosodiphenylamine	300	<300	<300	<300	<300
4-Bromophenyl-phenylether	300	<300	<300	<300	<300
Hexachlorobenzene	300	<300	<300	<300	<300
Pentachlorophenol	1500	<1500	<1500	<1500	<1500
Phenanthrene	300	<300	<300	<300	<300
Anthracene	300	<300	<300	<300	<300
Di-n-butylphthalate	300	<300	<300	<300	<300
Fluoranthene	300	<300	<300	<300	<300
Pyrene	300	<300	<300	<300	<300
Butylbenzylphthalate	300	<300	<300	<300	<300
3,3'-Dichlorobenzidine	600	<600	<600	<600	<600
Benzo(a)anthracene	300	<300	<300	<300	<300
bis(2-Ethylhexyl)phthalate	300	<300	<300	<300	<300
Chrysene	300	<300	<300	<300	<300
Di-n-octylphthalate	300	<300	<300	<300	<300
Benzo(b)fluoranthene	300	<300	<300	<300	<300
Benzo(k)fluoranthene	300	<300	<300	<300	<300
Benzidine	600	<600	<600	<600	<600
Benzo(a)pyrene	300	<300	<300	<300	<300
Indeno(1,2,3-cd)pyrene	300	<300	<300	<300	<300
Dibenz(a,h)anthracene	300	<300	<300	<300	<300
Benzo(g,h,i)perylene	300	<300	<300	<300	<300
Detection Limit Multiplier		1	1	1	1
d5-Nitrobenzene surr., % rec.		81.0	79.7	86.4	77.0
2-Fluorobiphenyl surr., % rec.		78.2	74.9	96.6	78.9
d14-Terphenyl surr., % rec.		103	90.8	116	93.7
d5-Phenol surr., % rec.		85.6	87.5	92.9	86.3
2-Fluorophenol surr., % rec.		81.8	85.2	92.2	90.0
2,4,6-Tribromophenol surr., % rec.		77.3	79.8	83.8	94.8

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3550. Results reported on a wet weight basis.

ANALYTICAL RESULTS

TPH as Diesel in Water

Method: GC-FID[a]

GTEL Sample Number		16[b]	18[c]	21[b]	22[b]
Client Identification		SRB4	SRB2	SRB1	SRB3
Date Sampled		03/01/95	03/01/95	03/01/95	03/01/95
Date Extracted		03/03/95	03/03/95	03/03/95	03/03/95
Date Analyzed		03/11/95	03/05/95	03/11/95	03/11/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<1000	<50	<2500	<2500
Detection Limit Multiplier		20	1	50	50
O-Terphenyl Surrogate, % recovery		580	129	90.2	74.5

GTEL Sample Number		GCJ 031095			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Extracted		03/03/95			
Date Analyzed		03/10/95			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as diesel	50	<50			
Detection Limit Multiplier		1			
O-Terphenyl Surrogate, % recovery		124			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986.

b. Detection limit raised due to high concentration of non-target compounds.

c. Hydrocarbon pattern present in sample is not characteristic of diesel.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		01	02	03	04
Client Identification		NB-1-4.0	NB-1-7.5	PB-1	PB-2
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as Gas	10	<10	<10	NR	NR
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		69.9	92.0	76.8	68.2

GTEL Sample Number		07	08	09	10
Client Identification		PB-3	PB-4	PB-5	PB-6
Date Sampled		02/28/95	02/28/95	02/28/95	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/11/95	03/11/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		73.9	110	85.3	86.6

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

NR = Not Requested

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		11	12	14	15
Client Identification		SRB-1A	SRB-2A	SRB-4A	SRB-3A
Date Sampled		02/28/95	02/28/95	03/01/95	03/01/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/07/95
Date Analyzed		03/12/95	03/12/95	03/12/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		70.7	83.9	103	83.2

GTEL Sample Number		23	24	GCJ 031095	25
Client Identification		SRB-1B	SRB-2B	METHOD BLANK	SRB-4B
Date Sampled		02/28/95	02/28/95	--	02/28/95
Date Extracted		03/07/95	03/07/95	03/07/95	03/0895
Date Analyzed		03/12/95	03/12/95	03/10/95	03/12/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	<10	<10
TPH as motor oil	100	<100	<100	<100	<100
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		65.6	87.3	120	79.0

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

ANALYTICAL RESULTS

TPH as Diesel and Motor Oil in Soil

Method: GC-FID[a]

GTEL Sample Number		26[c]	GCJ 031295		
Client Identification		SRB-38	METHOD BLANK		
Date Sampled		02/28/95	–		
Date Extracted		03/08/95	03/08/95		
Date Analyzed		03/12/95	03/12/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10		
TPH as motor oil	100	<100	<100		
Detection Limit Multiplier		1	1		
O-Terphenyl surrogate, % recovery		52.5	99.4		

a. Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4-88/039, Revision 2.0, USEPA, December 1988. Results reported on a dry weight basis.

c. Hydrocarbon pattern present in sample not characteristic of diesel or motor oil.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		05	06	13	
Client Identification		PB1-6.0	PB3-7.0	SRB1-11.5	
Date Sampled		02/28/95	02/28/95	03/01/95	
Date Analyzed		03/03/95	03/03/95	03/03/95	
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10	<10	<10	
Bromomethane	10	<10	<10	<10	
Vinyl chloride	10	<10	<10	<10	
Chloroethane	10	<10	<10	<10	
Methylene chloride	5	<5	<5	<5	
Acetone	50	<50	<50	<50	
Carbon disulfide	5	<5	<5	<5	
1,1-Dichloroethene	5	<5	<5	<5	
1,1-Dichloroethane	5	<5	<5	<5	
1,2-Dichloroethene, total	5	<5	<5	<5	
Chloroform	5	<5	<5	<5	
1,2-Dichloroethane	5	<5	<5	<5	
2-Butanone	20	<20	<20	<20	
1,1,1-Trichloroethane	5	<5	<5	<5	
Carbon tetrachloride	5	<5	<5	<5	
Vinyl acetate	50	<50	<50	<50	
Bromodichloromethane	5	<5	<5	<5	
1,2-Dichloropropane	5	<5	<5	<5	
cis-1,3-Dichloropropene	5	<5	<5	<5	
Trichloroethene	5	<5	<5	<5	
Dibromochloromethane	5	<5	<5	<5	
1,1,2-Trichloroethane	5	<5	<5	<5	
Benzene	5	<5	<5	<5	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		05	06	13	
Client Identification		PB1-6.0	PB3-7.0	SRB1-11.5	
Date Sampled		02/28/95	02/28/95	03/01/95	
Date Analyzed		03/03/95	03/03/95	03/03/95	
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5	<5	<5	
2-Chloroethylvinyl ether	10	<10	<10	<10	
Bromoform	5	<5	<5	<5	
4-Methyl-2-pentanone	20	<20	<20	<20	
2-Hexanone	20	<20	<20	<20	
Tetrachloroethene	5	<5	<5	<5	
1,1,2,2-Tetrachloroethane	5	<5	<5	<5	
Toluene	5	<5	<5	<5	
Chlorobenzene	5	<5	<5	<5	
Ethylbenzene	5	<5	<5	<5	
Styrene	5	<5	<5	<5	
1,2-Dichlorobenzene	10	<10	<10	<10	
1,3-Dichlorobenzene	10	<10	<10	<10	
1,4-Dichlorobenzene	10	<10	<10	<10	
Xylene, total	10	<10	<10	<10	
Trichlorofluoromethane	5	<5	<5	<5	
trans-1,2-Dichloroethene	5	<5	<5	<5	
cis-1,2-Dichloroethene	5	<5	<5	<5	
Detection Limit Multiplier		1	1	1	
1,2-DCA-d_4 surrogate, % recovery		101	99.6	103	
Toluene d_8 surrogate, % recovery		94.6	99.9	99.1	
BFB surrogate, % recovery		97.0	102	86.1	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		030395 MSSO-1			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		03/03/95			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
Chloromethane	10	<10			
Bromomethane	10	<10			
Vinyl chloride	10	<10			
Chloroethane	10	<10			
Methylene chloride	5	<5			
Acetone	50	<50			
Carbon disulfide	5	<5			
1,1-Dichloroethene	5	<5			
1,1-Dichloroethane	5	<5			
1,2-Dichloroethene, total	5	<5			
Chloroform	5	<5			
1,2-Dichloroethane	5	<5			
2-Butanone	20	<20			
1,1,1-Trichloroethane	5	<5			
Carbon tetrachloride	5	<5			
Vinyl acetate	50	<50			
Bromodichloromethane	5	<5			
1,2-Dichloropropane	5	<5			
cis-1,3-Dichloropropene	5	<5			
Trichloroethene	5	<5			
Dibromochloromethane	5	<5			
1,1,2-Trichloroethane	5	<5			
Benzene	5	<5			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

ANALYTICAL RESULTS

Volatile Organics in Soil

EPA Method 8240A[a]

GTEL Sample Number		030395 MSSO-1			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Analyzed		03/03/95			
Analyte	Detection Limit, ug/Kg	Concentration, ug/Kg			
trans-1,3-Dichloropropene	5	<5			
2-Chloroethylvinyl ether	10	<10			
Bromoform	5	<5			
4-Methyl-2-pentanone	20	<20			
2-Hexanone	20	<20			
Tetrachloroethene	5	<5			
1,1,2,2-Tetrachloroethane	5	<5			
Toluene	5	<5			
Chlorobenzene	5	<5			
Ethylbenzene	5	<5			
Styrene	5	<5			
1,2-Dichlorobenzene	10	<10			
1,3-Dichlorobenzene	10	<10			
1,4-Dichlorobenzene	10	<10			
Xylene, total	10	<10			
Trichlorofluoromethane	5	<5			
trans-1,2-Dichloroethene	5	<5			
cis-1,2-Dichloroethene	5	<5			
Detection Limit Multiplier		1			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update 1, US EPA July 1992 (method modified for additional compounds). Results reported on a wet weight basis.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	C5030027-01	750	mg/Kg	91.8	89.0	3.1	58 - 144
Diesel	LCS	750	mg/Kg	86.0	92.0	6.7	58 - 144
EPA 8270:							
Phenol	C5030038-01	3330	ug/Kg	72.6	75.5	3.9	26 - 90
2-Chlorophenol	C5030038-01	3330	ug/Kg	80.4	77.6	3.5	25 - 102
4-Chloro-3-methylphenol	C5030038-01	3330	ug/Kg	85.5	83.4	2.5	26 - 103
4-Nitrophenol	C5030038-01	3330	ug/Kg	95.7	89.0	7.3	11 - 114
Pentachlorophenol	C5030038-01	3330	ug/Kg	102	97.7	4.3	17 - 109
1,4-Dichlorobenzene	C5030038-01	1667	ug/Kg	81.8	76.0	7.4	28 - 104
N-Nitroso-di-n-propylamine	C5030038-01	1667	ug/Kg	79.2	72.2	9.2	41 - 126
1,2,4-Trichlorobenzene	C5030038-01	1667	ug/Kg	84.4	81.4	3.6	38 - 107
2,4-Dinitrotoluene	C5030038-01	1667	ug/Kg	83.2	81.0	2.7	28 - 89
Acenaphthene	C5030038-01	1667	ug/Kg	89.6	86.6	3.4	31 - 137
Pyrene	C5030038-01	1667	ug/Kg	95.0	91.6	3.6	75 - 142
EPA 8270:							
Phenol	LCS & DUP	3330	ug/Kg	73.8	72.3	2.0	26 - 90
2-Chlorophenol	LCS & DUP	3330	ug/Kg	82.6	81.8	1.0	25 - 102
4-Chloro-3-methylphenol	LCS & DUP	3330	ug/Kg	84.2	80.7	4.2	26 - 103
4-Nitrophenol	LCS & DUP	3330	ug/Kg	70.4	85.7	19.6	11 - 114
Pentachlorophenol	LCS & DUP	3330	ug/Kg	83.4	93.6	11.5	17 - 109
1,4-Dichlorobenzene	LCS & DUP	1667	ug/Kg	85.2	82.6	3.1	28 - 104
N-Nitroso-di-n-propylamine	LCS & DUP	1667	ug/Kg	78.4	74.8	4.7	41 - 126
1,2,4-Trichlorobenzene	LCS & DUP	1667	ug/Kg	88.8	84.8	4.6	38 - 107
2,4-Dinitrotoluene	LCS & DUP	1667	ug/Kg	76.6	83.2	8.3	28 - 89
Acenaphthene	LCS & DUP	1667	ug/Kg	88.8	89.6	0.9	31 - 137
Pyrene	LCS & DUP	1667	ug/Kg	101	102	1.0	75 - 142

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
EPA 8240:							
1,1-Dichloroethene	C5030027-05	50	ug/Kg	112	106	5.5	59 - 172
Trichloroethene	C5030027-05	50	ug/Kg	98.0	99.4	1.4	62 - 137
Benzene	C5030027-05	50	ug/Kg	96.0	94.8	1.3	66 - 142
Toluene	C5030027-05	50	ug/Kg	79.4	90.2	12.7	59 - 139
Chlorobenzene	C5030027-05	50	ug/Kg	91.2	92.4	1.3	60 - 133
EPA 8270:							
Phenol	C5030058-01	3330	ug/Kg	68.4	71.8	4.8	26 - 90
2-Chlorophenol	C5030058-01	3330	ug/Kg	81.4	84.0	3.1	25 - 102
4-Chloro-3-methylphenol	C5030058-01	3330	ug/Kg	82.0	91.9	11.4	26 - 103
4-Nitrophenol	C5030058-01	3330	ug/Kg	80.4	86.6	7.4	11 - 114
Pentachlorophenol	C5030058-01	3330	ug/Kg	96.0	107	10.8	17 - 109
1,4-Dichlorobenzene	C5030058-01	1667	ug/Kg	80.6	81.4	1.0	28 - 104
N-Nitroso-di-n-propylamine	C5030058-01	1667	ug/Kg	68.6	69.4	1.2	41 - 126
1,2,4-Trichlorobenzene	C5030058-01	1667	ug/Kg	81.2	85.8	5.5	38 - 107
2,4-Dinitrotoluene	C5030058-01	1667	ug/Kg	86.2	85.6	0.7	28 - 89
Acenaphthene	C5030058-01	1667	ug/Kg	84.6	86.2	1.9	31 - 137
Pyrene	C5030058-01	1667	ug/Kg	76.0	76.0	0	75 - 142
Metals:							
Antimony	C5030027-11	100	mg/Kg	86.2	84.6	1.91	80 - 120
Arsenic	C5030027-11	100	mg/Kg	104	102	1.30	75 - 125
Barium	C5030027-11	100	mg/Kg	94.0	88.0	2.43	80 - 120
Beryllium	C5030027-11	40	mg/Kg	92.9	89.6	3.64	80 - 120
Cadmium	C5030027-11	50	mg/Kg	95.3	92.2	3.34	80 - 120
Chromium	C5030027-11	100	mg/Kg	88.4	82.3	3.60	80 - 120
Cobalt	C5030027-11	100	mg/Kg	94.6	91.4	2.92	80 - 120
Copper	C5030027-11	100	mg/Kg	93.9	91.2	2.21	80 - 120
Lead	C5030027-11	100	mg/Kg	100	96.5	3.64	80 - 120
Molybdenum	C5030027-11	50	mg/Kg	91.7	88.9	3.09	80 - 120
Nickel	C5030027-11	100	mg/Kg	93.3	86.9	2.79	80 - 120
Selenium	C5030027-11	100	mg/Kg	93.1	86.9	6.87	75 - 125
Silver	C5030027-11	20	mg/Kg	101	96.6	3.97	80 - 120
Thallium	C5030027-11	100	mg/Kg	93.5	92.9	0.63	75 - 125
Vanadium	C5030027-11	100	mg/Kg	93.8	89.9	2.80	80 - 120
Zinc	C5030027-11	100	mg/Kg	97.6	95.1	1.68	80 - 120

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
Metals:							
Antimony	C5030027-24	100	mg/Kg	87.5	92.9	6.04	80 - 120
Arsenic[a]	C5030027-24	100	mg/Kg	67.5	77.1	12.5	75 - 125
Barium[a]	C5030027-24	100	mg/Kg	67.3	68.1	0.32	80 - 120
Beryllium	C5030027-24	40	mg/Kg	92.9	95.3	2.51	80 - 120
Cadmium	C5030027-24	50	mg/Kg	94.1	96.0	2.03	80 - 120
Chromium	C5030027-24	100	mg/Kg	95.3	98.7	1.91	80 - 120
Cobalt	C5030027-24	100	mg/Kg	89.2	92.8	3.2	80 - 120
Copper	C5030027-24	100	mg/Kg	89.9	95.6	4.58	80 - 120
Lead	C5030027-24	100	mg/Kg	94.8	97.6	2.83	80 - 120
Mercury	C5030027-24	2.5	mg/Kg	106	92.0	14.1	75 - 125
Molybdenum	C5030027-24	50	mg/Kg	93.8	95.2	1.52	80 - 120
Nickel[a]	C5030027-24	100	mg/Kg	74.9	82.2	3.03	80 - 120
Selenium	C5030027-24	100	mg/Kg	94.8	99.8	5.18	75 - 125
Silver	C5030027-24	20	mg/Kg	98.1	100	2.01	80 - 120
Thallium	C5030027-24	100	mg/Kg	96.5	97.5	1.04	75 - 125
Vanadium	C5030027-24	100	mg/Kg	94.8	98.4	2.39	80 - 120
Zinc	C5030027-24	100	mg/Kg	93.4	102	5.12	80 - 120

a. Matrix spike recovery for this analyte demonstrated a matrix effect. Laboratory control sample indicated that the analysis was within control limits.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	ug/L	98.8	NA	NA	63 - 127

NA = Not Applicable

Chain-of-Custody Record

Date: 2-28-95 | Page 1 of 5

Project No.: 2770

Samplers (Signatures): Preston Gaines 3/1/95

ANALYSES

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	T. Ha 22 Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01	2-28	0850	NB-1-4.0						X		X		X	S	N	1
02		0855	NB-1-7.5						X		X		X	S	N	1
03		1105	PB1-1.5				X		X		X	X	X	S	N	1
		1110	PB1-3.5				X		X		X	X	X	S	N	1
		1120	PB1-6.0				X		X		X	X	X	S	N	1
		1125	PB1-10.5				X		X		X	X	X	S	N	1
04		1215	PB2-2.0				X		X		X	X	X	S	N	1
		1220	PB2-4.5				X		X		X	X	X	S	N	1
		1230	PB2-7.5				X		X		X	X	X	S	N	1
		1235	PB2-11.0				X		X		X	X	X	S	N	1
05		1115	PB1-6.0			X								S	N	1
06	↓	1350	PB3-7.0			X							X	S	N	1

Composite (4-part) — Composite Sample - PB1

Composite (4-part) — Composite Sample - PB2

REMARKS

Additional comments

TPH analysis for motor oil and diesel by Modified EPA Method 8015
CCR Metals by EPA 6010/7000
Fax Results to Jeff Nelson @ 415/434-3216

RE: GTEL Quote No. QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment: Courier pick-up
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature:		Laboratory comments and Log No
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name:		
Company: Geomatrix		Company: GTEL		Company:		
Received by:	Time:	Received by:	Time:	Received by: Ronald C. Jensen	Time: 3/1/95	1 OF 5
Signature: John Weber	1805	Signature		Signature: RON JENSEN	19:30	C50B0027
Printed name: JOHN WEBER		Printed name		Printed name: GTEL		
Company: GTEL		Company		Company		

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No 4034 | Date 2-28-95 | Page 2 of 5

Project No 2770

Samplers (Signatures) Preston Gaines

'95

ANALYSES: EPA Method 8010; EPA Method 8020; EPA Method 8240; EPA Method 8270; TPH as gasoline; TPH as diesel; TPH as BTEX; TPH as motor oil; Title 22 Metals

REMARKS: Additional comments

LAB NO	Date	Time	Sample Number	Cooled	Soil (S) or water (W)	Acidified	Number of containers	
	2-28	1345	PB3 - 1.5	X	S	N	1	TPH analysis for motor oil and diesel by modified EPA method 8015 - CCR metals by EPA 6010/7000 - Fax Results to Jeff Nelson @ 415/434-3216
		1355	PB3 - 4.0	X	S	N	1	
07		1400	PB3 - 6.0	X	S	N	1	Composite PB-3
		1405	PB3 - 9.5	X	S	N	1	
		1450	PB4 - 2.0	X	S	N	1	
		1455	PB4 - 4.5	X	S	N	1	
08		1500	PB4 - 7.0	X	S	N	1	Composite PB-4
		1505	PB4 - 9.0	X	S	N	1	
		1545	PB5 - 2.0	X	S	N	1	
		1550	PB5 - 5.5	X	S	N	1	
09		1555	PB5 - 9.0	X	S	N	1	Composite PB-5
	↓	1600	PB5 - 12.5	X	S	N	1	

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 12

RE: GTEL Quote No.: QC950034 Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1805	Signature		Signature: Ronald C. Jensen	19:30
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier Fed-Ex

Laboratory comments and Log No

2 OF 5

3/1/95 C5030027 19:30

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100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4252 | Date: 2-28-95 | Page 3 of 5

Project No: 2770

Samplers (Signatures): Preston Gaines 3/1/95

ANALYSES: EPA Method 8010 | EPA Method 8020 | EPA Method 8240 | EPA Method 8270 | TPH as gasoline | TPH as diesel | TPH as BTEX | TPH w/ Modified 8015 | Title 22 Metals | Coolant | Soil (S) or water (W) | Acidified | Number of containers

REMARKS: Additional comments

LAB NO	Date	Time	Sample Number													
10	2-28	1000	PB6 - 1.5											S	N	1
		1005	PB6 - 3.5											S	N	1
		1015	PB6 - 6.5											S	N	1
		1020	PB6 - 10.5											S	N	1
11	3-1	1210	SRB1 - 2.0											S	N	1
		1215	SRB1 - 6.5											S	N	1
		1225	SRB1 - 12.5											S	N	1
		1235	SRB1 - 17.0											S	N	1
12		1015	SRB2 - 2.0											S	N	1
		1025	SRB2 - 5.0											S	N	1
		1030	SRB2 - 9.0											S	N	1
		1035	SRB2 - 12.5											S	N	1

Composite (4-part) PB6 - 1.5, PB6 - 3.5, PB6 - 6.5, PB6 - 10.5

Composite (4-part) SRB1 - 2.0, SRB1 - 6.5, SRB1 - 12.5, SRB1 - 17.0

Composite (4-part) SRB2 - 2.0, SRB2 - 5.0, SRB2 - 9.0, SRB2 - 12.5

REMARKS:
- TPH analysis by modified EPA Method 8015
- CCR Metals by EPA 6010/7000
- Fax results to Jeff Nelson @ 415 / 434-3216
- Composite PB-6
- Composite SRB-1 split per S.G. 3/2/95
- Composite SRB-2 split per S.G. 3/2/95
- RE: GTEL quote No.: QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by	Date
Signature: Preston Gaines	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time:**	**Received by**	**Time:**	**Received by**	**Time:**
Signature: John Weber	1805	Signature	19:30	Signature: Ronald C Jensen	3/1/95 19:30
Printed name: JOHN WEBER		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No:

3 OF 5

C5030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

No 4036 | Date 1 March 1995 | Page 4 of 5

Project No 2770

Samplers (Signatures)

195

LAB NO	Date	Time	Sample Number
13	3-1	1220	SRB1-11,5
		0900	SRB4-2,0
14		0905	SRB4-5,5
		0910	SRB4-9,5
		0915	SRB4-12,5
		1555	SRB3-1,5
15		1600	SRB3-5,5
		1610	SRB3-10,5
		1615	SRB3-14,0
16		0920	SRB4
		0920	SRB4
17		1410	TB-1

ANALYSES

EPA Method 8010 | EPA Method 8020 | EPA Method 8240 | EPA Method 8270 | TPH as gasoline | TPH as diesel | TPH as BTEX | TPH as motor oil | Ti He 22 Metals | Hold

SRB 4A Composite (4-part) SRB 4B

SRB 3A Composite (4-part) SRB 3B

Cooled	Soil (S) or water (W)	Acidified	Number of containers
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	S	N	1
	W	Y	3
	W	N	2
	W	Y	2

Turnaround time Standard

Results to Jeff Nelsen

Total No of containers 16

REMARKS

Additional comments

- TPH analysis by EPA Method 8015 (modified)
- CCR Metals by EPA 6010/7000
- Fax results to Jeff Nelsen @ 415/434-3216

Composite SRB-4 split per Sc. 3/3/95

Composite SRB-3 split per S.C. 3/3/95

- x VOAs
- x 1 liter amber
- x VOAs (Field Blank)

RE: GTEL quote No: QC95003A Proj. No. 2770

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	3/1/95	Signature John Weber	3/1/95	Signature	
Printed name Preston Grahes		Printed name JOHN WEBER		Printed name	
Company Geomatrix		Company GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature John Weber	1805	Signature	19:34	Signature Ronald C. Jensen	3/1/95 19 30
Printed name JOHN WEBER		Printed name		Printed name RON JENSEN	
Company GTEL		Company		Company GTEL	

Method of shipment Courier pick up

Laboratory comments and Log No

4 OF 5

C5030027

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San Francisco, CA 94111
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Chain-of-Custody Record

№ 4037

Date: 1 March 1995

Project No 2770

Samplers (Signatures) Preston Cowles

'95

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	MS/MSD	Cooler	Sample (W) or water	Acidified Y=HCl	Number of containers	Additional comments
	3-1	1115	SRB2			X						X	W	Y	3	TPH analysis by EPA Method 8 (modified)
18		1115	SRB2					X	X			X	W	N	2	For results to Jeff Nelson
19		1150	SRMW1			X		cancelled per PG 3/13/95				X	W	Y	3	x 1 L Amber
20		1200	SRMW102			X		cancelled per PG 3/13/95				X	W	Y	3	x VOAs
19		1150	SRMW1					X	X			X	W	N	1	x VOAs
20		1200	SRMW102					X	X			X	W	N	1	x lt. amber
		1320	SRB1			X					X	X	W	Y	3	x lt. amber
21		1320	SRB1					X	X		X	X	W	N	2	x VOAs
		1650	SRB3			X						X	W	Y	3	x 1 lt. ambers
22		1650	SRB3					X	X			X	W	N	2	x VOAs
																x 1 lt. ambers
																- Run MS/MSD on SRB1
																RE: GTEL quote No.: QC950034 Proj. No. 2710

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 23

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Cowles	3/1/95	Signature: John Weber	3/1/95	Signature	
Printed name: Preston Cowles		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: JOHN WEBER	1805	Signature		Signature: Ronald C. Jensen	3/1/95 1930
Printed name: John Weber		Printed name		Printed name: RON JENSEN	
Company: GTEL		Company		Company: GTEL	

Method of shipment: Courier pick-up

Laboratory comments and Log No

5 OF 5

C5030027

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

GEOMATRIX

GEOMATRIX CONSULTANTS

100 Pine Street, 10th Floor
San Francisco, California 94111
Tel: (415)434-9400 Fax: (415)434-1365

FAX TRANSMITTAL

TO: Bill Svoboda
GTEL

FAX: (510) 825-0722

FROM: Preston Gaines

PROJECT NO: 2770

DATE: 13 March 1995

TIME: 1715

COMMENTS:

Hi Bill;

- Per our telephone conversations Friday 3/10/95 and earlier today, please make the following changes to the various COC analytical requests:

→ Place on HOLD the following samples:

① COC No. 4037; 3/1/95, 1150 SRMW19 and 1200 SRMW20/02

② COC No. 4045, 3/8/95, 0930 PLB1-12.0 and 1450 MW1

→ Please Analyze the following sample for TPH as gasoline, motor oil and diesel and EPA Method 8020:

③ COC No. 4042, 3/7/95, 0900 FB3-10.0 -97
15

PAGES INCLUDING THIS TRANSMITTAL: 1

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 24, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/17/95 under Chain-of-Custody Number(s) 4046.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

for

Rashmi Shah
Laboratory Director

GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8240A
Matrix: Aqueous

GTEL Sample Number	C5030208-02	C5030208-03	--	--	
Client ID	SR-MW2	SR-MW1	--	--	
Date Sampled	03/16/95	03/16/95	--	--	
Date Analyzed	03/20/95	03/21/95	--	--	
Dilution Factor	1.00	2.00	--	--	

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 10.	< 20.	--	--
Bromomethane	10.	ug/L	< 10.	< 20.	--	--
Vinyl chloride	10.	ug/L	< 10.	< 20.	--	--
Chloroethane	10.	ug/L	< 10.	< 20.	--	--
Methylene chloride	5.0	ug/L	< 5.0	< 10.	--	--
Acetone	20.	ug/L	< 20.	< 40.	--	--
Carbon disulfide	5.0	ug/L	< 5.0	< 10.	--	--
1,1-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1,1-Dichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Chloroform	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
2-Butanone	20.	ug/L	< 20.	< 40.	--	--
1,1,1-Trichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Carbon tetrachloride	5.0	ug/L	< 5.0	< 10.	--	--
Vinyl acetate	20.	ug/L	< 20.	< 40.	--	--
Bromodichloromethane	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichloropropane	5.0	ug/L	< 5.0	< 10.	--	--
cis-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 10.	--	--
Trichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
Dibromochloromethane	5.0	ug/L	< 5.0	< 10.	--	--
1,1,2-Trichloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Benzene	5.0	ug/L	39.	39.	--	--
2-Chloroethyl vinyl ether	10.	ug/L	< 10.	< 20.	--	--
trans-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 10.	--	--
Bromoform	5.0	ug/L	< 5.0	< 10.	--	--
4-Methyl-2-pentanone	20.	ug/L	< 20.	< 40.	--	--
2-Hexanone	20.	ug/L	< 20.	< 40.	--	--
Tetrachloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 5.0	< 10.	--	--
Toluene	5.0	ug/L	< 5.0	< 10.	--	--
Chlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
Ethylbenzene	5.0	ug/L	200	180	--	--
Styrene	5.0	ug/L	< 5.0	< 10.	--	--
Xylenes (total)	10.	ug/L	15.	12.	--	--
1,3-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
1,4-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
1,2-Dichlorobenzene	5.0	ug/L	< 5.0	< 10.	--	--
Trichlorofluoromethane	5.0	ug/L	< 5.0	< 10.	--	--
trans-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 ANALYTICAL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): Geomatrix Consultants Matrix: Aqueous

GTEL Sample Number	C5030208-02	C5030208-03	--	--
Client ID	SR-MW2	SR-MW1	--	--
Date Sampled	03/16/95	03/16/95	--	--
Date Analyzed	03/20/95	03/21/95	--	--
Dilution Factor	1.00	2.00	--	--

Analyte	Reporting Limit	Units	Concentration:			
cis-1.2-Dichloroethene	5.0	ug/L	< 5.0	< 10.	--	--
1.2-DCA-d4 (surrogate)	--	%	109.	103.	--	--
Toluene-d8 (surrogate)	--	%	109.	107.	--	--
BFB (surrogate)	--	%	105.	99.4	--	--

NOTES:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240A:

"Test Methods for Evaluating Solid Waste. Physical/Chemical Methods". SW-846. Third Edition including promulgated Update 1. Analyte list modified to include additional compounds. Surrogate recovery acceptability limits for 1.2-DCA-d4. Toluene-d8 and BFB are 76-114. 88-110 and 86-115 respectively.

C5030208-02:

Data obtained from multiple dilutions. Dilution factor noted represents the dilution used for majority of results.

C5030208-03:

Detection limit raised due to inadaquate sample to repeat at neat.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01
Login Number: C5030208
Project ID (number): 2770
Project ID (name): Geomatrix Consultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 8015
Matrix: Aqueous

GTEL Sample Number	C5030208-02	C5030208-03	--	--
Client ID	SR-MW2	SR-MW1	--	--
Date Sampled	03/16/95	03/16/95	--	--
Date Analyzed	03/19/95	03/19/95	--	--
Dilution Factor	2.00	2.00	--	--

Analyte	Reporting Limit	Units	Concentration:			
TPH as GAS	100	ug/L	5000	5100	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8015:

"Test Methods for Evaluating Solid Waste. Physical/Chemical Methods". SW-846. Third Edition including promulgated Update 1. Gasoline range hydrocarbons (TPH) quantitated by GC/FID with purge and trap and modified EPA Method 8015.

GTEL ENVIRONMENTAL LABORATORIES, INC.

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel in Water

Modified EPA Methods 3510/8015[a]

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.

b. Hydrocarbon pattern not characteristic of diesel.

GTEL Sample Number		02[b]	03[b]	GCJ 032295	
Client Identification		SR-MW2	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	–	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50	<50	
Detection Limit Multiplier		1	1	1	
O-Terphenyl surrogate, % recovery		117	130	105	

ANALYTICAL RESULTS
Semi-Volatile Organics in Water
EPA Method 8270[a]

GTEL Sample Number		01	03	032095 BNAW	
Client Identification		SR-BB1	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	-	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Phenol	10	<10	<10	<10	
bis(2-Chloroethyl)ether	10	<10	<10	<10	
2-Chlorophenol	10	<10	<10	<10	
1,3-Dichlorobenzene	10	<10	<10	<10	
1,4-Dichlorobenzene	10	<10	<10	<10	
Benzyl alcohol	10	<10	<10	<10	
1,2-Dichlorobenzene	10	<10	<10	<10	
2-Methylphenol	10	<10	<10	<10	
bis-(2-Chloroisopropyl)ether	10	<10	<10	<10	
4-Methylphenol	10	<10	<10	<10	
N-Nitroso-di-propylamine	10	<10	<10	<10	
Hexachloroethane	10	<10	<10	<10	
Nitrobenzene	10	<10	<10	<10	
Isophorone	10	<10	<10	<10	
2-Nitrophenol	10	<10	<10	<10	
2,4-Dimethylphenol	10	<10	<10	<10	
Benzoic acid	50	<50	<50	<50	
bis(2-Chloroethoxy)methane	10	<10	<10	<10	
2,4-Dichlorophenol	10	<10	<10	<10	
1,2,4-Trichlorobenzene	10	<10	<10	<10	
Naphthalene	10	<10	37	<10	
4-Chloroaniline	10	<10	<10	<10	
Hexachlorobutadiene	10	<10	<10	<10	
4-Chloro-3-methylphenol	10	<10	<10	<10	
2-Methylnaphthalene	10	<10	38	<10	
Hexachlorocyclopentadiene	10	<10	<10	<10	
2,4,6-Trichlorophenol	10	<10	<10	<10	
2,4,5-Trichlorophenol	50	<50	<50	<50	
2-Chloronaphthalene	10	<10	<10	<10	
2-Nitroaniline	50	<50	<50	<50	
Dimethylphthalate	10	<10	<10	<10	
Acenaphthylene	10	<10	<10	<10	
3-Nitroaniline	50	<50	<50	<50	
Acenaphthene	10	<10	<10	<10	
2,4-Dinitrophenol	50	<50	<50	<50	
4-Nitrophenol	50	<50	<50	<50	
Dibenzofuran	10	<10	<10	<10	

ANALYTICAL RESULTS
Semi-Volatile Organics in Water
EPA Method 8270[a]

GTEL Sample Number		01	03	032095 BNAW	
Client Identification		SR-BB1	SR-MW1	METHOD BLANK	
Date Sampled		03/16/95	03/16/95	--	
Date Extracted		03/20/95	03/20/95	03/20/95	
Date Analyzed		03/22/95	03/22/95	03/22/95	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
2,4-Dinitrotoluene	10	<10	<10	<10	
2,6-Dinitrotoluene	10	<10	<10	<10	
Diethylphthalate	10	<10	<10	<10	
4-Chlorophenyl-phenylether	10	<10	<10	<10	
Fluorene	10	<10	<10	<10	
4-Nitroaniline	50	<50	<50	<50	
4,6-Dinitro-2-methylphenol	50	<50	<50	<50	
N-Nitrosodiphenylamine	10	<10	<10	<10	
4-Bromophenyl-phenylether	10	<10	<10	<10	
Hexachlorobenzene	10	<10	<10	<10	
Pentachlorophenol	50	<50	<50	<50	
Phenanthrene	10	<10	<10	<10	
Anthracene	10	<10	<10	<10	
Di-n-butylphthalate	10	<10	<10	<10	
Fluoranthene	10	<10	<10	<10	
Pyrene	10	<10	<10	<10	
Butylbenzylphthalate	10	<10	<10	<10	
3,3'-Dichlorobenzidine	20	<20	<20	<20	
Benzo(a)anthracene	10	<10	<10	<10	
bis(2-Ethylhexyl)phthalate	10	<10	<10	<10	
Chrysene	10	<10	<10	<10	
Di-n-octylphthalate	10	<10	<10	<10	
Benzo(b)fluoranthene	10	<10	<10	<10	
Benzo(k)fluoranthene	10	<10	<10	<10	
Benzidine	20	<20	<20	<20	
Benzo(a)pyrene	10	<10	<10	<10	
Indeno(1,2,3-cd)pyrene	10	<10	<10	<10	
Dibenz(a,h)anthracene	10	<10	<10	<10	
Benzo(g,h,i)perylene	10	<10	<10	<10	
Detection Limit Multiplier		1	1	1	
d5-Nitrobenzene surr., % rec.		84.0	91.0	87.6	
2-Fluorobiphenyl surr., % rec.		88.4	97.1	91.8	
d14-Terphenyl surr., % rec.		87.7	94.0	101	
d5-Phenol surr., % rec.		36.8	c	37.3	
2-Fluorophenol surr., % rec.		61.6	c	38.7	
2,4,6-Tribromophenol surr., % rec.		76.6	116[c]	49.6	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Sample extraction by EPA Method 3510.
b. Federal Register, Vol. 49, October 26, 1984. Sample extraction by EPA Method 3510.
c. Low acids surrogate recoveries due to matrix interferences.

ANALYTICAL RESULTS

CCR List of Metals in Water(TTLC)[a]

GTEL Sample Number			03	031795		
Client Identification			SR-MW1	METHOD BLANK		
Date Sampled			03/16/95	–		
Date Prepared[c]			03/17/95	03/17/95		
Date Analyzed (Method 6010A)			03/20/95	03/20/95		
Date Analyzed (Method 7060, 7421, 7740, 7841)			03/22-23/95	03/22-23/95		
Date Prepared and Analyzed (Method 7470)			03/22/95	03/22/95		
Analyte	Method[b]	Detection Limit, ug/L	Concentration, ug/L			
Antimony	EPA 6010A	50	<50	<50		
Arsenic	EPA 7060	5	25	<5		
Barium	EPA 6010A	5	95	<5		
Beryllium	EPA 6010A	5	<5	<5		
Cadmium	EPA 6010A	5	8	<5		
Chromium, total	EPA 6010A	10	<10	<10		
Cobalt	EPA 6010A	10	<10	<10		
Copper	EPA 6010A	10	<10	<10		
Lead	EPA 7421	5	<5	<5		
Mercury	EPA 7470	0.4	<0.4	<0.4		
Molybdenum	EPA 6010A	10	<10	<10		
Nickel	EPA 6010A	20	<20	<20		
Selenium	EPA 7740	5	<5	<5		
Silver	EPA 6010A	10	<10	<10		
Thallium	EPA 7841	5	<5	<5		
Vanadium	EPA 6010A	10	<10	<10		
Zinc	EPA 6010A	20	<20	<20		
Detection Limit Multiplier			1	1		

a. California Administrative Code, Title 22, California Code of Regulations.
b. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, including Update I, US EPA July 1992.
c. Unpreserved water sample was passed through a 0.45 micron filter and analyzed as a dissolved metal.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8240A
Project ID (name): Geomatrix Consultants Matrix: Aqueous

Method Blank Results

QC Batch No: 032195MSC-1
Date Analyzed: 21-MAR-95

Analyte	Method:EPA 8240A Concentration: ug/L
Chloromethane	< 10.
Bromomethane	< 10.
Vinyl chloride	< 10.
Chloroethane	< 10.
Methylene chloride	< 5.0
Acetone	< 20.
Carbon disulfide	< 5.0
1,1-Dichloroethene	< 5.0
1,1-Dichloroethane	< 5.0
Chloroform	< 5.0
1,2-Dichloroethane	< 5.0
2-Butanone	< 20.
1,1,1-Trichloroethane	< 5.0
Carbon tetrachloride	< 5.0
Vinyl acetate	< 20.
Bromodichloromethane	< 5.0
1,2-Dichloropropane	< 5.0
cis-1,3-Dichloropropene	< 5.0
Trichloroethene	< 5.0
Dibromochloromethane	< 5.0
1,1,2-Trichloroethane	< 5.0
Benzene	< 5.0
2-Chloroethyl vinyl ether	< 10.
trans-1,3-Dichloropropene	< 5.0
Bromoform	< 5.0
4-Methyl-2-pentanone	< 20.
2-Hexanone	< 20.
Tetrachloroethene	< 5.0
1,1,2,2-Tetrachloroethane	< 5.0
Toluene	< 5.0
Chlorobenzene	< 5.0
Ethylbenzene	< 5.0
Styrene	< 5.0
Xylenes (Total)	< 10.
1,3-Dichlorobenzene	< 5.0
1,4-Dichlorobenzene	< 5.0
1,2-Dichlorobenzene	< 5.0
Trichlorofluoromethane	< 5.0
trans-1,2-Dichloroethene	< 5.0
cis-1,2-Dichloroethene	< 5.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

QC Matrix Spike and Duplicate Spike Results

Matrix: Water

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	ug/L	117	114	2.6	63 - 127
EPA 8270:							
Phenol	LCS & DUP	100	ug/L	33.0	34.0	3.0	12 - 89
2-Chlorophenol	LCS & DUP	100	ug/L	86.8	92.0	5.8	27 - 123
4-Chloro-3-methylphenol	LCS & DUP	100	ug/L	86.6	85.8	0.9	23 - 97
4-Nitrophenol	LCS & DUP	100	ug/L	22.7	17.4	26.4	10 - 80
Pentachlorophenol	LCS & DUP	100	ug/L	75.8	78.1	3.0	19 - 103
1,4-Dichlorobenzene	LCS & DUP	50	ug/L	84.2	91.8	8.6	36 - 197
N-Nitroso-di-n-propylamine	LCS & DUP	50	ug/L	53.2	55.2	3.7	41 - 116
1,2,4-Trichlorobenzene	LCS & DUP	50	ug/L	87.8	88.8	1.1	39 - 98
2,4-Dinitrotoluene	LCS & DUP	50	ug/L	77.0	84.0	8.7	24 - 96
Acenaphthene	LCS & DUP	50	ug/L	93.0	97.4	4.6	46 - 118
Pyrene	LCS & DUP	50	ug/L	92.0	93.6	1.7	26 - 127
Metals:							
Antimony	C5030208-03	5000	ug/L	98.5	99.8	1.32	80 - 120
Arsenic	C5030208-03	50	ug/L	102	96	4.31	75 - 125
Barium	C5030208-03	5000	ug/L	98.3	98.9	0.56	80 - 120
Beryllium	C5030208-03	2000	ug/L	94.4	94.5	0.07	80 - 120
Cadmium	C5030208-03	2500	ug/L	99.6	101	1.24	80 - 120
Chromium	C5030208-03	5000	ug/L	99.2	99.7	0.45	80 - 120
Cobalt	C5030208-03	5000	ug/L	97.9	98.5	0.58	80 - 120
Copper	C5030208-03	5000	ug/L	97.5	97.9	0.39	80 - 120
Lead	C5030208-03	50	ug/L	94.6	92.4	2.35	75 - 125
Mercury	C5030208-03	10	ug/L	103	105	1.92	75 - 125
Molybdenum	C5030208-03	2500	ug/L	99.6	99.8	0.23	80 - 120
Nickel	C5030208-03	5000	ug/L	98.7	99.2	0.51	80 - 120
Selenium	C5030208-03	50	ug/L	102	110	6.99	75 - 125
Silver	C5030208-03	1000	ug/L	91.7	94.3	2.84	80 - 120
Thallium	C5030208-03	50	ug/L	89.8	93.2	3.72	75 - 125
Vanadium	C5030208-03	5000	ug/L	99.7	99.6	0.09	80 - 120
Zinc	C5030208-03	5000	ug/L	102	103	0.57	80 - 120

4046

Chain-of-Custody Record

№ 4047 (4046)

Date 3-17-98

Page of

Project No:

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	CCR-Metals	Cooled	Soil (S) or water (W)	Acidified	Number of containers
3/16/98	0800	SR-BB1				X								
↓	0900	SR-MW2			X		X	X						
↓	1600	SR-MW1			X		X	X		X				

AMMENDED COC

REMARKS

Additional comment:

Pls. make Changes to COC No. 4046 as indicated

Turnaround time:

Results to:

Total No. of containers:

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:		Signature:		Signature:	
Printed name:		Printed name:		Printed name:	
Company:		Company:		Company:	
Received by:	Time:	Received by:	Time:	Received by:	Time:
Signature:		Signature:		Signature:	
Printed name:		Printed name:		Printed name:	
Company:		Company:		Company:	

Method of shipment:

Laboratory comments and Log No:

C5030208

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

Chain-of-Custody Record

No 1014 Date 16 March 1995 Page 1 of 1

Project No 2110

Samplers Signature: Preston Gaines

ANALYSES

REMARKS

Additional comments

TPH as diesel and motor oil by modified EPA 8015. Title 22 metals samples must be filtered by GTEL using 0.45 micron filter then preserved w/ HNO_3 prior to analysis. All 1 liter amber containers are not preserved. VOAs preserved w/ HCl. Fax results to Preston @ 415/434-3216

GTEL RE: Quote QC950034 Proj. 2770

LAB NO	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil	CCR-Metals	Cooling	Soil or Water W	Acid etc	No. of containers
01	3/16/95	0820	SR-BB1	1			X	X	X	X	X	X	X	W	N	2
02		0900	SR-MW2											W	Y/N	8
03		1600	SR-MW1											W	Y/N	8

Turnaround time: Standard

Results to: Preston Gaines

Total No. of containers: 18

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date	Method of Shipment
Signature: Preston Gaines	3/17/95	Signature: John Weber	3/17/95	Signature		Courier pick-up
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name		Laboratory comments and Log No
Company: Geomatrix		Company: GTEL		Company		
Received by: John Weber	Time	Received by: ✓	Time	Received by	Time	5°C
Signature: JOHN WEBER	12:30	Signature: Ronald C. Jensen	16:00	Signature		C5030208
Printed name		Printed name: RON JENSEN		Printed name		
Company: GTEL		Company: GTEL		Company		

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

March 27, 1995

Jeff Nelson
Geomatrix Consultants
100 Pine Street, 10th Floor
San Francisco, CA 94111

RE: GTEL Client ID: GMX01GMX01
Login Number: C5030097
Project ID (number): 2770
Project ID (name): Geomatrix Constultants

Dear Jeff Nelson:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 03/08/95 under Chain-of-Custody Number(s) 4041, 4043, 4044, 4042.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

William Sorlock
for
Rashmi Shah
Laboratory Director

Client Number: GMX01GMX01
Project ID: Geomatrix Consultants
Work Order Number: C5-03-0097

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel Fuel in Soil

Modified EPA Methods 3550/8015[a]

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.

GTEL Sample Number		15[c]	GCK 032295		
Client Identification		FB3-10	METHOD BLANK		
Date Sampled		03/06/95	–		
Date Extracted		03/22/95	03/22/95		
Date Analyzed		03/24/95	03/23/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel fuel	10	350	<10		
TPH as motor oil	1	<100	<100		
Detection Limit Multiplier		2	1		
OTP surrogate, % recovery		b	98.2		

b. Surrogate recovery > UCL due to target compound interference.
c. Sample was extracted past holding time.

QC Matrix Spike and Duplicate Spike Results

Matrix: Soil

Analyte	Sample ID	Spike Amount	Units	Recovery, %	Duplicate Recovery, %	RPD, %	Control Limits
GC-FID:							
Diesel	LCS	750	mg/Kg	78.1	76.4	2.2	58 - 144

GTEL Client ID: GMX01GMX01
Login Number: C5030097
Project ID (number): 2770
Project ID (name): Geomatrix Constultants

ANALYTICAL RESULTS

Volatile Organics
Method: EPA 802C
Matrix: Solids

GTEL Sample Number	C5030097-15	--	--	--
Client ID	FB3-10.0	--	--	--
Date Sampled	03/06/95	--	--	--
Date Analyzed	03/22/95	--	--	--
Dilution Factor	1.00	--	--	--

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	< 0.005	--	--	--
Toluene	0.005	mg/kg	< 0.005	--	--	--
Ethylbenzene	0.005	mg/kg	< 0.005	--	--	--
Xylenes (total)	0.015	mg/kg	< 0.015	--	--	--
TPH as GAS	1.0	mg/kg	< 1.0	--	--	--

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8020:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5030097-15:

Estimated concentration, surrogate recovery demonstrated sample specific matrix effect. Laboratory control sample indicated the analysis was within control limits. Sample was analyzed past recommended holding time.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030208 Volatile Organics
Project ID (number): 2770 Method: EPA 8015
Project ID (name): Geomatrix Consultants Matrix: Aqueous

Method Blank Results

QC Batch No: Q031895-1
Date Analyzed: 18-MAR-95

Analyte	Method:EPA 8015 Concentration: ug/L
Benzene	< 0.30
Toluene	< 0.30
Ethylbenzene	< 0.30
Xylenes (Total)	< 0.50
Chlorobenzene	< 1.0
1.3-Dichlorobenzene	< 1.0
1.4-Dichlorobenzene	< 1.0
1.2-Dichlorobenzene	< 1.0
TPH as Gasoline	< 10.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS

Login Number: C5030097 Volatile Organics

Project ID (number): 2770 Method: EPA 8020

Project ID (name): Geomatrix Constultants Matrix: Solids

Matrix Spike and Matrix Spike Duplicate Results

Analyte	Original Concentration	Spike Amount	Matrix Spike Concentration	Matrix Spike Recovery, %	Matrix Spike Duplicate Concentration	Matrix Spike Duplicate Recovery, %	RPD, %	Acceptability Limits RPD, %	Acceptability Limits Recovery, %
EPA 8020	GTEL Sample ID:C5030143-14		Spike ID:F032195-3		Dup. ID:F032195-4				
Units: mg/kg	Analysis Date:15-MAR-95		21-MAR-95		21-MAR-95		Client ID:Batch QC		
Benzene	< 0.0050 **	0.0500	0.0497	99.4	0.0522	104.	4.5	40	48.8-129%
Toluene	< 0.0050 **	0.0500	0.0473	94.6	0.0498	99.6	5.1	40	52-123%
Ethylbenzene	< 0.0050 **	0.0500	0.0468	93.6	0.0486	97.2	3.7	40	55.4-12?
Xylenes (Total)	< 0.015 **	0.150	0.154	103.	0.159	106.	2.8	40	55.1-130%

Notes:

**: C5030143-14: Benzene: For data validation purposes an estimated concentration of 0.000500, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Toluene: For data validation purposes an estimated concentration of 0.000700, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Ethylbenzene: For data validation purposes an estimated concentration of 0.000700, which is below the reporting limit, was used to calculate the spike recovery results.

C5030143-14: Xylenes (Total): For data validation purposes an estimated concentration of 0.00200, which is below the reporting limit, was used to calculate the spike recovery results.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL Client ID: GMX01GMX01 QUALITY CONTROL RESULTS
Login Number: C5030097 Volatile Organics
Project ID (number): 2770 Method: EPA 8020
Project ID (name): Geomatrix Constultants Matrix: Solids

Method Blank Results

QC Batch No: F032195-1
Date Analyzed: 21-MAR-95

Analyte	Method:EPA 8020 Concentration: ug/L
Benzene	< 0.0050
Toluene	< 0.0050
Ethylbenzene	< 0.0050
Chlorobenzene	< 0.50
Xylenes (Total)	< 0.015
1,2-Dichlorobenzene	< 0.10
1,3-Dichlorobenzene	< 0.10
1,4-Dichlorobenzene	< 0.10
TPH as Gasoline	< 1.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC.

GEOMATRIX

GEOMATRIX CONSULTANTS

100 Pine Street, 10th Floor
San Francisco, California 94111
Tel: (415)434-9400 Fax: (415)434-1365

FAX TRANSMITTAL

TO: Bill Svoboda
GTEL

FAX: (510) 825-0720

FROM: Preston Gaines

PROJECT NO: 2770

DATE: 13 March 1995

TIME: 1715

COMMENTS:

Hi Bill,

- For our telephone conversations Friday 3/10/95 and earlier today, please make the following changes to the various COC analytical requests:

→ Place on HOLD the following samples:

① COC No. 4037; 3/1/95, 1150 SRMW19 and 1200 SRMW102

② COC No. 4045; 3/8/95, 0930 PLB1-12.0 and 1450 MW1

→ Please Analyze the following sample for TPH as gasoline, motor oil, and diesel and EPA Method 8020:

③ COC No. 4042, 3/7/95, 0900 FB3-10.0 -97, 15

PAGES INCLUDING THIS TRANSMITTAL: 1

Chain-of-Custody Record

No 4042 | Date 7 March 1995 | Page 4 of 4

Project No 2770

Samplers (Signatures)

195

Lab #	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Mtbe	Hold	Coplea	Soil (S) or water (W)	Acrolied	Number of containers
15	3-6	0900	FB3-10.0		X			X	X		X		X	S	N	1
16	↓	1530	WB2					X	X		X		X	W	Y/N	5
17	3-7	1040	WB1					X	X		X		X	W	Y/N	5

ANALYSES

REMARKS

Additional comments

Fax any results to:
Jeff Nelson
@ 415/434-3216

3 x VOAs, 2 x 1 lt. amber

3 x VOAs, 2 x 1 lt. amber

VOAs preserved w/ HCL

RE: GTEL Quote No.:
QC950034 Proj. No. 2770

Turnaround time: Standard

Results to: Jeff Nelson

Total No of containers: 11

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Gaines	3/7/95	Signature: John Weber	3/8/95	Signature	
Printed name: Preston Gaines		Printed name: JOHN WEBER		Printed name	
Company: Geomatrix		Company: GTEL		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: John Weber	1825	Signature	0900	Signature	
Printed name: JOHN WEBER		Printed name		Printed name	
Company: GTEL		Company		Company	

Method of shipment: Courier Pick-Up

Laboratory comments and Log No:
CONTAINERS INTACT, ON ICE AT 6°C

C5030097

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

2770 - 342

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 14, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 8, 1995 from your 2770.02 project.

Per your request, special attention was directed to carefully homogenize the samples. As seen from the duplicate results, the values found still had a degree of variability.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02
Date Samples Extracted: December 11, 1995
Date Extracts Analyzed: December 11, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR LEAD

Samples Processed Using Method 3050
Results Reported as mg/kg (ppm)

Sample ID	Lead
SRB13-1.5	590
SRB13-3.0	8
SRB14-1.5	170
SRB14-2.5	40
SRB15-1.0	22
SRB15-3.0	32
Method Blank	<4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR LEAD

Laboratory Code: 64693 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	6	7	15	0-30

Laboratory Code: 64693 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Lead	ug/g (ppm)	100	6	101	101	50-150	0

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02
Date Samples Extracted: December 11, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL BY GC/FID (Modified 8015)
Samples Processed Using Method 3550
Results Reported as µg/g (ppm)

Sample ID	Diesel	Motor Oil	Surrogate (% Recovery)
HFS2A-2.0	<10	<50	106
HFS3-0.5	530[a]	280	124
HFS3-2.0	660[a]	60	106
HFS4-0.5	20[a]	<50	106
HFS4-2.0	<10	<50	114
HFS5-0.5	<10	100	108
HFS5-2.0	<10	<50	112
HFS6-0.5	<10	<50	103
HFS6-2.0	10[a]	<50	111
Method Blank	<10	<50	102

[a] Material present is not indicative of Diesel.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 8, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (Modified 8015)

Laboratory Code: 64680 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	ug/g (ppm)	10	<10	nm	0-20

Laboratory Code: 64680 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel	ug/g (ppm)	500	10	110	105	59-143	5

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	Acceptance Criteria
Diesel	ug/g (ppm)	500	118	59-131

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

2770.02-034.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 14, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 7, 1995 from your 2770.02 project.

Per your request, special attention was directed to carefully homogenize the samples. As seen from the duplicate results, the values found still had a degree of variability.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1214R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02
Date Samples Extracted: December 8, 1995
Date Extracts Analyzed: December 8, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR ARSENIC, COPPER, LEAD, BARIUM AND ZINC

Samples Processed Using Method 3050

Results Reported as µg/g (ppm)

Sample ID	Arsenic	Copper	Lead	Barium	Cobalt	Zinc
E4-2.0	<2	32	8			
E7-0.5	2	86	64			
E7-2.0	6	18	12			
M13-3.5	2		6	72	10	27
M14-0.5	9		35	480	100	950
M14-2.0	23		46	110	38	190
M16-0.5	29		45	520	290	1,200
M16-2.0	4		12	130	42	280
E5-0.5	26	33	28			
E5-2.0	10	22	13			
M12-0.5	42		39	110	57	120
M12-2.0	11		11	120	23	61
SRB16-1.5	6					
SRB17-1.5	14					
SRB17-3.0	<2					
SRB18-1.5	10					
SRB18-3.5	4					
Method Blank	<2	<1	<2	<5	<1	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR ARSENIC, COPPER, LEAD, BARIUM AND ZINC

Laboratory Code: 64619 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	ug/g (ppm)	23	19	19	0-30
Copper	ug/g (ppm)	22	27	20	0-30
Lead	ug/g (ppm)	46	36	24	0-30
Barium	ug/g (ppm)	110	130	17	0-30
Cobalt	ug/g (ppm)	38	35	8	0-30
Zinc	ug/g (ppm)	190	220	15	0-30

Laboratory Code: (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	23	80	74	50-150	8
Copper	ug/g (ppm)	50	22	76	83	50-150	9
Lead	ug/g (ppm)	100	46	50	52	50-150	4
Barium	ug/g (ppm)	50	110	ai	ai	50-150	ai
Cobalt	ug/g (ppm)	100	17	100	99	50-150	1
Zinc	ug/g (ppm)	50	190	ai	ai	50-150	ai

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	96	94	80-120	2
Copper	ug/g (ppm)	50	96	98	80-120	2
Lead	ug/g (ppm)	100	96	95	80-120	1
Barium	ug/g (ppm)	50	109	108	80-120	1
Cobalt	ug/g (ppm)	100	110	110	80-120	0
Zinc	ug/g (ppm)	50	93	93	80-120	0

b - Variability attributable to sample.

ai - The amount spiked was insufficient to give meaningful recovery data.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR ARSENIC

Laboratory Code: 64652 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	ug/g (ppm)	14	6	80[a]	0-30

Laboratory Code: 64652 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Arsenic	ug/g (ppm)	100	14	83	86	50-150	4

[a] - The analyte was detected less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02
Date Samples Extracted: December 7, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL BY GC/FID (Modified 8015)
Samples Processed Using Method 3550
Results Reported as µg/g (ppm)

Sample ID	Diesel	Motor Oil	Surrogate (% Recovery)
M13-3.5	80[a]	400	105
M14-0.5	10[a]	90	98
M14-2.0	70[a]	420	98
M16-0.5	350[a]	1,900	109
M16-2.0	130[a]	480	96
M12-0.5	40[a]	220	91
M12-2.0	<10	60	102
Method Blank	<10	<50	94

[a] Material present is not indicative of Diesel.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 14, 1995
Date Received: December 7, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY GC/FID (Modified 8015)

Laboratory Code: 64646 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Diesel	ug/g (ppm)	<10	<10	nm	0-20

Laboratory Code: 64646 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Diesel	ug/g (ppm)	500	<10	94	105	59-131	11

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	Acceptance Criteria
Diesel	ug/g (ppm)	500	97	58-139

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

RW
12.07.95
10:25

Chain-of-Custody Record

№ 8422

Date 5 December 1995 | Page 1 of 6

Project No 2770.02

Samplers (Signatures)
Preston Cowin
Richard M Taylor

Date	Time	Sample Number	Cont.	Soil (S) or water (W)	Acid'ed	Number of containers
12/5		E4 - 0.5		S	N	1
	1530	E4 - 2.0		S	N	1
	1500	E4 - 4.5		S	N	1
	1535	E7 - 0.5		S	N	1
	1540	E7 - 2.0		S	N	1
	1545	E7 - 4.5		S	N	1
	1550	E8 - 0.5		S	N	1
	1555	E8 - 2.0		S	N	1
	1600	E8 - 4.5		S	N	1
	1350	E9 - 0.5		S	N	1
	1400	E9 - 2.0		S	N	1
	1440	E9 - 4.5		S	N	1

ANALYSES: EPA Method 8010; EPA Method 8020; EPA Method 8240; EPA Method 8270; TPH as gasoline; TPH as diesel; TPH as BTEX; Arsenic; Copper; Lead; HOLD

REMARKS

Additional comments

total
- Metals by EPA 6010
- Please homogenize and entire sample prior to analyzing.

As, Cu and Pb only

Fax results ASAP to Elizabeth Wells at 415 434-1365

Turnaround time: 3 to 5 days (Standard)

Results to: Elizabeth Wells

Total No. of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Cowin	12/6/95	Signature		Signature	
Printed name: Preston Cowin	1630	Printed name		Printed name	
Company: Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: Cathy Downing	12.7.95	Signature		Signature	
Printed name: C. DOWNING	9:15	Printed name		Printed name	
Company: FMBI		Company		Company	

Method of shipment: Fed-Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

NW NL
12.7.95
10:25

Chain-of-Custody Record

№ 8121

Date 5 December 1995 Page 2 of 6

Project No 2770.02

Samplers (Signatures)
Preston Gaines
195 Ned Bond M Taylor

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold	Cooled	Soil, Sludge or water	Acidified	Number of containers
12-5	1310	E10-0.5	64609														S	N	1
	1315	E10-2.0	64610														S	N	1
	1410	E10-4.5	64611														S	N	1
	0850	E11-0.5	64612														S	N	1
	0855	E11-2.0	64613														S	N	1
	0900	E11-4.5	64614														S	N	1
	1040	M13-0.5	64615														S	N	1
	1000	M13-3.5	64616					X		X	X	X	X	X			S	N	1
	1020	M13-7.5	64617														S	N	1
	1250	M14-0.5	64618					X		X	X	X	X	X			S	N	1
	1320	M14-2.0	64619					X		X	X	X	X	X			S	N	1
	1325	M14-5.0	64620												X		S	N	1

Turnaround time 3-5 days

Results to Elizabeth Wells

Total No of containers 12

REMARKS

Additional comments

Total
- Metals analyses by EPA 6010 (As, Ba, Co, Pb, Zn only)
- TPH as diesel by modified EPA Method 8015 ~~Subsequent to silica gel cleanup~~. Acid per EW 12/4/95
- Please homogenize ~~entire sample~~ prior to analysis; that portion of sample used for metals analysis.

Fax results ASAP to Elizabeth Wells at 415/434-1365

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Preston Gaines		Printed name		Printed name	
Company Geomatrix	1630	Company		Company	
Received by	Time	Received by	Time	Received by	Time
Signature	12.7.95	Signature		Signature	
Printed name C. DAWLING	9:15	Printed name		Printed name	

Method of shipment Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor

KW AI 12.7.95 1625

Chain-of-Custody Record

№ 8423

Date 5 December 1995

Project No 2770.02

Samplers (Signatures) Preston Cox

Clifford A. Taylor

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold	Codes	Soil (S) or water (W)	Acidified	Number of containers
12-5	1050	M16 - 0.5		64621				X		X	X	X	X	X			S	N	1
	1055	M16 - 2.0		64622				X		X	X	X	X	X			S	N	1
	1100	M16 - 4.0		64623											X		S	N	1
	1150	M17 - 0.5		64624											X		S	N	1
	1155	M17 - 2.0		64625											X		S	N	1
	1200	M17 - 4.5		64626											X		S	N	1
	1120	M18 - 0.5		64627											X		S	N	1
	1140	M18 - 2.0		64628											X		S	N	1
	1130	M18 - 4.0		64629											X		S	N	1
12-6	0855	E1 - 0.5		64630											X		S	N	1
	0900	E1 - 2.0		64631											X		S	N	1
	0905	E1 - 4.5		64632											X		S	N	1

Turnaround time 3 to 5 days

Results to Elizabeth Wells

Total No of containers 12

REMARKS

Additional comments

- Metals analyses by EPA 6010 (As, Ba, Co, Pb and Zn only).
- TPH as diesel by modified EPA Method 8015 ~~Subsequent to silica gel cleanup~~ unit per lab notes
- Please homogenize, prior to analyzing, that portion of each sample used for metals analyses.

~~Store~~

Fax results ASAP to Elizabeth Wells at 415 / 434-1365

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Preston Cox		Printed name		Printed name	
Company Geomatrix	1630	Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	12.7.95	Signature		Signature	
Printed name	9:15	Printed name		Printed name	
Company		Company		Company	

Method of shipment Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 433-9855

NW 11-1

Chain-of-Custody Record

№ 8452

Date 6 December 1995

Page 4 of 6

Project No 2770.02

Samplers (Signatures)

Preston Coates

195 Nellawk / A Taylor

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8015	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Copper	Lead	Hold	Cooled	Soil, Sl or water (W)	Acidified	Number of containers
12/6	0920	E2 - 0.5		64633									X	X	S	N	1
	0925	E2 - 2.0		64634									X	X	S	N	1
	0930	E2 - 4.5		64635									X	X	S	N	1
12/5	1630	E3 - 0.5		64636									X	X	S	N	1
12/5	1635	E3 - 2.5		64637									X	X	S	N	1
12/6	1000	E3 - 4.0		64638									X	X	S	N	1
	1020	E5 - 0.5		64639						X	X	X	X	X	S	N	1
	1025	E5 - 2.0		64640						X	X	X	X	X	S	N	1
	1030	E5 - 4.5		64641						X	X	X	X	X	S	N	1
	0820	E6 - 0.5		64642									X	X	S	N	1
	0825	E6 - 2.0		64643									X	X	S	N	1
	0830	E6 - 4.5		64644									X	X	S	N	1

Additional comments

Total metals by EPA 6010 (As, Cu, Pb only)

Fax results to Elizabeth Wells @ 415 / 434-1365

Turnaround time: 3 to 5 days

Results to: Elizabeth Wells

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature: Preston Coates	12/6/95	Signature		Signature	
Printed name: Preston Coates	1630	Printed name		Printed name	
Company: Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature: Cathy Downing	12.7.95	Signature		Signature	
Printed name: C. Dowling	9:15	Printed name		Printed name	
Company: FBI		Company		Company	

Method of shipment: Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

№ 8453

Date 6 December 1995 | Page 5 of 6

Project No 2770.02

Samplers (Signatures) Preston Gaines, Ken Hansel, Al Taylor

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	Barium	Cobalt	Lead	Zinc	Hold	Cooled	Soil/Sludge/Water (W)	Acidified	Number of containers
12/6	1050	M12 - 0.5	64645					X		X	X	X	X	X		X	S	N	1
	1055	M12 - 2.0	64646					X		X	X	X	X	X		X	S	N	1
	1140	M12 - 3.5	64647												X	X	S	N	1
	0740	M15 - 0.5	64648												X	X	S	N	1
	0750	M15 - 2.0	64649												X	X	S	N	1
	0800	M15 - 4.5	64650												X	X	S	N	1

ANALYSES

REMARKS

Additional comments

Total Metals analyses by EPA 6010 (As, Ba, Co, Pb, and Zn only)

-TPH as diesel by modified EPA Method 8015 after ~~performing silica gel cleanup~~ with per new guidelines

-Please homogenize prior to analyzing the portion of sample used for metals analysis.

Fax results to Elizabeth Wells @ 415/434-1365

Turnaround time 3 to 5 days

Results to Elizabeth Wells

Total No of containers 6

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Preston Gaines		Printed name		Printed name	
Company Geomatrix	1630	Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	6:7.95	Signature		Signature	
Printed name Cathy Downing	9:15	Printed name		Printed name	
Company FBF		Company		Company	

Method of shipment Fed Ex

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

TW 12/7/95 10:25

Chain-of-Custody Record

№ 8424

Date 12-6-95

Page 6 of 6

Project No 2770 02

Samplers (Signatures) Peter Craig, Nilland A Tad-

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	Arsenic	HOLD	Cooled	So. (S) or water (W)	Acidified	Number of containers
12/6	1350	SRB16-1.5			64651					X		X	S	N	1
12/6	1420	SRB17-1.5			64652					X		X	S	N	1
12/6	1425	SRB17-3.0			64653					X		X	S	N	1
12/6	1430	SRB17-5.5			64654						X	X	S	N	1
12/6	1435	SRB17-8.5			64655						X	X	S	N	1
12/6	1515	SRB15-1.5			64656					X		X	S	N	1
12/6	1535	SRB15-3.5			64657					X		X	S	N	1
12/6	1455	SRB15-5.5			64658						X	X	S	N	1
12/6	1500	SRB15-8.5			64659						X	X	S	N	1

ANALYSES

REMARKS

Additional comments

- Method 6010 for Arsenic only (total metal)
Homogenize prior to analyzing, that portion of each sample used for Arsenic Analysis.

Fax Results ASAP to Elizabeth Wells 415 / 434-1365

Turnaround time 3 to 5 days (Standard)

Results to Elizabeth Wells

Total No of containers 9

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Signature	12/6/95	Signature		Signature	
Printed name Trevor Craigs	16.30	Printed name		Printed name	
Company Geomatrix		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature	9:15	Signature		Signature	
Printed name C. Rinwilla		Printed name		Printed name	
Company FGL		Company		Company	

Method of shipment FED-EX

Laboratory comments and Log No

Geometrix Consultants
100 Pine St 10th Floor
San Francisco CA 94111
(415) 434 9400

KW B7
12.8.95
12:05

Chain-of-Custody Record

№ 8425

Date 12/7/95

Project No: 2770 02

Samplers (Signatures): Nathaniel A Taylor

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	HLID	Coded	Soil (S) or water (W)	Acid rec	Number of containers
12/7	0830	HFS2A-2.0						X		X		64668	Y	S	N	1
	0840	HFS2A-4.5									X	64669	Y	S	N	1
	0750	HFS3-0.5						X		X		64670	Y	S	N	1
	0900	HFS3-2.0						X		X		64671	Y	S	N	1
	0910	HFS3-4.5									X	64672	Y	S	N	1
	0950	HFS4-0.5						X		X		64673	Y	S	N	1
	0900	HFS4-2.0						X		X		64674	Y	S	N	1
	0910	HFS4-4.5									X	64675	Y	S	N	1
	0930	HFS5-0.5						X		X		64676	Y	S	N	1
	0935	HFS5-2.0						X		X		64677	Y	S	N	1
	0940	HFS5-4.5									X	64678	Y	S	N	1
	0945	HFS6-0.5						X		X		64679	Y	S	N	1

ANALYSES

REMARKS

Additional comments

- TPH as diesel/motor oil by modified EPA method 8015, subsequent to silica gel clean-up

Please Fax Results to: Elizabeth Wells at 415 / 434 9400

Turnaround time: 3 to 5 days (standard)

Results to: Elizabeth Wells

Total No. of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathaniel A. Taylor	12/7/95				
Signature: NATHANIEL A. TAYLOR	1500	Signature		Signature	
Printed name: GEOMATRIX		Printed name		Printed name	
Company		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment: FED-EX

Laboratory comments and Log No

5 Day TAT!

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

KW 12.8.95 12:05 BL

Chain-of-Custody Record

№ 8426

Date 12/7/95

Project No: 2770.02

Samplers (Signatures): Nathanial A. Taylor

'95 Pusha Cruz

ANALYSIS

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as motor oil	Lead (Pb)	HOLD	Coolec	Soil, Sludge or water (W)	Acid/Bec	Number of containers
12/7	0950	HFS6-2.0						X		X		64680		Y	S	N	1
12/7	0955	HFS6-4.5										64681	X	Y	S	N	1
	1400	SRB13 1.5									X	64682		Y	S	N	1
	1405	SRB13 3.0									X	64683		Y	S	N	1
	1340	SRB13-5.5										64684	X	Y	S	N	1
	1350	SRB13 5.5										64685	X	Y	S	N	1
	1240	SRB14-1.5									X	64686		Y	S	N	1
	1320	SRB14-2.5									X	64687		Y	S	N	1
	1255	SRB14-5.5										64688	X	Y	S	N	1
	1300	SRB14-8.5										64689	X	Y	S	N	1
	1410	SRB15-1.0									X	64690		Y	S	N	1
	1415	SRB15-3.0									X	64691		Y	S	N	1

REMARKS

Additional comments

- Total Lead by EPA method 6010
- Homogenize entire metals sample prior to analysis
- TPH as diesel and motor oil by modified 8015, subsequent to silica gel clean-up

Please Fax Results ASAP to: 415 [illegible] 4345 Elizabeth Wells

Turnaround time: 3 to 5 Days (standard)

Results to: Elizabeth Wells

Total No of containers: 12

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathanial A Taylor	12/7/95				
Signature: NATHANIEL A. TAYLOR	1500	Signature		Signature	
Printed name: GEOMATRIX		Printed name		Printed name	
Company		Company		Company	
Received by	Time	Received by	Time	Received by	Time
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment: FED-EX

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

Chain-of-Custody Record

№ 8427

Date 12/7/95

Page 3 of 3

SW B+
12.8
12:05

Project No: 2770.02

Samplers (Signatures): Nathaniel A. Taylor, Patricia Cini '95

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	HVOCs	Cooled	Soil (S) or water (W)	Acidified	Number of containers
12/7	1425	SRB15-5.5'								X	X	S	N	1
12/7	1430	SRB15-5.5'								X	X	S	N	1

ANALYSES

REMARKS

Additional comments: Hold both samples please.

64692
64693

~~Fax Results ASAP to:~~
~~Elizabeth Wells~~
~~415/434-1365~~

Turnaround time: Hold ~~3 hr 5 Days (Standard)~~

Results to: Elizabeth Wells

Total No. of containers: 2

Relinquished by	Date	Relinquished by	Date	Relinquished by	Date
Nathaniel A. Taylor	12/7/95 1500				
Signature: NATHANIEL A. TAYLOR		Signature		Signature	
Printed name: GEOMATRIX		Printed name		Printed name	
Company		Company		Company	
Received by	**Time**	**Received by**	**Time**	**Received by**	**Time**
Signature		Signature		Signature	
Printed name		Printed name		Printed name	
Company		Company		Company	

Method of shipment: FED-EX

Laboratory comments and Log No

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434 9400

2770-0342

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3012 16th Avenue West
Seattle, WA 98119-2029
FAX: (206) 283-5044

December 21, 1995

Elizabeth Wells, Project Leader
Geomatrix Consultants, Inc.
100 Pine Street, Suite 1000
San Francisco, CA 94111-5112

Dear Ms. Wells:

Enclosed are the results from the testing of material submitted on December 13, 1995 from your 2770.02 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kelley Wilt

Kelley Wilt
Chemist

keh
Enclosures
FAX: (415) 434-1365
GMC1221R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 21, 1995
Date Received: December 13, 1995
Project: 2770.02
Date Samples Extracted: December 14, 1995
Date Extracts Analyzed: December 14, 1995

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR LEAD

Results Reported as µg/g (ppm)

Sample ID	Lead
SRB14-5.5	5
SRB15-5.5	6
Method Blank	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: December 21, 1995
Date Received: December 13, 1995
Project: 2770.02

QUALITY ASSURANCE RESULTS FOR LEAD

Laboratory Code: 64620 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Lead	ug/g (ppm)	11	13	17	0-30

Laboratory Code: 64620 (Matrix Spike)

Analyte:	Reporting Units	Spike Level	Sample Result	% Recovery MS	Acceptance Criteria
Lead	ug/g (ppm)	100	11	97	50-150

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery MS	% Recovery MSD	Acceptance Criteria	Relative Percent Difference
Lead	ug/g (ppm)	100	100	101	80-120	1

P.1/1

FAX TRANSMITTAL

GEOMATRIX

TO: Friedman & Bruya

COMPANY: Kelley Wik

FAX NO.: (206) 283-5044

FROM: Elizabeth Wells

DATE: 12/13/95

PROJECT NO.: 2770.02

TOTAL PAGES: 1

REQUEST FOR CHEMICAL ANALYSES OF SAMPLES HELD AT FRIEDMAN & BRUYA

Page 1 of 1

Sample No.	Sample Date	Sample Time	Chain-of-Custody No.	Analyses Requested	Comments
SRB14-5.5	12/7	?	~~8428~~ 8426	Pb 64688	
SRB15-5.5	12/7	1425	8427	Pb 64692	
Turnaround time: 3-5 days				Results to: Elizabeth Wells	

DEC 13 '95 04:28PM GEOMATRIX S.F.

CONTR\2770CHEM.FAX

SRB20-SRB31

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Prepared for

Union Pacific Railroad
One Market Plaza
San Francisco, California 94105

February 1997
Project 2770.04

Geomatrix Consultants

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

WATER QUALITY
CONTROL BOARD
REGION 1

FEB 25 '97

☐ BK ___ ☐ RK ___
☐ CJ ___ ☐ LP ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☐ ___
☐ TBD ☐ REPLY
☐ ALL STAFF ☐ FILE

21 February 1997
Project 2770.04

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Subject: Results of Soil and Groundwater Sampling
Santa Rosa Station Option Property
Northwestern Pacific Railroad
Healdsburg Segment, California

Dear Ms. Fleck:

Geomatrix Consultants, Inc. (Geomatrix), has prepared the enclosed report on behalf of Union Pacific Railroad Company (formerly Southern Pacific Transportation Company) for the subject site. The work was conducted in accordance with our 31 October 1996 Work Plan for Soil and Groundwater Sampling submitted to you. The purpose of the work was to evaluate the possible significant environmental impacts that may have resulted from historical features and to respond to your request for additional characterization near a former fuel oil underground storage tank (UST). A description of the field program and the analytical results are presented in this report.

Based on the results of the sampling program, it appears that no significant environmental issues are present at the site related to the former railroad operations. Furthermore, we recommend that the UST case be formally closed. Please contact either of the undersigned if you have questions or require further information.

Sincerely,
GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells, P.E.
Senior Engineer

Susan M. Gallardo, P.E.
Principal Engineer

2770/sroptco2.doc

cc: Mr. John Moe, Union Pacific Railroad Company
Jill Rood, Esq., Holme Roberts & Owen
Rory Campbell, Esq., Hanson, Bridgett, Marcus, Vlahos & Rudy

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

WATER QUALITY
CONTROL BOARD
REGION 1

FEB 25 '97

☐ BK ___ ☐ RK ___
☐ CJ ___ ☐ LR ___
☐ FR ___ ☐ KD ___
☐ RT ___ ☐ PG ___
☐ JH ___ ☐ JS ___
☐ SW ___ ☒ ___
☐ ~~RBD~~ ☐ APPL
☐ ALL STAFF ☐ FILE

Prepared for

Union Pacific Railroad
One Market Plaza
San Francisco, California 94105

February 1997
Project 2770.04

Geomatrix Consultants

GEOMATRIX

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GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING
Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

1.0 INTRODUCTION

Geomatrix Consultants, Inc. (Geomatrix), prepared this report to document soil and groundwater sampling that was performed at the Santa Rosa Station option property, which is located along the Healdsburg segment of the Northwestern Pacific Railroad (NWPRR) corridor in Santa Rosa, California (Figure 1). The site is designated as an option sale property for the NWPRR transaction between the Southern Pacific Transportation Company (SPTCo, currently Union Pacific Railroad [UPRR]) and the NWPRR Task Force. The objective of the soil and groundwater sampling program was to evaluate potential significant environmental impacts that may have resulted from historical features, or from features that were identified during the Phase I environmental site assessment performed by Geomatrix in 1992 and early 1993 (Geomatrix, 1994). Additionally, the program included sampling in the vicinity of a former underground fuel storage tank to respond to a request by the California Regional Water Quality Control Board, North Coast Region (NCRWQCB) for additional characterization in this area.

Specific components of the soil and groundwater sampling program were described in the 31 October 1996 work plan developed by Geomatrix. In general, the sampling program consisted of the following:

- soil samples were collected from four borings located in the vicinity of the former turntable, fuel storage house, and an area where surface staining previously was observed in the fenced enclosure (Figure 2);
- soil and grab groundwater samples were collected from an additional five borings located along the downgradient (western) boundary of the property near the location of an historical aboveground storage tank, two former oil traps, and a former oil column; and
- grab groundwater samples were collected from three locations approximately downgradient of a former fuel oil underground storage tank (UST).

2.0 BACKGROUND

2.1 SITE SETTING

The property is located in a primarily commercial area of Santa Rosa. Bordered by NWPRR to the south and east, warehouse facilities to the west, and residential areas to the north, the site is currently vacant with the exception of a small staging area which is used by NWPRR. Based on work performed by Geomatrix along the NWPRR immediately east of the property, the stratigraphy generally consists of unconsolidated alluvium and poorly consolidated continental basin sediments of the Glen Ellen Formation.

Groundwater depth in one well located on the NWPRR south of the property was documented by Geomatrix on 16 March 1995 and was approximately 11.5 below ground surface (bgs). Gradients are assumed to be west-southwest toward Santa Rosa Creek (Figure 2).

2.2 SITE HISTORY

The Santa Rosa station formerly served as a water and fuel station. Within the southeastern portion of the option property was a turntable that was dismantled in 1925. A 3000-barrel aboveground oil storage tank, two oil traps, and an oil column also were located along the western boundary of the option property (Figure 2). According to SPTCo records, these facilities were constructed at the site between 1939 and 1945, and were removed in 1960. Currently, in the northeastern portion of the option property, is an office and fuel storage house; this structure is located within a fenced enclosure where various maintenance materials are stored.

Three USTs that were located immediately north-northwest of the fenced enclosure (10,000-gallon diesel UST, 10,000-gallon gasoline UST, and 230-gallon fuel oil UST) were removed in 1987. No apparent leakage from the USTs was documented at the time of their removal by Canonie Environmental.

In April 1990, the NCRWQCB drilled four borings in the western portion of the property and installed monitoring wells in two of the borings (designated MW-2 and MW-3, as shown on Figure 2) Monitoring well MW-3 was located approximately 100 feet downgradient (to the southwest) of the former fuel oil UST. Based on information presented in a July 1992 report by Industrial Compliance (IC), analytical results for samples collected from the NCRWQCB borings showed that no petroleum hydrocarbons were present in soil samples collected from B-2 and MW-2. No gasoline or diesel were detected in soil samples from boring B-1; however, oil and grease was present in the soil sample collected from boring B-1 at 12 feet bgs at a concentration of 200 milligrams per kilogram (mg/kg). Additionally, this sample contained low concentrations of some polynuclear aromatic compounds (PNAs). Soil samples collected at depths of 6 and 16 feet bgs from MW-3 contained petroleum hydrocarbons quantified as diesel (TPHd) at concentrations of 11 and 30 mg/kg.

No petroleum hydrocarbons were detected in the groundwater sample collected by the NCRWQCB from well MW-2; TPHd was detected at a concentration of 0.4 milligrams per liter (mg/l) in the groundwater sample collected from MW-3.

Soil and grab groundwater samples were collected from five borings in the UST area by IC in 1992. The approximate sampling locations are shown on Figure 3. No detectable concentrations of petroleum hydrocarbons, benzene, toluene, ethylbenzene, or xylenes (BTEX), or PNAs were reported in the soil samples collected from each boring. Grab groundwater samples collected from the location of the former diesel and gasoline USTs did not contain petroleum hydrocarbons or BTEX above reporting limits. The grab groundwater sample collected at the former fuel oil tank location, designated as IC-B6, on Figure 3 reportedly contained TPHd at a concentration of 31 mg/l; no gasoline or BTEX were detected in the grab groundwater sample from IC-B6.

The NCRWQCB destroyed monitoring wells MW-2 and MW-3 in June 1995 (30 October 1996, personal communication, Joan Fleck of the NCRWQCB). A copy of the well destruction permit is contained in Appendix A of this report.

3.0 FIELD AND ANALYTICAL METHODS

Prior to sampling, utility clearance for each sampling location was achieved by contacting Underground Service Alert (USA), a regional utility notification center, and SP Telecommunications. In addition, Geomatrix retained a private utility locator to clear each boring location prior to sampling. Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department. Copies of these permits are included in Appendix B. Right of entry onto the site was granted verbally by Mike Strider of the North Coast Railroad Authority prior to drilling.

Geomatrix retained Precision Sampling, Inc. (Precision), of San Rafael, California, a state-licensed drilling contractor to drill the borings. Soil borings were advanced using an XD-1, direct-push (DP) technology rig using stainless-steel liners in the core barrel. Following sampling, the ends of the soil collection tubes were covered with Teflon sheets and plastic end caps and sealed with duct tape. Samples for chemical analysis generally were collected from depths of 1, 4, 7, 9, 12, 14, and 17 feet bgs. Specific sampling depths are shown in Table 1.

Grab groundwater samples were collected at boring locations SRB20, SRB21, SRB22, SRB23, SRB26, SRB29, SRB30, and SRB31 using DP technology by installing a 1-inch-diameter temporary polyvinyl chloride (PVC) casing consisting of a 5- to 15-foot-long, 0.01-inch-slot well screen attached to blank PVC, which was placed inside the drive casing. The drive casing was then withdrawn thereby exposing the screen to water-yielding sediments. Groundwater samples to be analyzed for volatile organic compounds (VOCs) were collected with a disposable PVC bailer; the groundwater was transferred into 40-milliliter HCl-acidified volatile organics analysis (VOA) vials using a bottom-emptying device with a stopcock. Groundwater samples for analysis of extractable petroleum hydrocarbons were collected using a disposable PVC bailer and decanted directly into 1-liter amber bottles.

TOP OF WATER TABLE?

Borings were grouted to ground surface using a neat cement/bentonite slurry. Prior to, and after drilling was complete, all drilling and sampling equipment was steam-cleaned. Rinsate and soil cuttings were collected in labeled 55-gallon drums and 5-gallon buckets, respectively, and removed from the site for disposal by Precision.

Soil and grab groundwater samples were labeled and placed in an ice-chilled cooler for delivery to the analytical laboratory under Geomatrix chain-of-custody procedures. Samples were analyzed by American Environmental (AEN), of Pleasant Hill, California, a California-certified analytical laboratory. AEN composited selected soil samples, as requested, prior to analysis. Generally, two composite samples were generated at each boring location. Based on field observations, several discrete samples were analyzed in addition to or in lieu of composite samples.

The composite and discrete soil samples were analyzed for the following constituents.

- TPHd and total petroleum hydrocarbons quantified as motor oil (TPHm) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- VOCs according to EPA Method 8240;
- polynuclear aromatic compounds (PNAs) according to EPA Method 8310;
- barium, cadmium, chromium, copper, nickel, lead, silver, and zinc according to EPA Method 6010; and
- arsenic, mercury, and selenium according to EPA Methods 7060, 7471, and 7740, respectively.

Based on the analytical results of the composite samples, Geomatrix requested that specific discrete samples also be analyzed. The testing program, including sample depth, compositing, and analyses, is shown in Table 1.

Grab groundwater samples were analyzed for TPHd, TPHm, and VOCs in accordance with the methods listed above. The samples analyzed for TPHd and TPHm were prepared using a silica gel cleanup procedure (EPA Method 3630M) to remove potential biogenic material from the samples.

4.0 SITE STRATIGRAPHY

Shallow sediments encountered during the Phase II activities were predominantly fine-grained (silt and clay with some sand) to a depth of 25 feet bgs, the maximum depth drilled. A 4- to 8-foot-thick poorly graded sand with gravel to clayey sand was encountered between 18 and 21 feet bgs. In addition, a 3- to 7- foot-thick unit of clayey sand was found at 10 feet bgs in borings SRB23, SRB24, and SRB25. Groundwater was generally encountered at 10 to 12 feet bgs. Lithologic boring logs are contained in Appendix C.

5.0 ANALYTICAL RESULTS

Analytical results for organic compounds and metals in soil samples are summarized in Table 2 and Table 3, respectively, and are discussed below. Grab groundwater analytical results for VOCs are not tabulated in this report because VOCs generally were not detected in the samples with one exception as discussed below. Chain-of-custody records and laboratory data reports are contained in Appendix D.

5.1 SOIL

Relatively low concentrations of TPHd were detected in the composite and discrete samples from borings SRB21, SRB22, and SRB23. No TPHd was detected in samples from the other borings. The composite soil sample from depths of 1.5 and 4 feet bgs collected from boring SRB21 contained TPHd at 130 mg/kg. Discrete samples from boring SRB21 collected at depths of 7, 9, and 11 feet bgs contained TPHd at concentrations of 1600 mg/kg, 960 mg/kg, and 150 mg/kg, respectively; TPHd was not detected in the sample collected at 13 feet bgs. The chromatograms of these samples indicate that the TPHd detected in these samples generally consist of a

weathered diesel (medium boiling range) product. The discrete sample from boring SRB22 collected at 12.5 feet bgs contained TPHd at a concentration of 67 mg/kg; TPHd was not detected in the shallower or deeper soil samples from SRB22. The shallow composite sample (1.5, 4.5, and 7.5 feet bgs) collected from boring SRB23 contained TPHd at a concentration of 5 mg/kg; TPHd was not detected in the deep composite sample (10, 13, and 14.5 feet bgs).

TPHm was detected in the samples from borings SRB20, SRB21, SRB22, SRB23, SRB26, SRB27, and SRB28. The shallow composite sample (1, 4, and 6.5 feet bgs) from boring SRB20 contained TPHm at a concentration of 900 mg/kg; the discrete analysis of deeper samples from boring SRB20 contained TPHm at concentrations that decreased significantly with depth (Table 2). The shallow composite sample (1.5 and 4 feet bgs) from boring SRB21 contained TPHm at a concentration of 510 mg/kg; TPHm was not detected in the deeper discrete samples from SRB21. The shallow composite sample (1.5, 4, and 7 feet bgs) from boring SRB22 contained TPHm at a concentration of 43 mg/kg; the discrete samples at 10.5 and 12.5 feet bgs contained TPHm at 120 mg/kg and 210 mg/kg, respectively. TPHm was not detected in the discrete sample at 14.5 feet bgs. The shallow composite samples (1.5 to 7.5 feet bgs) from borings SRB23, SRB26, and SRB28 contained TPHm at concentrations of 5 mg/kg, 12 mg/kg, and 130 mg/kg, respectively. TPHm was not detected in the deeper composite samples (10 to 14.5 feet bgs) from borings SRB23, SRB26, and SRB28. The discrete sample from 1.5 feet bgs at boring SRB27 contained TPHm at a concentration of 72 mg/kg; TPHm was not detected above the laboratory reporting limit in the discrete sample from 4.5 feet bgs. The chromatograms indicate that the TPHm detected at these locations generally consist of a weathered oil (higher boiling) product that may contain biogenic material which could positively interfere with the quantification of the detected TPHm (that is, indicate a higher concentration of TPHm than is actually present).

PNAs were detected at relatively low concentrations in 9 of the 14 samples analyzed from borings SRB20, SRB21, SRB22, SRB23, SRB24, and SRB27. The concentrations of the detected PNAs were lower than the EPA Preliminary Remediation Goals (PRGs) for industrial

exposures (EPA, 1996). PNAs were not detected above laboratory reporting limits in the deeper soil samples analyzed at each location.

Metals were detected within expected regional background concentrations (as shown on Table 3) and less than ten times the soluble threshold limit concentration (STLC) in all soil samples collected.

5.2 GROUNDWATER

VOCs were not detected above method reporting limits in the 11 grab groundwater samples, with the exception of 300 micrograms per liter (µg/l) of acetone in the sample collected from SRB30. Additionally, according to AEN, the acetone detected in this sample may have been due to a laboratory impurity. TPHd and TPHm were not detected above the method reporting limit in all grab groundwater samples.

6.0 DISCUSSION

The results of the Phase II sampling program indicate no significant environmental impacts at the property as a result of historical activities or features (such as soil staining) noted during the Phase I assessment. Petroleum hydrocarbons were detected in soil at elevated concentrations at two locations (near a former oil trap at boring SRB21 and at SRB20); however, the presence of petroleum hydrocarbons at these locations decrease with depth. Additionally, the chromatograms indicated that the detected TPH is weathered and generally immobile with respect to groundwater. This conclusion is confirmed by the absence of TPH and VOCs, such as BTEX, in groundwater at the property. Finally, the absence of significant concentrations of TPH in soil at other sampling locations suggests that the presence of TPH in soil at the property is not widespread.

Polynuclear aromatic compounds, where detected in soil, are present at concentrations below EPA screening criteria for industrial exposure, Additionally, the concentrations of metals in soil at the property are within expected background concentrations.

Groundwater analytical results indicate that former site operations have had no impact to groundwater at locations sampled on the option property. No TPHd, TPHm, or VOCs, including BTEX, were detected in grab groundwater samples collected approximately downgradient of the location of the former fuel oil tank. These results indicate that, although petroleum hydrocarbons may be present specifically at the former fuel oil tank location (based on previous sampling results at IC-B6 where the presence of TPHd was formerly reported), their potential presence is not impacting groundwater across the property.

7.0 REFERENCES

Geomatrix Consultants (Geomatrix), 1996, Phase II and Phase III Program Findings, Northwestern Pacific Railroad, Novato to Willits, California, March.

Industrial Compliance, 1992, Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California, 30 July.

United States Environmental Protection Agency (EPA), 1996, Region 9 Preliminary Remediation Goals, 1 August.

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TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL TESTING PROGRAM

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Boring	Depth, feet below ground surface	Soil Analyses				Groundwater Analyses		
		TPHd[1]	TPHm[2]	PNAs[3]	Metals[4]	TPHd[5]	TPHm[5]	VOCs[6]
SRB25	1.5, 4.0, 6.5-c	■	■	■	■			
	9.0, 11.0, 14.0-c	■	■	■	■			
SRB26	---					■	■	■
	1.5, 4.0, 6.5-c	■	■	■	■			
	10.5, 12.0, 14.5-c	■	■	■	■			
SRB27	1.5	■	■	■	■			
	4.5	■	■	■	■			
SRB28	---					■	■	■
	1.5, 4.5, 7.0-c	■	■	■	■			
	9.0, 11.5, 14.0-c	■	■	■	■			
SRB29	---					■	■	■
SRB30	---					■	■	■
SRB31	---					■	■	■

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TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL TESTING PROGRAM

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Notes:

■ Indicates analysis performed by American Environmental Network, Inc., of Pleasant Hill, California

1 Total petroleum hydrocarbons characterized as diesel (TPHd) analyzed in accordance with Modified EPA Method 8015.
2 Total petroleum hydrocarbons characterized as motor oil (TPHm) analyzed in accordance with Modified EPA Method 8015.
3 Polynuclear aromatic hydrocarbons (PNAs) analyzed in accordance with EPA Method 8310.
4 California Code of Regulations Title 17 metals: arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, lead , mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc analyzed in accordance with EPA 6000/7000 Series Method.
5 Groundwater samples analyzed following silica gel cleanup in accordance with Modified EPA Method 3630.
6 Volatile organic compounds (VOCs) analyzed in accordance with EPA Method 8240M.
7 c = indicates composite sample.

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TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB20-1,4,6.5	11/15/96	1.0, 4.0, 6.5	<20	900	Chrysene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	0.028 0.049 0.025
SRB20-4	11/15/96	4.0	---[5]	69	---	
SRB20-6.5	11/15/96	6.5	---	<5	---	
SRB20-9,11.5,14	11/15/96	9.0, 11.5, 14.0	<1	56	ND[6]	
SRB21-1.5,4	11/14/96	1.5, 4.0	130	510	Benzo(g,h,i,)perylene Fluoranthene Indeno(1,2,3-cd)pyrene	0.029 0.027 0.075
SRB21-7	11/14/96	7.0	1600	<100	Anthracene Benzo(a)anthracene Chrysene Fluoranthene Fluorene Phenanthrene Pyrene	0.081 0.021 0.10 0.33 0.87 0.19 0.20

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TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB21-9	11/14/96	9.0	960	<50	Anthracene	0.078
					Benzo(a)anthracene	0.038
					Chrysene	0.33
					Fluoranthene	0.088
					Fluorene	0.63
					Phenanthrene	0.18
					Pyrene	0.18
SRB21-11	11/14/96	11.0	150	<5	ND	
SRB21-13.5	11/14/96	13.5	<1	<5	ND	
SRB22-1.5, 4,7	11/14/96	1.5, 4.0, 7.0	<1	43	ND	
SRB22-10.5	11/14/96	10.5	<1	120	ND	
SRB22-12.5	11/14/96	12.5	67	210	Benzo(a)pyrene	0.026
					Benzo(g,h,i)perylene	0.045
					Chrysene	0.052
					Pyrene	0.10
SRB22-14.5	11/14/96	14.5	<1	<5	Indeno(1,2,3-cd)pyrene	0.020
SRB23-1.5,4.5,7.5	11/14/96	1.5, 4.5, 7.5	5	28	Fluoranthene	0.025
SRB23-10,13,14.5	11/14/96	10.0, 13.0, 14.5	<1	<5	ND	
SRB24-1,4,6.5	11/15/96	1.0, 4.0, 6.5	<1	<5	Indeno(1,2,3-cd)pyrene	0.034
					Phenanthrene	0.019
					Pyrene	0.04
SRB24-9,11.5, 14	11/15/96	9.0, 11.5, 14.0	<1	<5	ND	

performed, method detection limits for each constituent, and analytical results are included in Appendix D.

[2] If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.

[3] TPH = Total petroleum hydrocarbons quantified as diesel or motor oil. Analyses by modified EPA Method 8015.

[4] Polynuclear aromatic hydrocarbons (PNAs) analyzed by EPA Test Method 8310. Only those compounds shown in this table were detected.

[5] --- indicates sample not analyzed by that method.

[6] ND = no constituent detected at a concentration greater than the method detection limit.

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB25-1.5,4,6.5	11/15/96	1.5, 4.0, 6.5	<1	<5	ND	
SRB25-9,11.5,14	11/15/96	9.0, 11.0, 14.0	<1	<5	ND	
SRB26-1.5,4,6.5	11/14/96	1.5, 4.0, 6.5	<1	12	ND	
SRB26-10.5,12,14.5	11/14/96	10.5, 12.0, 14.5	<1	<5	ND	
SRB27-1.5	11/14/96	1.5	<1	72	Benzo(b)fluoranthene Benzo(g,h,i)perylene Chrysene Phenanthrene Pyrene	0.021 0.02 0.046 0.046 0.032
SRB27-4.5	11/14/96	4.5	<1	<5	ND	
SRB28-1.5,4.5,7	11/14/96	1.5, 4.5, 7.0	<1	130	ND	
SRB28-9,11.5,14	11/14/96	9.0, 11.5, 14.0	<1	<5	ND	

GEOMATRIX

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Notes:

1. Chemical analyses performed by American Environmental Network of Pleasant Hill, California. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix D.
2. If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.
3. TPH = Total petroleum hydrocarbons quantified as diesel or motor oil. Analyses by modified EPA Method 8015.
4. Polynuclear aromatic hydrocarbons (PNAs) analyzed by EPA Test Method 8310. Only those compounds shown in this table were detected.
5. --- indicates sample not analyzed by that method.
6. ND = no constituent detected at a concentration greater than the method detection limit.

FOR
Northw
Santa

Sample Name	Date Sampled	Sample Depth, feet below ground surface[2]	Ag	As	Ba	Be	Cd
Shacklette Background[4]	—	—	—[5]	<1-4.1	500-700	<1	—[5]
STLC[6] (mg/l)	—	—	5	5.0	100	0.75	1.0
TTLC[7] (mg/kg)	—	—	500	500	10,000	75	100
SRB20-1,4,6.5	11/15/96	1.0, 4.0, 6.5	0.3	2.6	150	0.4	<0.2
SRB20-9,11.5,14	11/15/96	9.0, 11.5, 14.0	0.2	1.4	150	0.4	<0.2
SRB21-1.5,4	11/14/96	1.5, 4.0	0.3	2.3	180	0.6	<0.2
SRB21-7	11/14/96	7.0	0.2	1.4	180	0.5	<0.2
SRB21-9	11/14/96	9.0	0.3	0.9	220	0.6	<0.2
SRB21-11	11/14/96	11.0	0.2	<0.5	160	0.4	<0.2
SRB21-13.5	11/14/96	13.5	0.2	<0.5	160	0.6	<0.2
SRB22-1.5,4,7	11/14/96	1.5, 4.0, 7.0	0.3	1.9	150	0.4	<0.2
SRB22-10.5	11/14/96	10.5	0.2	4.6	180	0.4	<0.2
SRB22-12.5	11/14/96	12.5	0.2	2.1	180	0.5	<0.2
SRB22-14.5	11/14/96	14.5	0.2	<0.5	190	0.7	<0.2
SRB23-1.5,4.5,7.5	11/14/96	1.5, 4.5, 7.5	0.2	3.1	130	0.4	<0.2
SRB23-10,13,14.5	11/14/96	10.0, 13.0, 14.5	0.2	3.2	73	0.3	<0.2
SRB24-1,4,6.5	11/15/96	1.0, 4.0, 6.5	0.3	1.6	180	0.5	<0.2
SRB24-9,11.5,14	11/15/96	9.0, 11.5, 14.0	0.2	<0.5	180	0.5	<0.2
SRB25-1.5,4,6.5	11/15/96	1.5, 4.0, 6.5	0.3	0.8	210	0.6	<0.2
SRB25-9,11.5,14	11/15/96	9.0, 11.5, 14.0	0.3	0.7	170	0.5	<0.2
SRB26-1.5,4,6.5	11/14/96	1.5, 4.0, 6.5	0.3	2.8	180	0.5	<0.2
SRB26-10.5-12-14.5	11/14/96	10.5, 12.0, 14.5	0.2	1.5	190	0.6	<0.2
SRB27-1.5	11/14/96	1.5	0.2	7.6	57	0.3	<0.2
SRB27-4.5	11/14/96	4.5	0.2	<0.5	180	0.6	<0.2
SRB28-1.5,4.5,7	11/14/96	1.5, 4.5, 7.0	0.2	5	160	0.5	<0.2
SRB28-9,11.5,14	11/14/96	9,0, 11.5, 14.0	0.2	2.2	180	0.5	<0.2

LTS[1]
AMPLES
ıd Corridor
Property
ıia

Metals[3] (mg/kg)									
Cu	Hg	Mo	Ni	Pb	Sb	Se	Tl	V	Zn
30-700	0.08-5.1	<3	30-300	15-300	—[5]	0.15-0.5	—[5]	70-500	74-400
25	0.2	350	20	5	15	1.0	7.0	24	250
2500	20	3500	2000	1000	500	100	700	2400	5000
25	< 0.06	< 0.2	130	14	1	<1	4	40	53
21	<0.06	<0.2	80	7	<1	<1	11	27	34
31	<0.06	<0.2	110	9	<1	<1	24	46	47
31	<0.06	<0.2	120	8	<1	<1	22	39	44
32	<0.06	<0.2	130	9	<1	<1	26	40	50
23	<0.06	<0.2	83	7	<1	<1	17	25	40
23	<0.06	<0.2	92	8	<1	<1	18	20	37
26	<0.06	<0.2	130	10	<1	<1	8	43	48
28	<0.06	<0.2	120	7	<1	<1	20	37	44
25	<0.06	<0.2	110	7	<1	<1	22	33	42
28	<0.06	<0.2	100	9	<1	<1	23	30	46
28	<0.06	<0.2	93	10	<1	<1	22	52	46
20	<0.06	<0.2	69	4	1	<1	15	35	34
29	<0.06	<0.2	100	18	<1	<1	17	39	49
23	<0.06	<0.2	98	8	<1	<1	16	29	36
29	<0.06	<0.2	130	8	<1	<1	19	42	47
23	<0.06	<0.2	97	7	<1	<1	18	30	38
32	<0.06	<0.2	130	8	1	<1	23	47	47
31	<0.06	<0.2	120	9	<1	<1	26	41	49
32	0.13	<0.2	40	23	0.6	<1	12	38	48
29	<0.06	<0.2	89	8	<1	<1	20	43	46
32	0.12	<0.2	110	11	<1	<1	22	47	49
24	<0.06	<0.2	120	6	<1	<1	21	36	41

TAB

ANALYTICA
FOR METALS II
Northwestern Pacif
Santa Rosa Statio
Santa Rosa

Notes:

1 Chemical analyses performed by American Environmental Network of Pleasant Hill, California. The laboratory analytical reports
2 If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.
3 Metals analyzed include: silver (Ag), arsenic (As), barium (Ba), beryllium (Be), cadmium (Cd), cobalt (Co), total chromium (Cr), zinc (Zn), by EPA Methods 6000/7000 series.
4 Background concentrations from maps presented in Shacklette, H.T., and Boerngen, J.G., 1984, Element Concentrations in Soils a
5 No background concentration available.
6 STLC = soluble threshold limit concentration, California Code of Regulations, Title 22, Section 66261.24.
7 TTLC = total threshold limit concentration, California Code of Regulations, Title 22, Section 66261.24.
8 ND = not detected

LE 3

L RESULTS[1]
SOIL SAMPLES
c Railroad Corridor
1 Option Property
, California

letailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix D.

opper (Cu), mercury (Hg), molybdenum (Mo), nickel (Ni), lead (Pb), antimony (Sb), selenium (Se), thallium (Tl), vanadium (V) and

d Other Surficial Materials of the Coterminous United States, U.S. Geological Survey Professional Paper 1270.

Base map from *The Thomas Guide, 1992 Sonoma/Marin Counties Street Guide and Directory*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission. All rights reserved.

N

0 2000 Feet

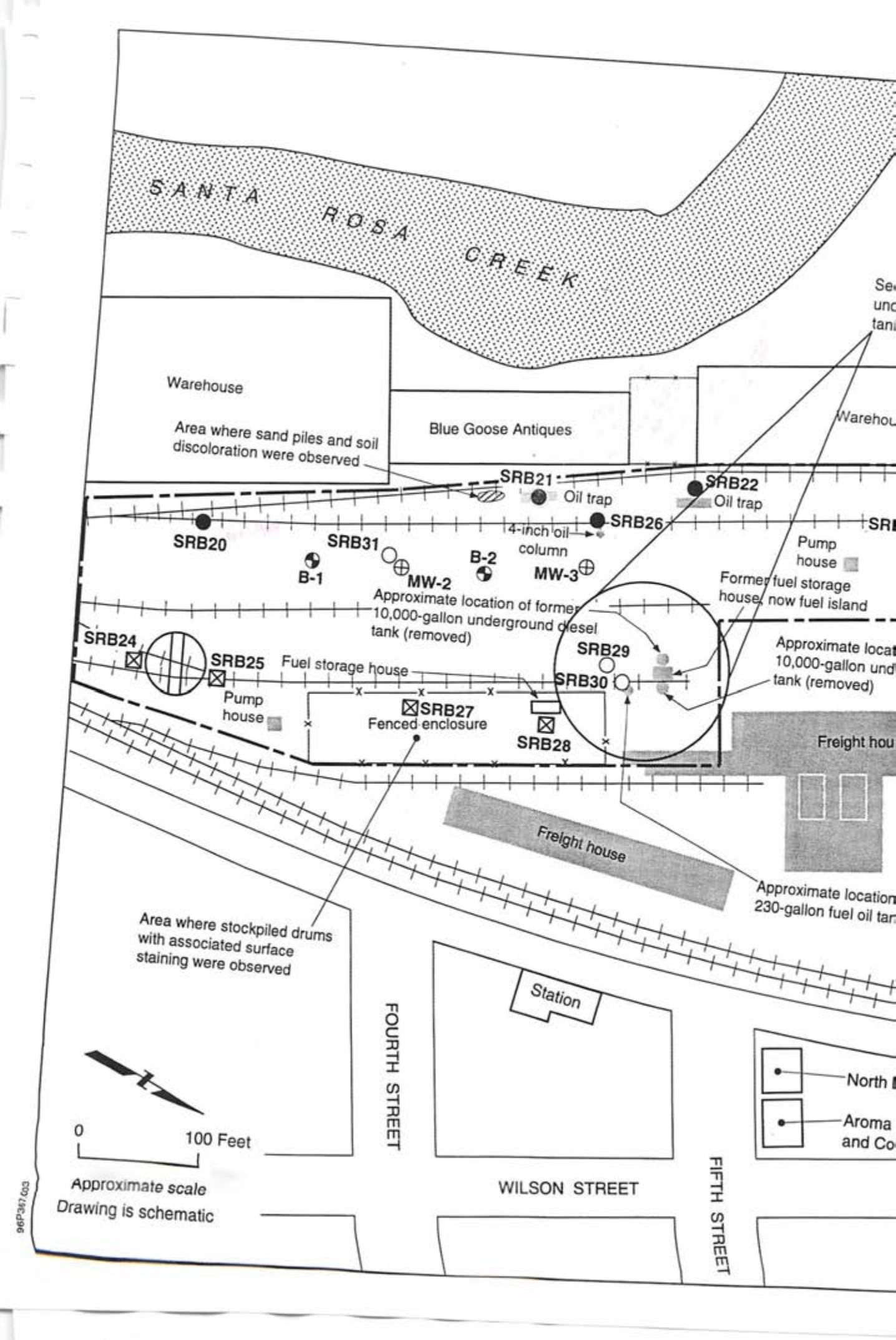
GEOMATRIX

SITE LOCATION MAP
Northwestern Pacific Railroad Corridor
Santa Rosa Station Option Property
Santa Rosa, California

Figure
1

Project No.
2770.02

2770.02.018

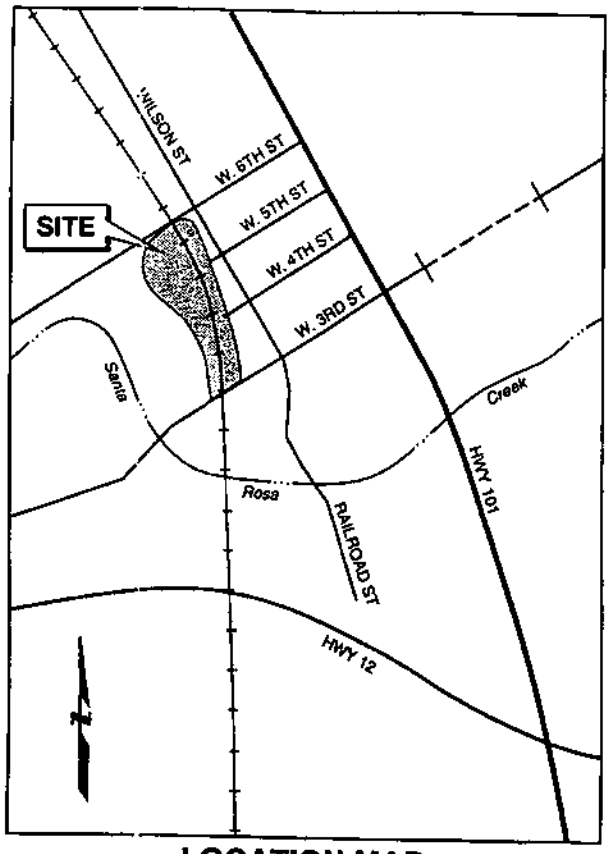

SANTA ROSA CREEK
Warehouse
Area where sand piles and soil discoloration were observed
Blue Goose Antiques
SRB21
Oil trap
SRB22
Oil trap
SRB20
SRB31
SRB26
4-inch oil column
B-1
B-2
MW-2
MW-3
Pump house
Former fuel storage house, now fuel island
Approximate location of former 10,000-gallon underground diesel tank (removed)
SRB24
SRB25
Fuel storage house
SRB29
SRB30
Pump house
SRB27
Fenced enclosure
SRB28
Freight house
Freight house
Approximate location 230-gallon fuel oil tan
Area where stockpiled drums with associated surface staining were observed
Station
FOURTH STREET
FIFTH STREET
WILSON STREET
0
100 Feet
Approximate scale
Drawing is schematic
96P367.003

JEFFERSON STREET

SIXTH STREET

ADAMS STREET

MP 53.8



LOCATION MAP

EXPLANATION

- ● Soil and grab groundwater sampling location
- ○ Grab groundwater only sampling location
- ⊠ Soil only sampling location
- **MW-2** ⊕ Former monitoring well installed by NCRWQCB (April 1990)
- **B-1** ◒ Approximate soil sampling location performed by NCRWQCB (April 1990)
- ▒ Indicates historical feature for which no surface features were observed
- ——·—— Option property boundary

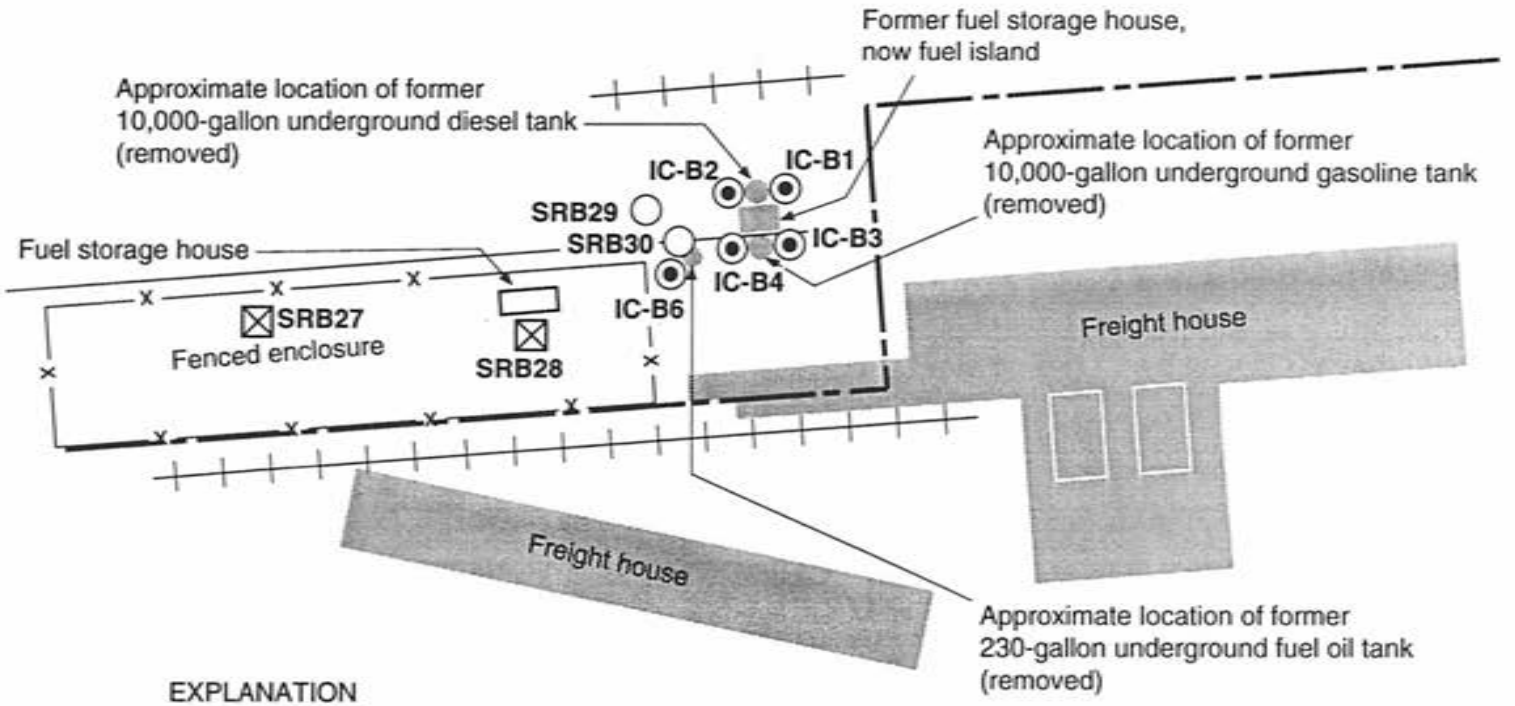
Note

Figure adapted from Northwestern Pacific Railroad (NWPRR) Valuation Map No. V2/S-8d.

SITE PLAN AND BORING LOCATION MAP
Northwestern Pacific Railroad Corridor
Milepost 53.7
Santa Rosa Station Option Property
Santa Rosa, California

GEOMATRIX

Project No.	Figure
2770.04	2



EXPLANATION

- ○ Geomatrix Phase II grab groundwater only sampling location
- ⊠ Geomatrix Phase II soil only sampling location
- IC-B2 ◉ Approximate soil sampling location performed by Industrial Compliance (May 1992)
- Indicates historical feature for which no surface features were observed
- Option property boundary

0 80 Feet

Approximate scale

Drawing is schematic

GEOMATRIX

UNDERGROUND STORAGE TANK REMOVAL-DETAIL
Northwestern Pacific Railroad Corridor
Santa Rosa Station Option Property
Santa Rosa, California

Figure 3

Project No. 2770.04

96P367.004

APPENDIX A

MW-2 AND MW-3 WELL DESTRUCTION PERMITS

CONTROL BOARD
REGION 1

JUN 30 '95

COUNTY OF SONOMA – DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION – HAZMAT PROGRAM
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6565

APPLICATION FOR MONITORING WELL PERMIT
for Regional Board Lead/Environmental Assessment

For Office Use Only
Amount paid $213.00
Receipt number 2-035B
Payment date 06/14/95
Revenue code 1475

BK ___ RK ___
CJ ___ LR ___
FA ___ KD ___
RT ___ PG ___
JH ___ RS ___
SW ___ ___

Site ID # 0004 Permit # 95-1471-HMW

Well type: ☐ Monitoring well ☐ Recovery extraction well ☐ Boring ☒ Injection well
☐ Soil gas survey ☐ Hydropunch ☐ Air sparging/venting ☒ Other STAT ABANDONMENT

Well depth 25 Boring depth ___ Hydro depth ___ Air sparging/venting depth ___

On-site well/boring ___ ID # ___ # Off-site well/boring ___ ID # ___

Submit legal right-of-entry/off-site well address/encroachment permit

On-Site Address [redacted] 1475 Railroad

On-Site Owner [redacted] Phone ___

Address [redacted] Santa Rosa AP# ___

Responsible Party [redacted] Phone 576-2675

Address 5550 Skylane Blvd. Santa Rosa CA 95403

Consultant Cal Head Drilling Phone ___

Address ___ License #/Type ___

Drilling Contractor Cal Head Drilling Phone 869-9610

Address 17851 Santa Rosa Ave Guerneville, 95446 C-57 License # 467904

Type of work: ☐ Initial investigation ___ # Wells ☐ Subsequent investigation ___ # Wells ☒ Destruct 2 # Wells
MW-2 MW-3

Groundwater investigation due to: ☐ Underground tank ☐ Surface impoundment ☒ Assessment

☐ Surface disposal practice—specify involved industry ___

☐ Other ___

Perforated intervals 5'-20' Chemical constituents ___

Disposal method for soil cuttings ___ Disposal method for development water N/A

Drilling method ___ Method of drill equip. rinsate containment ___

If destroying a well, abandonment method Over drill and grout

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? ☐ Yes ☐ No
50 feet of any sanitary sewer line? ☐ Yes ☐ No
25 feet of any private sanitary sewer line? ☐ Yes ☐ No

ENVIRONMENTAL HEALTH DIVISION
Date 06/14/95

001475D
UST-FEES 213.0
TTLAMT 213.0
CHECKS 213.0
CHANGE 0.0
035B M2 9:2

In addition, all monitoring wells must include *identification system* affixed to interior surface:

1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be *affixed* to the *exterior surface* security structure.

RWQCB approval ___ Date 6/17/95

Address: 105 Railroad

Santa Rosa

Site ID #: 0004

Permit #: 95-1471-HMW

WORKERS COMPENSATION CERTIFICATE

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 525-6565, 24 hours in advance, to notify the Hazardous Materials Specialist when completing or destroying a well. I will furnish the Director of Public Health and the owner a legible copy of the State Water Well Driller's Report within 15 days in order to obtain final approval on this well. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

☑ A currently effective certificate of Workers Compensation Insurance coverage is on file with this office, *made out in the name of the Sonoma County Public Health Department.*

Jay M. Kosla

Signature of Well Driller—*no proxies* Date 6/14/95

Insurance Carrier Golden Eagle Expiration Date 11/1/96

Once all wells/borings are installed, submit a "Letter of Completion" to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH DIVISION

Permit approval by John L Carlson Date 6/28/95

Constr. approved by _____ Observed? ☐ Yes ☐ No Well # _____ Date ___/___/___

Copies: File–white Driller–yellow Consultant–pink Owner/RP–gold

monwell2.frm (rev. 07/94)

GEOMATRIX

APPENDIX B

SONOMA COUNTY ENVIRONMENTAL HEALTH DRILLING PERMITS

10 [illegible] Total Cheque = $612.00

2770.04-0210

For Office Use Only

$340.00 SJC

COUNTY OF SONOMA PUBLIC HEALTH DEPT. - HAZMAT SECTION
3030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6565

APPLICATION FOR MONITORING WELL PERMIT

Site ID # 23041

Permit # 96-1866-HMW

Amount Paid 340.00

Receipt Number 265B-2

Date of Payment 10/23/96

Revenue Code 1475

Well Type: ☐ Mon. Well ☐ Recovery Extraction Well ☐ Geol. Boring ☐ Geotech. Boring ☐ Injection Well

☐ Soil Gas Survey ☒ Other hydropunch

Well Depth ≤ 15' Boring Depth

On-Site Well/Boring 10 ID # # Off-Site Well/Boring ID #

Submit Legal Right-of-Entry/Off-Site Well Address/Encroachment Permit

Location of wells within: ☒ Santa Rosa ☐ Healdsburg

On-Site Address Santa Rosa Station - 94th Street Santa Rosa 95401

On-Site Owner Union Pacific / Southern Pacific Transportation Company Phone 415-541-2545

Address 1 Market Plaza, SF, CA 94105 AP#

Responsible Party Union Pacific / Southern Pacific Transportation Company Phone 415-541-2545

Address 1 Market Plaza, 7th Floor SF, CA 94105

Consultant Geomatrix Consultants Phone 415-434-9400

Address 100 Pine Street, 10th Floor, SF, CA, 94111 License #/Type P. Nicinardi CE 038154

Drilling Contractor Precision Sampling, Inc Phone 415-456-9875

Address 47 Louise Street, San Rafael, CA 94901 C-57 License # 636387

Type of Work: ☐ Initial Investigation ___ # Wells ☒ Subsequent Investigation 10 # Wells ☐ Destruct ___ # Wells

Groundwater Investigation Due To: ☐ Underground Tank ☐ Surface Impoundment ☐ Assessment

☐ Surface Disposal Practice - Specify involved industry

☒ Other Continuation of previous investigation work

Perforated Intervals N/A Chemical Constituents Suspected TPH d/mo

Disposal Method for Soil Cuttings Drum on-site Disposal Method for Development Water N/A

Drilling Method N/A Method of Drill Equip. Rinsate Containment Drum

If destroying a well, abandonment method

Sewer Information: Submit plot plan of wells in relation to all sewer or septic lines.

100 ft. from septic tank or leach line? ☐ Yes ☒ No

50 ft. from any public sanitary sewer line? ☐ Yes ☒ No

25 ft. from any private sanitary sewer line? ☐ Yes ☒ No

001475D
UST-FEES 612.00
TTLAMT 612.00
CHECKS 612.00
CHANGE 0.00
265B #2 11:4E

10/23/96

In addition, all monitoring wells must include identification system affixed to interior surface:

1) Well Identification 2) Well Type 3) Well Depth 4) Well Casing Diameter 5) Perforated Intervals

Well identification number and well type shall be affixed to the exterior surface security structure.

Is well located within an existing public water system boundary? ☐ Yes ☒ No NA

RWQCB Approval NA Date of Work Plan

96-1866-H11 E-25641

1771 Stuart, SR 95401

WORKER'S COMPENSATION CERTIFICATE

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 525-6565, 24 hours in advance, to notify the Hazardous Materials Specialist when completing or destroying a well. I will furnish the Director of Public Health and the owner a legible copy of the State Water Well Driller's report within 15 days in order to obtain final approval on this well. I acknowledge that the application will become a permit only after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

☑ A currently effective certificate of Worker's Compensation Insurance coverage is on file with this office, made out in the name of the Sonoma County Public Health Department.

☐ I certify that in the performance of the work for which this permit is issued I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

Signature of Well Driller - no proxies: [signature] FRANKLIN SAMPLING, INC. Date: 10.22.96

Insurance Carrier: STATE FUND Expiration Date: 02.01.97

Signature of Consultant: [signature] Date: 10/18/96

Insurance Carrier: American Automobile Insurance Co Expiration Date: 7/1/97

Once all wells/borings are installed, submit a "Letter of Completion" to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

FOR OFFICE USE ONLY _ ENVIRONMENTAL HEALTH DIVISION

Permit Approval by: John L Anderson MPH Date: 11 / 9 /19 96

Constr. Approved by: _____ Date: / /19 Observed? ☐ Yes ☐ No Well #: _____

Constr. Approved by: _____ Date: / /19 Observed? ☐ Yes ☐ No Well #: _____

Constr. Approved by: _____ Date: / /19 Observed? ☐ Yes ☐ No Well #: _____

Constr. Approved by: _____ Date: / /19 Observed? ☐ Yes ☐ No Well #: _____

---

monwell.frm
rev. 05/14/90

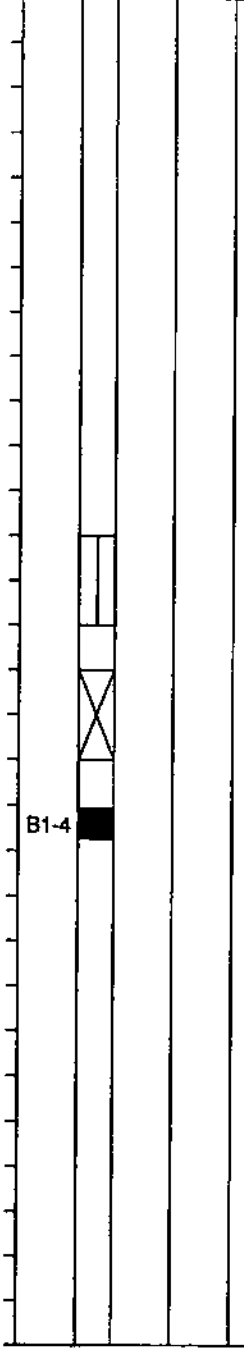
GEOMATRIX

APPENDIX C

LITHOLOGIC LOGS

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California		**Boring Log Explanation**	
BORING LOCATION:		ELEVATION AND DATUM:	
DRILLING CONTRACTOR:		DATE STARTED:	DATE FINISHED:
DRILLING METHOD:		TOTAL DEPTH:	MEASURING POINT:
DRILLING EQUIPMENT:		DEPTH TO WATER: FIRST	COMPL.
SAMPLING METHOD:		LOGGED BY:	
HAMMER WEIGHT:	DROP:	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter. Surface Elevation	REMARKS



Notes

1. Soil descriptions are in accordance with the USCS as set forth by ASTM D2488-90 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)."
2. Soil color described according to Munsell Color Chart.
3. Dashed lines separating soil strata represent inferred boundaries between sampled intervals that may be abrupt or gradual transitions. Solid lines represent approximate boundaries observed within sample intervals.
4. Odor, if noted, is subjective and not necessarily indicative of specific compounds or concentrations

Interval of recovered soil core collected with split-barrel sampler

Interval of no recovery

Sample collected for chemical analysis and sample identification

First water level ▽

Second water level ▼

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.023

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-20

BORING LOCATION: Southwest end of property	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 11 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
					Surface Elevation: ---	
1	SRB20-1.0				WELL-GRADED SAND with SILT and GRAVEL (SW-SP) Grayish brown (10YR 5/2), dry, 50% fine to medium sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Very dark grayish brown (2.5Y 3/2), moist, 95% fines, 5% fine sand, medium plasticity, firm	
3						
4	SRB20-4.0					
5						
6						
7	SRB20-6.5					
8					Color change to olive gray (5Y 4/2)	
9	SRB20-9.0					
10					SANDY LEAN CLAY (CL) Brown (10YR 4/3), wet, 60% fines, 40% fine sand, low plasticity, soft	
11						
12	SRB20-11.5				LEAN CLAY (CL) Reddish brown (5YR 4/3), wet, 90% fines, 10% fine sand, trace fine to coarse gravel, medium plasticity, soft	
13						
14	SRB20-14.0				SANDY LEAN CLAY (CL) Brown (4/3), moist, 65% fines, 25% fine to coarse sand, 10% fine to coarse gravel, low plasticity, firm	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.001

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-20 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					SANDY LEAN CLAY (CL) (continued)	
17	SRB20-16.5				CLAYEY SAND with GRAVEL (SC) Dark reddish brown (5YR 3/3), wet, 65% fine to medium sand, 20% medium plasticity fines, 15% fine to coarse gravel	
18						
19						
20	SRB20-20.0				WELL-GRADED SAND with CLAY (SW-SC) Dark reddish brown (5YR 3/3), wet, 85% fine to coarse sand, 10% low plasticity fines, 5% fine gravel, loose	
21						
22						
23						
24	SRB20-23.5					
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California			**Log of Boring No. SRB-21**
BORING LOCATION: West side of property near former oil trap		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/14/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: 10.5 feet / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1					POORLY-GRADED GRAVEL with SAND and SILT (GP-GM) 50% well-rounded fine gravel, 40% fine to coarse sand, 10% low plasticity fines, loose	
2	SRB21-1.5				LEAN CLAY with SAND (CL) Very dark gray (2.5Y 3/1), moist, 85% fines, 15% fine to coarse sand, medium plasticity, soft	
3						
4	SRB21-4.0					
5						
6					Change of color to dark greenish gray (5BG 3/1)	
7	SRB21-7.0					
8						
9	SRB21-9.0					
10						
11	SRB21-11.0				Clayey sand zone, wet	
12					LEAN CLAY (CL) Dark grayish brown (2.5Y 4/2), moist, 95% fines, 5% fine to medium sand, medium plasticity, firm	
13						
14	SRB21-13.5					
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.003

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-21 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16	SRB21-15.5				LEAN CLAY (CL) (continued)	
17					Poorly-graded medium sand zone, wet	
18	SRB21-18.0				Trace fine angular gravel	
19					CLAYEY SAND (SC) Dark yellowish brown (10YR 3/6), moist, 70% fine to coarse sand, 30% medium plasticity fines, trace fine gravel, medium dense	
20						
21	SRB21-20.5					
22					POORLY-GRADED SAND with GRAVEL (SP) Dark yellowish brown (10YR 3/6), wet, 70% coarse sand, 25% fine gravel, 5% low plasticity fines, loose	
23						
24	SRB21-24.0				LEAN CLAY (CL) Dark yellowish brown (10YR 3/6), moist, 100% fines, trace fine to medium sand, medium plasticity, hard	
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

Project No. 2770.04 | Geomatrix Consultants | Figure —

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-22

BORING LOCATION: West side of property, near former oil trap	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
1					WELL-GRADED SAND with GRAVEL and SILT (SW-SM) Brown (10YR 4/3), dry, 60% fine to medium sand, 30% fine to coarse gravel, 10% low plasticity fines, loose	
2	SRB22-1.5				SANDY LEAN CLAY with GRAVEL (CL) Very dark gray (10YR 3/1), moist, 70% fines, 25% fine to coarse sand, 5% fine gravel, low plasticity, hard	
3						
4	SRB22-4.0					
5						
6					Coarse gravel up to 15%	
7	SRB22-7.0					
8						
9						
10					SANDY LEAN CLAY (CL) Dark grayish brown (10YR 4/2), wet, 60% fines, 40% fine sand, low plasticity, soft	
11	SRB22-10.5				LEAN CLAY (CL) Dark brown (7.5YR 3/3), moist, 90% fines, 10% fine sand, trace gravel, medium plasticity, firm	
12						
13	SRB22-12.5				Color change to dark greenish gray (10GY 4/1)	
14	SRB22-14.5					
15						

B-1 (12/95)

Project No. 2770.04 | Geomatrix Consultants | Figure —

2770.04.005

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-22 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY (CL) (continued)	
17	SRB22-17.0				SANDY LEAN CLAY (CL) Dark grayish brown (10YR 4/2), moist, 60% fines, 20% fine gravel, 20% medium to coarse sand, medium plasticity, firm	
18						
19	SRB22-19.0					
20					POORLY-GRADED SAND with GRAVEL (SP) Dark grayish brown (10YR 4/2), wet, 60% coarse sand, 35% fine to coarse gravel, 5% medium plasticity fines, medium dense	
21						
22	SRB22-22.0					
23						
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-23

BORING LOCATION: Northwest end of property, near former oil tank	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION	REMARKS
					Surface Elevation: —	
1					WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Greenish gray (5GY 5/1), moist, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2	SRB23-1.5				LEAN CLAY (CL) Very dark grayish brown (10YR 3/2), moist, 90% fines, 10% fine to coarse sand, trace gravel, medium plasticity, firm	
3						
4						
5	SRB23-4.5					
6						
7					CLAYEY SAND (SC) Very dark grayish brown (10YR 3/2), moist, 50% fine to coarse sand, 40% medium plasticity fines, 10% fine gravel, dense	
8	SRB23-7.5					
9						
10	SRB23-10.0				Wet	
11						
12						
13	SRB23-13.0					
14	SRB23-14.5				LEAN CLAY (CL) Very dark gray (10YR 3/1), moist, 100% fines, trace fine to coarse sand, medium plasticity, firm	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.007

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-23 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					LEAN CLAY (CL) (continued)	
17						
18					Fine to medium gravel increases	
19	SRB23-19.0				WELL-GRADED SAND with CLAY and GRAVEL (SP-SC) Very dark gray (10YR 3/1), wet, 40% medium to coarse sand, 30% fine to coarse gravel, 30% medium plasticity fines, medium dense	
20						
21						
22	SRB23-22.0				50% medium to coarse sand, 40% fine to coarse gravel, 10% medium plasticity fines	
23						
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California			**Log of Boring No. SRB-24**
BORING LOCATION: South side of former turntable area		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 15 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: 10 feet / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1	SRB24-1.0				WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Dark gray (7.5YR 4/1), dry, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Black (7.5YR 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
3						
4	SRB24-4.0					
5					Trace gravel	
6						
7	SRB24-6.5					
8						
9	SRB24-9.0				Color change to dark brown (7.5 YR 3/2), sand content up to 10%	
10					CLAYEY SAND with GRAVEL (SC) Dark brown (7.5YR 3/2), wet, 60% fine to medium sand, 25% medium plasticity fines, 15% fine to coarse gravel, medium dense	
11						
12	SRB24-11.5					
13					LEAN CLAY (CL) Very dark gray (7.5YR 3/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
14	SRB24-14.0				Bottom of boring at 15 feet.	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.009

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-25

BORING LOCATION: North side of former turntable	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 15 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 12 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.)	REMARKS
					Surface Elevation: ---	
1	SRB25-1.5				WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Dark greenish gray (10Y 4/1), moist, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Greenish black (10Y 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
3						
4	SRB25-4.0					
5						
6						
7	SRB25-6.5				Color change to dark reddish brown (5YR 3/2)	
8						
9	SRB25-9.0				Trace of gravel	
10					CLAYEY SAND (SC) Brown (10YR 4/3), moist, 50% fine to medium sand, 45% medium plasticity fines, 5% fine to coarse gravel, medium dense	
11						
12	SRB25-11.5				Sand content up to 65%, wet, soft	
13					LEAN CLAY (CL) Very dark gray (7.5YR 3/1), moist, 90% fines, 10% fine sand, medium plasticity, firm	
14	SRB25-14.0					
15					Bottom of boring at 15 feet.	

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.010

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-26

BORING LOCATION: West side of yard, near former oil column	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96 / DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10.5 feet / COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
					Surface Elevation: —	
1	SRB26-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Olive brown (2.5YR 4/3), moist, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY with SAND (CL) Very dark brown (10YR 2/2), moist, 85% fines, 15% medium to coarse sand, trace fine gravel, medium plasticity, firm	
3						
4	SRB26-4.0					
5						
6						
7	SRB26-6.5				Gravel content increases	
8						
9					LEAN CLAY (CL) Brown (10YR 4/3), moist, 95% fines, 5% fine to medium sand, medium plasticity, soft	
10						
11	SRB26-10.5				SANDY LEAN CLAY (CL) Brown (10YR 4/3), wet, 60% fines, 40% fine sand, medium plasticity, very soft	
12	SRB26-12.0				LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 100% fines, trace sand and fine gravel, medium plasticity, firm	
13						
14	SRB26-14.5					
15						

B-1 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-26 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. Inter.	REMARKS
16	SRB26-16.5				LEAN CLAY (CL) (continued)	
17						
18						
19	SRB26-19.5					
20					SANDY LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 70% fines, 30% medium to coarse sand, trace fine gravel, medium plasticity, firm	
21					CLAYEY SAND (SC) Dark olive brown (2.5Y 3/3), wet, 70% fine to coarse sand, 20% medium plasticity fines, 10% fine gravel, medium dense	
22						
23	SRB26-23.0				100% sand zone, loose	
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/85)

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California	**Log of Boring No. SRB-27**
BORING LOCATION: Inside fenced area, near surface station	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96 / DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 12 feet / COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
					Surface Elevation: ---	
1	SRB27-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2						
3					LEAN CLAY (CL) Black (2.5Y 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, firm	
4	SRB27-4.5					
5						
6						
7	SRB27-7.0					
8					LEAN CLAY with SAND (CL) Very dark grayish brown (2.5Y 3/2), moist, 85% fines, 15% fine to medium sand, medium plasticity, firm	
9	SRB27-9.5					
10					Color change to olive brown (2.5Y 4/3), soft	
11						
12	SRB27-12.0				CLAYEY SAND (SC) Dark grayish brown (2.5Y 4/2), wet, 70% fine sand, 30% medium plasticity fines, medium dense	
13					Lens of coarse sand	
14	SRB27-14.0				LEAN CLAY with SAND (CL) Very dark grayish brown (2.5Y 3/2), moist, 80% fines, 20% fine to medium sand, medium plasticity, firm	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.013

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-27 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY with SAND (CL) (continued) Bottom of boring at 16 feet.	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California			**Log of Boring No. SRB-28**
BORING LOCATION: Inside fenced enclosure, near fuel storage house		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 16 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: 10 feet / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter. Surface Elevation: ---	REMARKS
1	SRB28-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to medium gravel, 10% low plasticity fines, loose	
2						
3					LEAN CLAY (CL) Very dark brown (10YR 2/2), moist, 95% fines, 5% fine sand, trace fine gravel, medium plasticity, firm	
4	SRB28-4.5					
5						
6						
7	SRB28-7.0					
8					LEAN CLAY with SAND (CL) Dark brown (10YR 3/3), moist, 85% fines, 15% fine to coarse sand, trace fine gravel, medium plasticity, firm	
9	SRB28-9.0					
10					Color change to olive (5Y 4/3), soft Wet, 70% fine sand zone	
11					Wet, 70% fine sand zone	
12	SRB28-11.5					
13					Color change to very dark grayish brown (10YR 2/2), sand content increases to 25%	
14	SRB28-14.0					
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure —

2770.04.015

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-28 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16		X			LEAN CLAY with SAND (CL) (continued) Bottom of boring at 16 feet.	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-29

BORING LOCATION: Near former fuel oil tank	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96 / DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST --- / COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation: ---	
0					WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
1						
2					LEAN CLAY (CL) Black (10YR 2/1), moist, 95% fines, 5% fine sand, trace fine gravel, medium plasticity, hard	
3						
4						
5					Sand content increases to 30%	
6					Color change to dark olive brown (2.5Y 3/3), soft	
7						
8						
9						
10						
11					Fine sand content increases to 40%	
12						
13					SANDY LEAN CLAY (CL) Dark olive gray (5Y 3/2), moist, 60% fines, 40% fine to medium sand, trace fine gravel, medium plasticity, soft	
14						
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure —

2770.04.017

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-29 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16		⊠			LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 95% fines, 5% fine sand, medium plasticity, firm	
					Bottom of boring at 16 feet.	
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/85)

Project No. 2770.04	Geomatrix Consultants	Figure —

2770.04.018

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California		**Log of Boring No. SRB-30**	
BORING LOCATION: Near former fuel oil tank		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 19 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: --- / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1					WELL-GRADED SAND with SILT and GRAVEL (SW-SP) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Black (5Y 2.5/1), moist, 95% fines, 5% fine to coarse sand, trace fine to coarse gravel, medium plasticity, hard	
3						
4						
5						
6						
7						
8					LEAN CLAY with SAND (CL) Olive (5Y 4/3), moist, 80% fines, 20% fine sand, medium plasticity, soft	
9						
10					Fine sand content increases to 40%	
11						
12						
13					Color change to dusky red (2.5YR 3/3)	
14						
15					Fine sand content increases to 40%	

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.019

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-30 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY (CL) Very dark grayish brown (10YR 3/2), moist, 100% fines, trace fine sand, medium plasticity, firm	
17						
18					Color change to very dark gray (2.5Y 3/1)	
19					Bottom of boring at 19 feet.	
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-31

BORING LOCATION: Near former MW-2	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/15/96 / DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 22 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 13 feet / COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: —	REMARKS
1					WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (10YR 5/2), dry, 50% fine to medium sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY with SAND (CL) Very dark gray (10YR 3/1), moist, 85% fines, 15% fine to coarse sand, trace fine gravel, medium plasticity, firm	
3						
4						
5						
6						
7						
8					Fine gravel up to 20%	
9						
10					Color change to olive brown (2.5Y 4/3)	
11					SANDY LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 60-70% fines, 30-40% medium to coarse sand, trace fine gravel, medium plasticity, soft	
12						
13					CLAYEY SAND (SC) Dark olive brown (2.5Y 3/3), wet, 70% fine to coarse sand, 30% medium plasticity fines, trace fine gravel, medium dense	
14						
15						

B-1 (12/95)

Project No. 2770.04 | Geomatrix Consultants | Figure ---

2770.04.021

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-31 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					CLAYEY SAND (SC) (continued)	
					POORLY-GRADED SAND with GRAVEL (SP) Very dark grayish brown (2.5Y 3/2), wet, 60% coarse sand, 35% rounded fine gravel, 5% low plasticity fines, loose	
17					Gravel zone	
18						
19						
20					LEAN CLAY (CL) Olive brown (2.5Y 4/3), moist, 90% fines, 10% fine to medium sand, trace fine gravel, medium plasticity, hard	
21						
22					Bottom of boring at 22 feet.	
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						

GEOMATRIX

APPENDIX D

CHAIN-OF-CUSTODY RECORDS AND LABORATORY ANALYTICAL REPORTS

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 4212

REPORT DATE: 12/07/96

DATE(S) SAMPLED: 11/15/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611230

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 12 (1 water & 11 soil) sample(s).

Client requested 6 soil samples be analyzed for chemical parameters as composited and discrete samples, along with 1 water sample; 5 soil samples were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB30
AEN LAB NO: 9611230-01
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	300 *	100	ug/L	11/21/96
Benzene	71-43-2	ND	5	ug/L	11/21/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/21/96
Bromoform	75-25-2	ND	5	ug/L	11/21/96
Bromomethane	74-83-9	ND	10	ug/L	11/21/96
2-Butanone	78-93-3	ND	100	ug/L	11/21/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/21/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/21/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/21/96
Chloroethane	75-00-3	ND	10	ug/L	11/21/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/21/96
Chloroform	67-66-3	ND	5	ug/L	11/21/96
Chloromethane	74-87-3	ND	10	ug/L	11/21/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/21/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/21/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/21/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/21/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/21/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/21/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/21/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/21/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/21/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/21/96
2-Hexanone	591-78-6	ND	50	ug/L	11/21/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/21/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/21/96
Styrene	100-42-5	ND	5	ug/L	11/21/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/21/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/21/96
Toluene	108-88-3	ND	5	ug/L	11/21/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/21/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/21/96
Trichloroethene	79-01-6	ND	5	ug/L	11/21/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB30
AEN LAB NO: 9611230-01
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/21/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/21/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/21/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-1.0.4.0.6.5
AEN LAB NO: 9611230-02
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	20	mg/kg	11/26/96
TPH as Oil	GC-FID	900 *	100	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	2.6 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	150 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	75 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	25 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/18/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	130 *	1	mg/kg	11/20/96
Lead	EPA 6010	14 *	1	mg/kg	11/20/96
Antimony	EPA 6010	1 *	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	4 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	40 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	53 *	1	mg/kg	11/20/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-9.0,11.5,14.0
AEN LAB NO: 9611230-03
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	56 *	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	1.4 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	150 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	14 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	49 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	21 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/18/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	80 *	1	mg/kg	11/20/96
Lead	EPA 6010	7 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	11 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	27 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	34 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-4.0
AEN LAB NO: 9611230-09
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/27/96
TPH as Oil	GC-FID	69 *	5	mg/kg	11/30/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-6.5
AEN LAB NO: 9611230-10
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/27/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/30/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611230

CLIENT PROJECT ID: 2770.04

Quality Control Summary

Acetone is a common laboratory contaminant.

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611230
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611230
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/25/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID, 3630M

AEN JOB NO: 9611230
DATE(S) EXTRACTED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB30	01	79
QC Limits:			56-122

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611230
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	2.98	75	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1127-BLANK
DATE EXTRACTED: 11/27/96
DATE ANALYZED: 11/27/96
INSTRUMENT: A

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
DATE(S) EXTRACTED: 11/20/96; 11/27/96
INSTRUMENT: A
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/26/96	SRB20-1.0,4.0,6.5	02	D
11/26/96	SRB20-9.0,11.5,14.0	03	79
11/30/96	SRB20-4.0	09	99
11/30/96	SRB20-6.5	10	99
QC Limits:			55-115

D: Surrogate diluted out.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.16	83	55-110

DATE EXTRACTED: 11/27/96
DATE ANALYZED: 11/27/96
SAMPLE SPIKED: LCS
INSTRUMENT: A

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.2	83	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611230
AEN LAB NO: 1121-BLANK
DATE ANALYZED: 11/21/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611230
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/21/96	SRB30	01	84	90	98
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 11/16/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	49.4	99	59-155
Trichloroethene	50.0	53.0	106	71-157
Benzene	50.0	50.6	101	37-151
Toluene	50.0	48.9	98	47-150
Chlorobenzene	50.0	51.5	103	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611230
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/18-20/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.23	5.18	105	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	9.93	10.7	99	7	67-136	15
Ba, Barium	ICP/6010	100	ND	113.0	114.0	113	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.7	10.6	107	1	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	55.1	54.5	108	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	52.3	52.5	105	<1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.407	0.401	102	1	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	54.0	54.0	108	<1	90-120	10
Pb, Lead	ICP/6010	50.0	ND	55.4	54.8	111	1	90-120	10
Se, Selenium	4000/7740	20.0	ND	17.6	18.3	88	4	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	53.3	51.9	107	3	90-115	10

*** END OF REPORT ***

R-3,S-4 R-5,S-0

9611230

Chain-of-Custody Record

No 4212

Date: 11/15/96

Page 1 of 3

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015 Modified)	PNAs (8310)	Silica Gel Cleanup (1091)	Metals (Cam 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/15/96	0800	SRB30			X			X		X		X			Y	W	Y	6
	0855	SRB20-1.0						X		X	X		X		Y	S	-	1
	0858	SRB20-4.0						X		X	X		X		Y	S	-	1
	0900	SRB20-6.5						X		X	X		X		Y	S	-	1
	0905	SRB20-9.0						X		X	X		X		Y	S	-	1
	0910	SRB20-11.5						X		X	X		X		Y	S	-	1
	0915	SRB20-14.0						X		X	X		X		Y	S	-	1
	0925	SRB20-16.5						X		X	X		X	X	Y	S	-	1
	0932	SRB20-20.0						X		X	X		X	X	Y	S	-	1
	0947	SRB20-23.5						X		X	X		X	X	Y	S	-	1
	1035	SRB23-19.0						X		X	X		X	X	Y	S	-	1
	1057	SRB23-22.0						X		X	X		X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite and run as one sample unless noted. Please save a portion of each sample for possible future discrete analyses

Composite

Composite

HOLD

Turnaround time: STD

Results to: Charlie Gracie

Total No. of containers: 17

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/14/96	Signature:		Signature:	11/15/96
Printed name: Charlie Gracie		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN / JRLH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1925
Printed name:		Printed name:		Printed name: Lurena Sadkowski	11/17/96
Company: AEN / JRLH		Company:		Company: AEN	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-3, S-4 R-5, S-0

9611231

Chain-of-Custody Record

No 4213

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM17)	Silica Gel Cleanup	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A-E	11/15/96	1100	SRB31			X			X		X			X		Y	W	Y	5
02A-E		1120	SRB101			X			X		X			X		Y	W	Y	5
03A		1210	SRB21-20.5						X		X	X	X		X	Y	S	-	1
04A		1225	SRB21-24.0						X		X	X	X		X	Y	S	-	1
05A-E		1300	SRB20			X			X		X			X		Y	W	Y	5
06A-E		1330	SRB23			X			X		X			X		Y	W	Y	5
07A-E		1400	SRB102			X			X		X			X		Y	W	Y	5
08A		1353	SRB26-16.5						X		X	X	X		X	Y	S	-	1
09A		1400	SRB26-19.5						X		X	X	X		X	Y	S	-	1
10A		1403	SRB26-23.0						X		X	X	X		X	Y	S	-	1
11A-E		1445	SRB21			X			X		X			X		Y	W	Y	5
12A-E		1600	SRB26			X			X		X		RGs	X		Y	W	Y	5

HOLD

HOLD

REMARKS

Additional comments

See page 1

* Note from page #1
Composit and run as 1 sample when noted. Please save a portion of each sample for possible future discrete analyses.
per 11/15/96

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 40

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment: Pickup
Signature:	11/15/96	Signature:		Signature:	11/15/96	Laboratory comments and Log No.:
Printed name: Charlie Crocker		Printed name:		Printed name:		
Company: Geomatrix		Company:		Company: AGRA/TRH		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	1650	Signature:		Signature:	1925	
Printed name:		Printed name:		Printed name: Lucero Podkomorski	19:00	
Company: AGRA/TRH		Company:		Company: A.E.N	11/15/96	

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-5, 5-0

9611231 cont.

Chain-of-Custody Record

No 4214

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015 Modified)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/15/96	1415	SRB24 - 1.0						X		X	X	X	Y	S	-	1	See page 1
	1418	SRB24 - 4.0						X		X	X	X	Y	S	-	1	Composite 13A
	1420	SRB24 - 6.5						X		X	X	X	Y	S	-	1	
	1428	SRB24 - 9.0						X		X	X	X	Y	S	-	1	Composite 14A
	1433	SRB24 - 11.5						X		X	X	X	Y	S	-	1	
	1437	SRB24 - 14.0						X		X	X	X	Y	S	-	1	
	1455	SRB25 - 1.5						X		X	X	X	Y	S	-	1	
	1457	SRB25 - 4.0						X		X	X	X	Y	S	-	1	Composite 15A
	1500	SRB25 - 6.5						X		X	X	X	Y	S	-	1	
	1502	SRB25 - 9.0						X		X	X	X	Y	S	-	1	
	1512	SRB25 - 11.5						X		X	X	X	Y	S	-	1	Composite 16A
	1513	SRB25 - 14.0						X		X	X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI / JSH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1625
Printed name:		Printed name:		Printed name:	11/15/96
Company: HEAL / JSH		Company:		Company: AEN	17:00

Method of shipment: Pickup.

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611619

December 10, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611231/2770.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received four soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA **AEN I.D.:** 611619
PROJECT #: 2770.04
PROJECT NAME:

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611619-1	SRB24-1.0, 4.0, 6.5	11/15/96	SOIL
611619-2	SRB24-9.0, 11.5, 14.0	11/15/96	SOIL
611619-3	SRB25-1.5, 4.0, 6.5	11/15/96	SOIL
611619-4	SRB25-9.0, 11.5, 14.0	11/15/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA **AEN I.D.:** 611619
PROJECT #: 2770.04
PROJECT NAME:

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: JE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-1
CLIENT I.D.:	SRB24-1.0, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	0.019
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.04
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	0.034
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst: CC 12/2/96

Reviewer: PA 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-2
CLIENT I.D.:	SRB24-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	89%

Analyst: GE 12/5/96

 Reviewer: pm 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-3
CLIENT I.D.:	SRB25-1.5, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	83%

Analyst: CE 12/5/96

Reviewer: [illegible] 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-4
CLIENT I.D.:	SRB25-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	64%

Analyst: CE 12/5/96

 Reviewer: DS 12/5/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611619
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.61	96%	1.37	82%	16
PHENANTHRENE	<	0.0083	0.167	0.142	85%	0.136	81%	4
PYRENE	<	0.017	0.167	0.162	97%	0.155	93%	4
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.148	89%	0.167	100%	12
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.105	63%	0.106	63%	1
SURROGATE:								
BIPHENYL (26% - 126%)				95%		82%		

CONTROL LIMITS

	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: p.m. 12/3/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611619 B
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.32	79%	1.02	61%	26
PHENANTHRENE	<	0.0083	0.167	0.134	80%	0.121	72%	10
PYRENE	<	0.017	0.167	0.144	86%	0.143	86%	1
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.153	92%	0.149	89%	3
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.109	65%	0.110	66%	1
SURROGATE:								
BIPHENYL (26% - 126%)				75%		63%		

CONTROL LIMITS	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: P ~ 12/6/96

Reporting Information:

1. Client: AEN
Address:
Contact: Bill Sworcka
Alt. Contact: Robin Briggs

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611619
Lab Destination: AEN OR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To:

2. #1

Send Invoice To:

3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 96112331 Client Project I.D. No.: 2.776.04

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: 8310	Comments / Hazards
-1	SRB24-1.0,4.0,6.5		11-15-96	B	cold	1	JAR	X	Include P.O. # and project I.D. on report and invoice
-2	SRB24-9.0,11.5,14.0		↓	↓	↓	↓	↓	↓	
-3	SRB25-1.5,4.0,6.5								FAX results
-4	SRB25-9.0,11.5,14.0								

Relinquished by: (Signature) Lynn Gillespie	DATE 11-19-96	TIME 1500	Received by: (Signature) Kai-Ming Sprague
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)
Method of Shipment			Lab Comments Return Cooler + ice

DATE 11-20-96 TIME 10:40

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611620

December 9, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611230/2770.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received two soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA
PROJECT #: 2770.04
PROJECT NAME:

AEN I.D.: 611620

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611620-1	SRB20-1.0, 4.0, 6.5	11/15/96	SOIL
611620-2	SRB20-9.0, 11.5, 14.0	11/15/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA
PROJECT #: 2770.04
PROJECT NAME:

AEN I.D.: 611620

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017

SURROGATE:	
BIPHENYL (26% - 126%)	60%

Analyst: CE 12/2/96

Reviewer: pm 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-1
CLIENT I.D.:	SRB20-1.0, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS	
NAPHTHALENE	<	0.083
ACENAPHTHYLENE	<	0.17
ACENAPHTHENE	<	0.17
FLUORENE	<	0.017
PHENANTHRENE	<	0.0083
ANTHRACENE	<	0.0083
FLUORANTHENE	<	0.017
PYRENE	<	0.017
BENZO(a)ANTHRACENE	<	0.017
CHRYSENE		0.028
BENZO(b)FLUORANTHENE	<	0.017
BENZO(k)FLUORANTHENE	<	0.017
BENZO(a)PYRENE	<	0.017
DIBENZO(a,h)ANTHRACENE		0.049
BENZO(g,h,i)PERYLENE	<	0.017
INDENO(1,2,3-cd)PYRENE		0.025
SURROGATE:		
BIPHENYL (26% - 126%)		71%

Analyst: CC 12/5/96

Reviewer: pm 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-2
CLIENT I.D.:	SRB20-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst GE 12/5/96

Reviewer: [illegible] 12/5/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611620
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.32	79%	1.02	61%	26
PHENANTHRENE	<	0.0083	0.167	0.134	80%	0.121	72%	10
PYRENE	<	0.017	0.167	0.144	86%	0.143	86%	1
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.153	92%	0.149	89%	3
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.109	65%	0.110	66%	1
SURROGATE:								
BIPHENYL (26% - 126%)				75%		63%		

CONTROL LIMITS	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: PM 12/5/96

Reporting Information:

1. Client: AEN
Address:
Contact: Bill Svoboda
Alt. Contact: Robin Byars

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611620
Lab Destination: AEN OR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To:
2. #1

Send Invoice To:
3. #1

Send Report To: (1) or 2 (Circle one)
Client P.O. No.: 9611230 Client Project I.D. No.: 2770.04
Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	8310	Comments / Hazards
-1	SRB20-1.0,4.0,6.5	/	11-15-96	B	COLD	1	JAR	X	Include P.O.# and project I.D. on report and invoice
-2	SRB20-9.0,11.5,14.0	/	↓	↓	↓	1	↓	X	FAX results

RUSH

		DATE	TIME		DATE	TIME
Relinquished by: (Signature)	Anna Gillespie	11-19-96	1500	Received by: (Signature)		11/20/96 10:50
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE TIME
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE TIME
Method of Shipment				Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 4213,4214

REPORT DATE: 12/07/96

DATE(S) SAMPLED: 11/15/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611231

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 24 (17 soil & 7 water) sample(s).

Client requested 12 soil samples be composited and analyzed with discrete water samples for chemical parameters; five soil samples were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB31
AEN LAB NO: 9611231-01
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB31
AEN LAB NO: 9611231-01
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB101
AEN LAB NO: 9611231-02
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB101
AEN LAB NO: 9611231-02
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20
AEN LAB NO: 9611231-05
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20
AEN LAB NO: 9611231-05
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23
AEN LAB NO: 9611231-06
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23
AEN LAB NO: 9611231-06
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB102
AEN LAB NO: 9611231-07
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB102
AEN LAB NO: 9611231-07
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21
AEN LAB NO: 9611231-11
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21
AEN LAB NO: 9611231-11
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26
AEN LAB NO: 9611231-12
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26
AEN LAB NO: 9611231-12
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB24-1.0,4.0,6.5
AEN LAB NO: 9611231-13
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	1.6 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	180 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	69 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	100 *	1	mg/kg	11/20/96
Lead	EPA 6010	18 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	17 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	39 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	49 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB24-9.0,11.5,14.0
AEN LAB NO: 9611231-14
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/20/96
Barium	EPA 6010	180 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	62 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	98 *	1	mg/kg	11/20/96
Lead	EPA 6010	8 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	16 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	29 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	36 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB25-1.5.4.0.6.5
AEN LAB NO: 9611231-15
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	0.8 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	210 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	21 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	76 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	130 *	1	mg/kg	11/20/96
Lead	EPA 6010	8 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	19 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	42 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	47 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB25-9.0.11.5.14.0
AEN LAB NO: 9611231-16
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	0.7 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	170 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	11 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	64 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	97 *	1	mg/kg	11/20/96
Lead	EPA 6010	7 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	18 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	30 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	38 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611231

CLIENT PROJECT ID: 2770.04

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611231
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611231
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/25/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID, 3630M

AEN JOB NO: 9611231
DATE(S) EXTRACTED: 11/20/96: 11/21/96
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB31	01	89
11/25/96	SRB101	02	81
11/25/96	SRB20	05	96
11/26/96	SRB23	06	81
11/26/96	SRB102	07	91
11/26/96	SRB21	11	93
11/26/96	SRB26	12	89
QC Limits:			56-122

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: WATER

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	2.98	75	60-110

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	3.46	86	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96; 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/22/96	SRB24-1.0,4.0,6.5	13	84
11/22/96	SRB24-9.0,11.5,14.0	14	101
11/22/96	SRB25-1.5,4.0,6.5	15	98
11/22/96	SRB25-9.0,11.5,14.0	16	64
QC Limits:			55-115

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	37.32	93	55-110

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	28.84	72	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611231
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611231
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/22/96	SRB31	01	88	90	93
11/22/96	SRB101	02	88	93	93
11/22/96	SRB20	05	86	91	94
11/22/96	SRB23	06	83	90	94
11/22/96	SRB102	07	85	92	89
11/22/96	SRB21	11	82	90	92
11/22/96	SRB26	12	89	89	93
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 11/25/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	51.4	103	59-155
Trichloroethene	50.0	55.0	110	71-157
Benzene	50.0	60.7	121	37-151
Toluene	50.0	48.6	97	47-150
Chlorobenzene	50.0	52.8	106	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611231
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/20-25/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.23	5.18	105	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	9.93	10.7	99	7	67-136	15
Ba, Barium	ICP/6010	100	ND	113.0	114.0	113	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.7	10.6	107	1	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	55.1	54.5	108	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	52.3	52.5	105	<1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.405	0.399	101	1	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	54.0	54.0	108	<1	90-120	10
Pb, Lead	ICP/6010	50.0	ND	55.4	54.8	111	1	90-120	10
Se, Selenium	4000/7740	20.0	ND	17.6	18.3	88	4	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	53.3	51.9	107	3	90-115	10

*** END OF REPORT ***

R-3,S-4 R-5,S-0

9611230

Chain-of-Custody Record

No 4212

Date: 11/15/96

Page 1 of 3

Project No.: 2770.04

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 6010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (5520)	PNAs (8310)	Silica Gel Cleanup (3630)	Metals (CAM 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A-F	11/15/96	0800	SRB30			X			X		X		X			Y	W	Y	6
		0855	SRB20 - 1.0						X		X	X		X		Y	S	-	1
02A		0858	SRB20 - 4.0						X		X	X		X		Y	S	-	1
		0900	SRB20 - 6.5						X		X	X		X		Y	S	-	1
		0905	SRB20 - 9.0						X		X	X		X		Y	S	-	1
03A		0910	SRB20 - 11.5						X		X	X		X		Y	S	-	1
		0915	SRB20 - 14.0						X		X	X		X		Y	S	-	1
04A		0925	SRB20 - 16.5						X		X	X		X	X	Y	S	-	1
05A		0932	SRB20 - 20.0						X		X	X		X	X	Y	S	-	1
06A		0947	SRB20 - 23.5						X		X	X		X	X	Y	S	-	1
07A		1035	SRB23 - 19.0						X		X	X		X	X	Y	S	-	1
08A		1057	SRB23 - 22.0						X		X	X		X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite and run as one sample unless noted. Please save a portion of each sample for possible future discrete analyses

Composite

Composite

HOLD

Turnaround time: STD

Results to: Charlie Grocke

Total No. of containers: 17

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Grocke		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN / JRLH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamerton	1650	Signature:		Signature: Lorena Podkowerski	1925
Printed name: AEN / JRLH		Printed name:		Printed name: Lorena Podkowerski	11/17/96
Company:		Company:		Company: AEN	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-3, S-4 R-5, S-0

9611231

Chain-of-Custody Record

No. 4213

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

Date	Time	Sample Number	EPA Method 6010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Hydraulic Oil (8015M)	PNAs (8310)	Metals (CAM17)	Silica Gel Cleanup (3630)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
-E 11/15/96	1100	SRB31			X			X		X			X		Y	W	Y	5
2-E	1120	SRB 101			X			X		X			X		Y	W	Y	5
A 1D	1210	SRB21-20.5						X		X	X	X		X	Y	S	-	1
7D 11/15/96 A	1225	SRB21-24.0						X		X	X	X		X	Y	S	-	1
4E	1300	SRB20			X			X		X			X		Y	W	Y	5
1-E	1330	SRB23			X			X		X			X		Y	W	Y	5
4-E	1400	SRB102			X			X		X			X		Y	W	Y	5
A	1358	SRB26-16.5						X		X	X	X		X	Y	S	-	1
7A	1400	SRB26-19.5						X		X	X	X		X	Y	S	-	1
1A	1403	SRB26-23.0						X		X	X	X		X	Y	S	-	1
-E	1445	SRB21			X			X		X	X	RG	X		Y	W	Y	5
9-E	1600	SRB26			X			X		X			X		Y	W	Y	5

HOLD

HOLD

REMARKS

Additional comments

See page 1

* Note from page #1 Composit and run as 1 sample when noted. Please save a portion of each sample for possible future discrete analyses

JP 11/15/96

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 40

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN/TRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1650	Signature:		Signature: Lucera Podkomorski	1905
Printed name:		Printed name:		Printed name: Lucera Podkomorski	19:00
Company: AEN/TRH		Company:		Company: A.E.N	11/15/96

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-5, 5-0

96/1201 conf.

Chain-of-Custody Record

No 4214

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Heavy Oil (8015)	PNAs (8310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	REMARKS
11/15/96	1415	SRB24 - 1.0						X		X	X	X	Y	S	-	1	Composite 13A
	1418	SRB24 - 4.0						X		X	X	X	Y	S	-	1	
	1420	SRB24 - 6.5						X		X	X	X	Y	S	-	1	
	1428	SRB24 - 9.0						X		X	X	X	Y	S	-	1	Composite 14A
	1433	SRB24 - 11.5						X		X	X	X	Y	S	-	1	
	1437	SRB24 - 14.0						X		X	X	X	Y	S	-	1	
	1455	SRB25 - 1.5						X		X	X	X	Y	S	-	1	Composite 15A
	1459	SRB25 - 4.0						X		X	X	X	Y	S	-	1	
	1500	SRB25 - 6.5						X		X	X	X	Y	S	-	1	
	1502	SRB25 - 9.0						X		X	X	X	Y	S	-	1	Composite 16A
	1512	SRB25 - 11.5						X		X	X	X	Y	S	-	1	
↓	1513	SRB25 - 14.0						X		X	X	X	Y	S	-	1	

Additional comments: See page 1

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI / SRI	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1825
Printed name:		Printed name:		Printed name: Lurena Paddenski	11/15/96
Company: AGI / SRI		Company:		Company: AGI	19:00

Method of shipment: Pickup.

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 7828,7829,4344,7825

REPORT DATE: 12/09/96

DATE(S) SAMPLED: 11/14/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611232

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 45 (41 soil & 4 water) sample(s).

Client requested 32 soil samples be composited and analyzed with discrete water samples for chemical parameters; nine soil samples and one water sample were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26-1.5,4.0,6.5
AEN LAB NO: 9611232-01
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	12 *	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.8 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	19 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	81 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	1 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	23 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	47 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	47 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26-10.5,12.0,14.5
AEN LAB NO: 9611232-02
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.5 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	190 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	88 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	26 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	41 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	49 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB27-1.5
AEN LAB NO: 9611232-03
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	72 *	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	7.6 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	57 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	10 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	29 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	0.13 *	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	40 *	1	mg/kg	11/25/96
Lead	EPA 6010	23 *	1	mg/kg	11/25/96
Antimony	EPA 6010	0.6 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	12 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	38 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	48 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB27-4.5
AEN LAB NO: 9611232-04
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	64 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	89 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	20 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	43 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB28-1.5,4.5,7.0
AEN LAB NO: 9611232-09
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	130 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	5.0 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	73 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	0.12 *	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	11 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	47 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	49 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB28-9.0,11.5,14.0
AEN LAB NO: 9611232-10
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.2 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	21 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	79 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	24 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	6 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	21 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	36 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	41 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-1.5,4.0
AEN LAB NO: 9611232-11
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	130 *	5	mg/kg	11/22/96
TPH as Oil	GC-FID	510 *	20	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.3 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	82 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	24 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	46 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	47 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-7.0
AEN LAB NO: 9611232-12
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	1,600 *	20	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	100	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.4 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	81 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	39 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	44 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-9.0
AEN LAB NO: 9611232-13
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	960 *	10	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	50	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	0.9 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	220 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	92 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	26 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	40 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	50 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-11.0
AEN LAB NO: 9611232-14
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	150 *	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	8.6 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	72 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	83 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	17 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	25 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	40 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-13.5
AEN LAB NO: 9611232-15
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	14 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	56 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	92 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	18 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	20 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	37 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23-1.5,4.5,7.5
AEN LAB NO: 9611232-16
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	5 *	1	mg/kg	11/22/96
TPH as Oil	GC-FID	28 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	3.1 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	130 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	15 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	62 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	93 *	1	mg/kg	11/25/96
Lead	EPA 6010	10 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	52 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23-10.0,13.0,14.5
AEN LAB NO: 9611232-17
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	3.2 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	73 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	12 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	39 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	20 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	69 *	1	mg/kg	11/25/96
Lead	EPA 6010	4 *	1	mg/kg	11/25/96
Antimony	EPA 6010	1 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	15 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	35 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	34 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-1.5,4.0,7.0
AEN LAB NO: 9611232-18
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	43 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.9 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	150 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	19 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	70 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	26 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	10 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	8 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	43 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	48 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-10.5
AEN LAB NO: 9611232-19
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/23/96
TPH as Oil	GC-FID	120 *	5	mg/kg	11/23/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	4.6 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	65 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	20 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	37 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	44 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-12.5
AEN LAB NO: 9611232-20
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	67 *	1	mg/kg	11/23/96
TPH as Oil	GC-FID	210 *	5	mg/kg	11/23/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.1 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	13 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	70 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	25 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	33 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	42 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-14.5
AEN LAB NO: 9611232-21
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	190 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.7 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	63 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	100 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	23 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	30 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB29
AEN LAB NO: 9611232-22
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB29
AEN LAB NO: 9611232-22
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limit elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22
AEN LAB NO: 9611232-23
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22
AEN LAB NO: 9611232-23
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limit elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB100
AEN LAB NO: 9611232-24
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB100
AEN LAB NO: 9611232-24
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limits elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611232

CLIENT PROJECT ID: 2770.04

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611232
AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/22/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611232
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/26/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

AEN JOB NO: 9611232
DATE(S) EXTRACTED: 11/21/96
INSTRUMENT: C
MATRIX: WATER

METHOD: EPA 3510 GCFID, 3630M
Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/26/96	SRB29	22	89
11/26/96	SRB22	23	84
11/26/96	SRB100	24	83
QC Limits:			56-122

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/22/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

METHOD: EPA 3510 GCFID
Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	3.46	86	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1122-BLANK
DATE EXTRACTED: 11/22/96
DATE ANALYZED: 11/22/96
INSTRUMENT: C

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
DATE EXTRACTED: 11/21/96: 11/22/96
INSTRUMENT: A, C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB26-1.5,4.0,6.5	01	67
11/24/96	SRB26-10.5,12.0,14.5	02	69
11/25/96	SRB27-1.5	03	65
11/24/96	SRB27-4.5	04	67
11/22/96	SRB28-1.5,4.5,7.0	09	91
11/24/96	SRB28-9.0,11.5,14.0	10	58
11/22/96	SRB21-1.5,4.0	11	79
11/25/96	SRB21-7.0	12	D
11/25/96	SRB21-9.0	13	55
11/26/96	SRB21-11.0	14	64
11/25/96	SRB21-13.5	15	71
11/22/96	SRB23-1.5,4.5,7.5	16	92
11/26/96	SRB23-10.0,13.0,14.5	17	84
11/22/96	SRB22-1.5,4.0,7.0	18	88
11/23/96	SRB22-10.5	19	82
11/23/96	SRB22-12.5	20	84
11/26/96	SRB22-14.5	21	88
QC Limits:			55-115

D: Surrogate diluted out.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	28.84	72	55-110

DATE EXTRACTED: 11/22/96
DATE ANALYZED: 11/22/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.68	84	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
AEN LAB NO: 1125-BLANK
DATE ANALYZED: 11/25/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/25/96	SRB29	22	91	102	100
11/25/96	SRB22	23	95	94	93
11/25/96	SRB100	24	94	96	100
QC Limits:			76-114	88-110	86-115

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
DATE ANALYZED: 11/25/96
SAMPLE SPIKED: 9611232-22 (SRB29)
INSTRUMENT: 13
MATRIX: WATER

Matrix Spike Recovery Summary

Analyte	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	50	ND	54.7	52.8	108	4	59-155	25
Trichloroethene	50	ND	46.7	52.7	99	12	71-157	25
Benzene	50	ND	53.0	63.8	117	18	37-151	25
Toluene	50	ND	46.7	49.6	96	6	47-150	25
Chlorobenzene	50	ND	53.8	55.7	110	3	37-160	25

DATE ANALYZED: 11/25/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1.1-Dichloroethene	50.0	51.4	103	59-155
Trichloroethene	50.0	55.0	110	71-157
Benzene	50.0	60.7	121	37-151
Toluene	50.0	48.6	97	47-150
Chlorobenzene	50.0	52.8	106	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611232
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/23-26/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.17	5.24	103	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	10.3	10.1	103	2	67-136	15
Ba, Barium	ICP/6010	100	ND	106.0	107.0	106	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.1	10.3	101	2	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	51.7	52.4	103	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	51.8	52.5	104	1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.411	0.399	103	3	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	50.7	51.6	101	2	90-120	10
Pb, Lead	ICP/6010	50.0	ND	51.1	52.3	102	2	90-120	10
Se, Selenium	4000/7740	20.0	ND	20.2	19.7	101	3	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	49.5	50.2	99	1	90-115	10

*** END OF REPORT ***

K-2134 SRB-5,S-6 so...

9611232

Chain-of-Custody Record

No. 7828

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
	11/14/96	0745	SRB26-1.5						X		X	X	X		Y	S	-	1
1A		0748	SRB26-4.0						X		X	X	X		Y	S	-	1
		0755	SRB26-6.5						X		X	X	X		Y	S	-	1
		0804	SRB26-10.5						X		X	X	X		Y	S	-	1
A		0812	SRB26-12.0						X		X	X	X		Y	S	-	1
		0815	SRB26-14.5						X		X	X	X		Y	S	-	1
3A		0846	SRB27-1.5						X		X	X	X		Y	S	-	1
4A		0851	SRB27-4.5						X		X	X	X		Y	S	-	1
5A		0858	SRB27-7.0						X		X	X	X		Y	S	-	1
6A		0859	SRB27-9.5						X		X	X	X		Y	S	-	1
7A		0905	SRB27-12.0						X		X	X	X		Y	S	-	1
8A	↓	0915	SRB27-14.0						X		X	X	X		Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite and run one of each sample where noted. Please save a portion of each for possible future discrete analyses.

Composite

Composite.

as 2 seperate samples

Composite

1 RV

Composite

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	1825
Company: Geomatrix		Company:		Company: AEN / IRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1650	Signature:		Signature: Lucena Podkowski	1825
Printed name:		Printed name:		Printed name: Lucena Podkowski	11/15
Company: AEN / IRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont

Chain-of-Custody Record

№ 7829

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPHm Total Oil (8015M)	PNAs (2310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	0935	SRB28 - 1.5						X		X	X	X	Y	S	-	1	See page 1
	0940	SRB28 - 4.5						X		X	X	X	Y	S	-	1	Composite
	0945	SRB28 - 7.0						X		X	X	X	Y	S	-	1	
	0948	SRB28 - 9.0						X		X	X	X	Y	S	-	1	Composite
	0952	SRB28 - 11.5						X		X	X	X	Y	S	-	1	
	1000	SRB28 - 14.0						X		X	X	X	Y	S	-	1	
	1215	SRB21 - 1.5						X		X	X	X	Y	S	-	1	Composite (two)
	1220	SRB21 - 4.0						X		X	X	X	Y	S	-	1	
	1222	SRB21 - 7.0						X		X	X	X	Y	S	-	1	Analyze as 4 separate samples
	1225	SRB21 - 9.0						X		X	X	X	Y	S	-	1	
	1226	SRB21 - 11.0						X		X	X	X	Y	S	-	1	
	1220	SRB21 - 13.5						X		X	X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN/JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1825
Printed name:		Printed name:		Printed name: Lorena Padkowski	11/15
Company: AEN/JRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont.

Chain-of-Custody Record

No 4344

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	1311	SRB23-1.5						X		X	X	X	Y	S	-	1	See page 1
	1320	SRB23-4.5						X		X	X	X	Y	S	-	1	Composite
	1322	SRB23-7.5						X		X	X	X	Y	S	-	1	
	1329	SRB23-10.0						X		X	X	X	Y	S	-	1	
	1333	SRB23-13.0						X		X	X	X	Y	S	-	1	Composite
	1335	SRB23-14.5						X		X	X	X	Y	S	-	1	
	1430	SRB22-1.5						X		X	X	X	Y	S	-	1	
	1437	SRB22-4.0						X		X	X	X	Y	S	-	1	Composite
	1441	SRB22-7.0						X		X	X	X	Y	S	-	1	
	1445	SRB22-10.5						X		X	X	X	Y	S	-	1	
	1447	SRB22-12.5						X		X	X	X	Y	S	-	1	~~Composite~~ 1RV
	1450	SRB22-14.5						X		X	X	X	Y	S	-	1	Analyze as 3 separate samples

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI/JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1450	Signature:		Signature: Lurem Podkowski	1825
Printed name		Printed name:		Printed name: Lurem Podkowski	11/5/96
Company: AGI/JRH		Company:		Company: AEI	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont.

Chain-of-Custody Record

№ 7825

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM17)	HOLD	Silica Gel Cleanup	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	1430	SRB29			X			X		X				X	Y	W	Y	6	See page 1
	1630	SRB22			X			X		X				X	Y	W	Y	5	
	1645	SRB100			X			X		X				X	Y	W	Y	5	
										RV									
11/14/96	1232	SRB21 - 15.5						X		X	X	X	X		Y	S	-	1	
	1241	SRB21 - 19.0						X		X	X	X	X		Y	S	-	1	
	1510	SRB22 - 17.0						X		X	X	X	X		Y	S	-	1	
	1527	SRB22 - 19.0						X		X	X	X	X		Y	S	-	1	
	1535	SRB22 - 22.0						X		X	X	X	X		Y	S	-	1	
	1540	SRB28			X			X		X			X	X	Y	W	Y	5	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 26

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI / JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1825
Printed name:		Printed name:		Printed name: Lucyna Podkowski	11/15 22:30
Company: AGI / JRH		Company:		Company: A.E.IV	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611618

December 5, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611232/277.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received seventeen soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA **AEN I.D.:** 611618
PROJECT #: 2770.04
PROJECT NAME:

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611618-1	SRB26-1.5, 4.0, 6.5	11/14/96	SOIL
611618-2	SRB26-10.5, 12.0, 14.5	11/14/96	SOIL
611618-3	SRB27-1.5	11/14/96	SOIL
611618-4	SRB27-4.5	11/14/96	SOIL
611618-5	SRB28-1.5, 4.5, 7.0	11/14/96	SOIL
611618-6	SRB28-9.0, 11.5, 14.0	11/14/96	SOIL
611618-7	SRB21-1.5, 4.0	11/14/96	SOIL
611618-8	SRB21-7.0	11/14/96	SOIL
611618-9	SRB21-9.0	11/14/96	SOIL
611618-10	SRB21-11.0	11/14/96	SOIL
611618-11	SRB21-13.5	11/14/96	SOIL
611618-12	SRB23-1.5, 4.5, 7.5	11/14/96	SOIL
611618-13	SRB23-10.0, 13.0, 14.5	11/14/96	SOIL
611618-14	SRB22-1.5, 4.0, 7.0	11/14/96	SOIL
611618-15	SRB22-10.5	11/14/96	SOIL
611618-16	SRB22-12.5	11/14/96	SOIL
611618-17	SRB22-14.5	11/14/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA
PROJECT #: 2770.04
PROJECT NAME:

AEN I.D.: 611618

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	AEN I.D.:	611618-1
CLIENT I.D.:	SRB26-1.5, 4.0, 6.5	DATE SAMPLED:	11/14/96
CLIENT:	AEN-CA	DATE RECEIVED:	11/20/96
PROJECT #:	2770.04	DATE EXTRACTED:	11/25/96
PROJECT NAME:		DATE ANALYZED:	11/25/96
SAMPLE MATRIX:	SOIL	DILUTION FACTOR:	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	71%

Analyst: LE 12/6/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-2
CLIENT I.D.:	SRB26-10.5, 12.0, 14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	79%

Analyst: CE 12/2/96

Reviewer: p~ 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-3
CLIENT I.D.:	SRB27-1.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	0.046
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.032
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	0.046
BENZO(b)FLUORANTHENE	0.021
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.020
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	85%

Analyst: LE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-4
CLIENT I.D.:	SRB27-4.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	65%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-5
CLIENT I.D.:	SRB28-1.5, 4.5, 7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	31%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-6
CLIENT I.D.:	SRB28-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	72%

Analyst: GE 12/2/96

Reviewer: P~ 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-7
CLIENT I.D.:	SRB21-1.5, 4.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	0.027
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.029
INDENO(1,2,3-cd)PYRENE	0.075
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: CE 12/4/96

Reviewer: PA 12/9/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-8
CLIENT I.D.:	SRB21-7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	0.87
PHENANTHRENE	0.19
ANTHRACENE	0.081
FLUORANTHENE	0.33
PYRENE	0.20
BENZO(a)ANTHRACENE	0.021
CHRYSENE	0.10
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	101%

Analyst: CF 12/4/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-9
CLIENT I.D.:	SRB21-9.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	0.63
PHENANTHRENE	0.18
ANTHRACENE	0.078
FLUORANTHENE	0.088
PYRENE	0.18
BENZO(a)ANTHRACENE	0.038
CHRYSENE	0.33
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	96%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-10
CLIENT I.D.:	SRB21-11.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	91%

Analyst: CE 12/2/96

Reviewer: PM 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-11
CLIENT I.D.:	SRB21-13.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst: GF 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-12
CLIENT I.D.:	SRB23-1.5, 4.5, 7.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	0.025
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	69%

Analyst: CR 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-13
CLIENT I.D.:	SRB23-10.0, 13.0, 14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	87%

Analyst: CE 12/2/96

Reviewer: pw 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-14
CLIENT I.D.:	SRB22-1.5, 4.0, 7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	85%

Analyst: CR 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-15
CLIENT I.D.:	SRB22-10.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	81%

Analyst: CE 12/3/96

Reviewer: PM 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-16
CLIENT I.D.:	SRB22-12.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.10
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	0.052
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	0.026
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.045
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	66%

Analyst: CE 12/4/96

Reviewer: pn 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-17
CLIENT I.D.:	SRB22-14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.02
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	0.020
SURROGATE:	
BIPHENYL (26% - 126%)	85%

Analyst: CE 12/2/96

Reviewer: pm 12/3/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611618
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.61	96%	1.37	82%	16
PHENANTHRENE	<	0.0083	0.167	0.142	85%	0.136	81%	4
PYRENE	<	0.017	0.167	0.162	97%	0.155	93%	4
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.148	89%	0.167	100%	12
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.105	63%	0.106	63%	1
SURROGATE:								
BIPHENYL (26% - 126%)				95%		82%		

	CONTROL LIMITS	
	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

Reporting Information:

Client: AEN

Address:

Contact: Bill Svoboda

Alt. Contact: Robin Byars

Air Environmental Report
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611618
Lab Destination: AENOR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To: #1

Send Invoice To: 3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 9611232 Client Project I.D. No.: 2710.04

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: 8310	Comments / Hazards
-1	SRB26-1.5,4.0,6.5		11-19-96	9	COLD	1	JAR	X	Include P.O. # and project I.D. on report and invoice
-2	SRB26-10.5,12.0,14.5								
-3	SRB27-1.5								
-4	SRB27-4.5								
-5	SRB28-1.5,4.5,7.0								
-6	SRB28-9.0,11.5,14.0								
-7	SRB21-1.5,4.0								
-8	SRB21-7.0								
-9	SRB21-9.0								
-10	SRB21-11.0								
-11	SRB21-13.5								
-12	SRB23-1.5,4.5,7.5								
-13	SRB23-10.0,13.0,14.5								
-14	SRB22-1.5,4.0,7.0		V	V	V	V	V	V	

RUSH

		DATE	TIME		DATE	TIME
Relinquished by: (Signature)	Anna Gillespie	11-19-96	1500	Received by: (Signature)		11/20/96 10:30
Relinquished by: (Signature)				Received by: (Signature)		
Relinquished by: (Signature)				Received by: (Signature)		
Method of Shipment				Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

porting Information:

Client: AEN
Address:
Contact: Bill Svboda
Alt. Contact: Robin Byers

dress Report To:

#1

Send Invoice To:

3. #1

nd Report To: (1) or 2 (Circle one)

ent P.O. No.: 961232 Client Project I.D. No.: 2770.04

mple Team Member (s)

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 2 of 2

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611618
Lab Destination: AEN OR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	B310	Comments / Hazards
-15	SR.B22-10.5		11-14-96	S	COLD	1	JAR	X	See page #1
-16	SR.B22-12.5		↓	↓	↓	↓	↓	↓	
-17	SR.B22-14.5		↓	↓	↓	↓	↓	↓	

ANALYSIS

		DATE	TIME
Relinquished by: (Signature)	Anna Gillespie	11-19-96	1500
Relinquished by: (Signature)		DATE	TIME
Relinquished by: (Signature)		DATE	TIME
Method of Shipment			

		DATE	TIME
Received by: (Signature)	Lori C. Spiegel	11/20/96	10:30
Received by: (Signature)		DATE	TIME
Received by: (Signature)		DATE	TIME
Lab Comments			

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

K-3514 [illegible] 9611232

Chain-of-Custody Record

7828

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Chuck Cu

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (C20-C34)	PNAs (8310)	metals (CAM17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	0745	SRB26-1.5						X		X	X	X		Y	S	-	1
	0748	SRB26-4.0						X		X	X	X		Y	S	-	1
	0755	SRB26-6.5						X		X	X	X		Y	S	-	1
	0804	SRB26-10.5						X		X	X	X		Y	S	-	1
	0812	SRB26-12.0						X		X	X	X		Y	S	-	1
	0815	SRB26-14.5						X		X	X	X		Y	S	-	1
	0846	SRB27-1.5						X		X	X	X		Y	S	-	1
	0851	SRB27-4.5						X		X	X	X		Y	S	-	1
	0858	SRB27-7.0						X		X	X	X	X	Y	S	-	1
	0859	SRB27-9.5						X		X	X	X	X	Y	S	-	1
	0905	SRB27-12.0						X		X	X	X	X	Y	S	-	1
V	0915	SRB27-14.0						X		X	X	X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite must run out of sample we have no test. Please save a portion of each for possible future discrete analysis.

Composite

Composite.

2 separate samples

Composite

Composite

Turnaround time: STD

Results to: Charlie Cocker

Total No of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Cocker	11/15/96	Signature:		Signature: Kayte Hamilton	11/15/96
Printed name: Charlie Cocker		Printed name:		Printed name:	1425
Company: Geometrix		Company:		Company: AGI / JTM	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: AGI / JTM	1650	Signature:		Signature: Lucena Podkowski	1425
Printed name:		Printed name:		Printed name: Lucena Podkowski	11/15
Company: AGI / JTM		Company:		Company: AGI	22:10

Method of shipment: Pickup

Laboratory comments and Log No.:

Geometrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

96 11232 cont

Chain-of-Custody Record

7829

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Total Oil & Grease	PNAs (8310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	0935	SRA28 - 1.5						X		X	X	X	Y	S	-	1
	0940	SRB25 - 4.5						X		X	X	X	Y	S	-	1
	0945	SRB28 - 7.0						X		X	X	X	Y	S	-	1
	0948	SRB28 - 9.0						X		X	X	X	Y	S	-	1
	0952	SRB28 - 11.5						X		X	X	X	Y	S	-	1
	1000	SRB28 - 14.0						X		X	X	X	Y	S	-	1
	1215	SRB21 - 1.5						X		X	X	X	Y	S	-	1
	1220	SRB21 - 4.0						X		X	X	X	Y	S	-	1
	1222	SRB21 - 7.0						X		X	X	X	Y	S	-	1
	1225	SRB21 - 9.0						X		X	X	X	Y	S	-	1
	1226	SRB21 - 11.0						X		X	X	X	Y	S	-	1
	1220	SRB21 - 13.5						X		X	X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

See page 1

Composite

Composite

Composite (lure)

Composite (PV)

Analyze as 4 separate samples

Turnaround time: STD

Results to: Charlie Gocker

Total No. of containers: 12

Relinquished by:
Signature:
Printed name: Charlie Gocker
Company: Geomatrix
Date: 11/15/96

Received by:
Signature:
Printed name:
Company: AEN / JATH
Time: 1650

Relinquished by:
Signature:
Printed name:
Company:
Date:

Received by:
Signature:
Printed name:
Company:
Time:

Relinquished by:
Signature:
Printed name:
Company: AEN / JATH
Date: 11/15/96

Received by:
Signature:
Printed name: Lorena Padkowski
Company: AEN
Time: 1825
11/15 22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

961232 cont.

Chain-of-Custody Record

No 4344 | Date: 11/14/96 | Page 3 of 4

Project No.: 2776.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (Modified)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	1311	SRB23-1.5						X		X	X	X	Y	S	-	1	See page 1
	1320	SRB23-4.5						X		X	X	X	Y	S	-	1	Composite
	1322	SRB23-7.5						X		X	X	X	Y	S	-	1	
	1329	SRB23-10.0						X		X	X	X	Y	S	-	1	
	1333	SRB23-13.0						X		X	X	X	Y	S	-	1	Composite
	1335	SRB23-14.5						X		X	X	X	Y	S	-	1	
	1430	SRB22-1.5						X		X	X	X	Y	S	-	1	
	1437	SRB22-4.0						X		X	X	X	Y	S	-	1	Composite
	1441	SRB22-7.0						X		X	X	X	Y	S	-	1	
	1445	SRB22-10.5						X		X	X	X	Y	S	-	1	
	1447	SRB22-12.5						X		X	X	X	Y	S	-	1	~~Composite~~ Analyze as 3 separate samples
	1450	SRB22-14.5						X		X	X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGV/JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1450	Signature:		Signature: Lucero Podkowski	1325
Printed name:		Printed name:		Printed name: Lucero Podkowski	11/15/96
Company: AGV/JRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

96/1232 cont.

Chain-of-Custody Record

7825

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

REMARKS

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (5520)	PNAs (8310)	Metals (CAM17)	HOLD	Silica Gel Cleanup	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
-F	11/14/96	1430	SRB29			X			X		X				X	Y	W	Y	6	See page 1
1-E		1630	SRB22			X			X		X				X	Y	W	Y	5	
1-E		1645	SRB100			X			X		X				X	Y	W	Y	5	
A	11/14/96	1232	SRB21-15.5						X		X	X	X	X		Y	S	-	1	
A		1241	SRB21_17.0						X		X	X	X	X		Y	S	-	1	
A		1510	SRB22-17.0						X		X	X	X	X		Y	S	-	1	
:A		1527	SRB22_19.0						X		X	X	X	X		Y	S	-	1	
1A		1535	SRB22-22.0						X		X	X	X	X		Y	S	-	1	
-E		1540	SRB28			X			X		X			X	X	Y	W	Y	5	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 26

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGR / TRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1535
Printed name:		Printed name:		Printed name: Lurena Podkowski	11/15 22:30
Company: AGR / TRH		Company:		Company: A.E.I.V.	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

DEPARTMENT OF HEALTH SERVICES
FEB 03 1998
ENVIRONMENTAL HEALTH DIVISION

Prepared for

Union Pacific Railroad
One Market Plaza
San Francisco, California 94105

February 1997
Project 2770.04

Geomatrix Consultants

GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Prepared for

Union Pacific Railroad
One Market Plaza
San Francisco, California 94105

February 1997
Project 2770.04

Geomatrix Consultants

100 Pine Street, 10th Floor
San Francisco, CA 94111
(415) 434-9400 • FAX (415) 434-1365

GEOMATRIX

21 February 1997
Project 2770.04

WATER QUALITY
CONTROL BOARD
REGION 1

MAR 5 '98

☐ BK ☐ RK
☐ CJ ☐ LR
☐ FR ☐ TW
☐ RT ☐ KD
☐ JH ☐ PG
☐ SW ☐ JS
☐ TD ☒
☐ ALL STAFF ☐ FILE

Ms. Joan Fleck
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd., Suite A
Santa Rosa, CA 95403

Subject: Results of Soil and Groundwater Sampling
Santa Rosa Station Option Property
Northwestern Pacific Railroad
Healdsburg Segment, California

Dear Ms. Fleck:

Geomatrix Consultants, Inc. (Geomatrix), has prepared the enclosed report on behalf of Union Pacific Railroad Company (formerly Southern Pacific Transportation Company) for the subject site. The work was conducted in accordance with our 31 October 1996 Work Plan for Soil and Groundwater Sampling submitted to you. The purpose of the work was to evaluate the possible significant environmental impacts that may have resulted from historical features and to respond to your request for additional characterization near a former fuel oil underground storage tank (UST). A description of the field program and the analytical results are presented in this report.

Based on the results of the sampling program, it appears that no significant environmental issues are present at the site related to the former railroad operations. Furthermore, we recommend that the UST case be formally closed. Please contact either of the undersigned if you have questions or require further information.

Sincerely,
GEOMATRIX CONSULTANTS, INC.

Elizabeth K. Wells, P.E.
Senior Engineer

Susan M. Gallardo, P.E.
Principal Engineer

2770/sroptco2.doc

cc: Mr. John Moe, Union Pacific Railroad Company
Jill Rood, Esq., Holme Roberts & Owen
Rory Campbell, Esq., Hanson, Bridgett, Marcus, Vlahos & Rudy

GEOMATRIX

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	2.1 SITE SETTING	2
	2.2 SITE HISTORY	2
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GEOMATRIX

RESULTS OF SOIL AND GROUNDWATER SAMPLING
Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

1.0 INTRODUCTION

Geomatrix Consultants, Inc. (Geomatrix), prepared this report to document soil and groundwater sampling that was performed at the Santa Rosa Station option property, which is located along the Healdsburg segment of the Northwestern Pacific Railroad (NWPRR) corridor in Santa Rosa, California (Figure 1). The site is designated as an option sale property for the NWPRR transaction between the Southern Pacific Transportation Company (SPTCo, currently Union Pacific Railroad [UPRR]) and the NWPRR Task Force. The objective of the soil and groundwater sampling program was to evaluate potential significant environmental impacts that may have resulted from historical features, or from features that were identified during the Phase I environmental site assessment performed by Geomatrix in 1992 and early 1993 (Geomatrix, 1994). Additionally, the program included sampling in the vicinity of a former underground fuel storage tank to respond to a request by the California Regional Water Quality Control Board, North Coast Region (NCRWQCB) for additional characterization in this area.

Specific components of the soil and groundwater sampling program were described in the 31 October 1996 work plan developed by Geomatrix. In general, the sampling program consisted of the following:

- soil samples were collected from four borings located in the vicinity of the former turntable, fuel storage house, and an area where surface staining previously was observed in the fenced enclosure (Figure 2);
- soil and grab groundwater samples were collected from an additional five borings located along the downgradient (western) boundary of the property near the location of an historical aboveground storage tank, two former oil traps, and a former oil column; and
- grab groundwater samples were collected from three locations approximately downgradient of a former fuel oil underground storage tank (UST).

2.0 BACKGROUND

2.1 SITE SETTING

The property is located in a primarily commercial area of Santa Rosa. Bordered by NWPRR to the south and east, warehouse facilities to the west, and residential areas to the north, the site is currently vacant with the exception of a small staging area which is used by NWPRR. Based on work performed by Geomatrix along the NWPRR immediately east of the property, the stratigraphy generally consists of unconsolidated alluvium and poorly consolidated continental basin sediments of the Glen Ellen Formation.

Groundwater depth in one well located on the NWPRR south of the property was documented by Geomatrix on 16 March 1995 and was approximately 11.5 below ground surface (bgs). Gradients are assumed to be west-southwest toward Santa Rosa Creek (Figure 2).

2.2 SITE HISTORY

The Santa Rosa station formerly served as a water and fuel station. Within the southeastern portion of the option property was a turntable that was dismantled in 1925. A 3000-barrel aboveground oil storage tank, two oil traps, and an oil column also were located along the western boundary of the option property (Figure 2). According to SPTCo records, these facilities were constructed at the site between 1939 and 1945, and were removed in 1960. Currently, in the northeastern portion of the option property, is an office and fuel storage house; this structure is located within a fenced enclosure where various maintenance materials are stored.

Three USTs that were located immediately north-northwest of the fenced enclosure (10,000-gallon diesel UST, 10,000-gallon gasoline UST, and 230-gallon fuel oil UST) were removed in 1987. No apparent leakage from the USTs was documented at the time of their removal by Canonie Environmental.

In April 1990, the NCRWQCB drilled four borings in the western portion of the property and installed monitoring wells in two of the borings (designated MW-2 and MW-3, as shown on Figure 2) Monitoring well MW-3 was located approximately 100 feet downgradient (to the southwest) of the former fuel oil UST. Based on information presented in a July 1992 report by Industrial Compliance (IC), analytical results for samples collected from the NCRWQCB borings showed that no petroleum hydrocarbons were present in soil samples collected from B-2 and MW-2. No gasoline or diesel were detected in soil samples from boring B-1; however, oil and grease was present in the soil sample collected from boring B-1 at 12 feet bgs at a concentration of 200 milligrams per kilogram (mg/kg). Additionally, this sample contained low concentrations of some polynuclear aromatic compounds (PNAs). Soil samples collected at depths of 6 and 16 feet bgs from MW-3 contained petroleum hydrocarbons quantified as diesel (TPHd) at concentrations of 11 and 30 mg/kg.

No petroleum hydrocarbons were detected in the groundwater sample collected by the NCRWQCB from well MW-2; TPHd was detected at a concentration of 0.4 milligrams per liter (mg/l) in the groundwater sample collected from MW-3.

Soil and grab groundwater samples were collected from five borings in the UST area by IC in 1992. The approximate sampling locations are shown on Figure 3. No detectable concentrations of petroleum hydrocarbons, benzene, toluene, ethylbenzene, or xylenes (BTEX), or PNAs were reported in the soil samples collected from each boring. Grab groundwater samples collected from the location of the former diesel and gasoline USTs did not contain petroleum hydrocarbons or BTEX above reporting limits. The grab groundwater sample collected at the former fuel oil tank location, designated as IC-B6, on Figure 3 reportedly contained TPHd at a concentration of 31 mg/l; no gasoline or BTEX were detected in the grab groundwater sample from IC-B6.

The NCRWQCB destroyed monitoring wells MW-2 and MW-3 in June 1995 (30 October 1996, personal communication, Joan Fleck of the NCRWQCB). A copy of the well destruction permit is contained in Appendix A of this report.

3.0 FIELD AND ANALYTICAL METHODS

Prior to sampling, utility clearance for each sampling location was achieved by contacting Underground Service Alert (USA), a regional utility notification center, and SP Telecommunications. In addition, Geomatrix retained a private utility locator to clear each boring location prior to sampling. Geomatrix obtained drilling permits as required from the Sonoma County Environmental Health Department. Copies of these permits are included in Appendix B. Right of entry onto the site was granted verbally by Mike Strider of the North Coast Railroad Authority prior to drilling.

Geomatrix retained Precision Sampling, Inc. (Precision), of San Rafael, California, a state-licensed drilling contractor to drill the borings. Soil borings were advanced using an XD-1, direct-push (DP) technology rig using stainless-steel liners in the core barrel. Following sampling, the ends of the soil collection tubes were covered with Teflon sheets and plastic end caps and sealed with duct tape. Samples for chemical analysis generally were collected from depths of 1, 4, 7, 9, 12, 14, and 17 feet bgs. Specific sampling depths are shown in Table 1.

Grab groundwater samples were collected at boring locations SRB20, SRB21, SRB22, SRB23, SRB26, SRB29, SRB30, and SRB31 using DP technology by installing a 1-inch-diameter temporary polyvinyl chloride (PVC) casing consisting of a 5- to 15-foot-long, 0.01-inch-slot well screen attached to blank PVC, which was placed inside the drive casing. The drive casing was then withdrawn thereby exposing the screen to water-yielding sediments. Groundwater samples to be analyzed for volatile organic compounds (VOCs) were collected with a disposable PVC bailer; the groundwater was transferred into 40-milliliter HCl-acidified volatile organics analysis (VOA) vials using a bottom-emptying device with a stopcock. Groundwater samples for analysis of extractable petroleum hydrocarbons were collected using a disposable PVC bailer and decanted directly into 1-liter amber bottles.

Borings were grouted to ground surface using a neat cement/bentonite slurry. Prior to, and after drilling was complete, all drilling and sampling equipment was steam-cleaned. Rinsate and soil cuttings were collected in labeled 55-gallon drums and 5-gallon buckets, respectively, and removed from the site for disposal by Precision.

Soil and grab groundwater samples were labeled and placed in an ice-chilled cooler for delivery to the analytical laboratory under Geomatrix chain-of-custody procedures. Samples were analyzed by American Environmental (AEN), of Pleasant Hill, California, a California-certified analytical laboratory. AEN composited selected soil samples, as requested, prior to analysis. Generally, two composite samples were generated at each boring location. Based on field observations, several discrete samples were analyzed in addition to or in lieu of composite samples.

The composite and discrete soil samples were analyzed for the following constituents.

- TPHd and total petroleum hydrocarbons quantified as motor oil (TPHm) according to modified United States Environmental Protection Agency (EPA) Method 8015;
- VOCs according to EPA Method 8240;
- polynuclear aromatic compounds (PNAs) according to EPA Method 8310;
- barium, cadmium, chromium, copper, nickel, lead, silver, and zinc according to EPA Method 6010; and
- arsenic, mercury, and selenium according to EPA Methods 7060, 7471, and 7740, respectively.

Based on the analytical results of the composite samples, Geomatrix requested that specific discrete samples also be analyzed. The testing program, including sample depth, compositing, and analyses, is shown in Table 1.

Grab groundwater samples were analyzed for TPHd, TPHm, and VOCs in accordance with the methods listed above. The samples analyzed for TPHd and TPHm were prepared using a silica gel cleanup procedure (EPA Method 3630M) to remove potential biogenic material from the samples.

4.0 SITE STRATIGRAPHY

Shallow sediments encountered during the Phase II activities were predominantly fine-grained (silt and clay with some sand) to a depth of 25 feet bgs, the maximum depth drilled. A 4- to 8-foot-thick poorly graded sand with gravel to clayey sand was encountered between 18 and 21 feet bgs. In addition, a 3- to 7- foot-thick unit of clayey sand was found at 10 feet bgs in borings SRB23, SRB24, and SRB25. Groundwater was generally encountered at 10 to 12 feet bgs. Lithologic boring logs are contained in Appendix C.

5.0 ANALYTICAL RESULTS

Analytical results for organic compounds and metals in soil samples are summarized in Table 2 and Table 3, respectively, and are discussed below. Grab groundwater analytical results for VOCs are not tabulated in this report because VOCs generally were not detected in the samples with one exception as discussed below. Chain-of-custody records and laboratory data reports are contained in Appendix D.

5.1 SOIL

Relatively low concentrations of TPHd were detected in the composite and discrete samples from borings SRB21, SRB22, and SRB23. No TPHd was detected in samples from the other borings. The composite soil sample from depths of 1.5 and 4 feet bgs collected from boring SRB21 contained TPHd at 130 mg/kg. Discrete samples from boring SRB21 collected at depths of 7, 9, and 11 feet bgs contained TPHd at concentrations of 1600 mg/kg, 960 mg/kg, and 150 mg/kg, respectively; TPHd was not detected in the sample collected at 13 feet bgs. The chromatograms of these samples indicate that the TPHd detected in these samples generally consist of a

weathered diesel (medium boiling range) product. The discrete sample from boring SRB22 collected at 12.5 feet bgs contained TPHd at a concentration of 67 mg/kg; TPHd was not detected in the shallower or deeper soil samples from SRB22. The shallow composite sample (1.5, 4.5, and 7.5 feet bgs) collected from boring SRB23 contained TPHd at a concentration of 5 mg/kg; TPHd was not detected in the deep composite sample (10, 13, and 14.5 feet bgs).

TPHm was detected in the samples from borings SRB20, SRB21, SRB22, SRB23, SRB26, SRB27, and SRB28. The shallow composite sample (1, 4, and 6.5 feet bgs) from boring SRB20 contained TPHm at a concentration of 900 mg/kg; the discrete analysis of deeper samples from boring SRB20 contained TPHm at concentrations that decreased significantly with depth (Table 2). The shallow composite sample (1.5 and 4 feet bgs) from boring SRB21 contained TPHm at a concentration of 510 mg/kg; TPHm was not detected in the deeper discrete samples from SRB21. The shallow composite sample (1.5, 4, and 7 feet bgs) from boring SRB22 contained TPHm at a concentration of 43 mg/kg; the discrete samples at 10.5 and 12.5 feet bgs contained TPHm at 120 mg/kg and 210 mg/kg, respectively. TPHm was not detected in the discrete sample at 14.5 feet bgs. The shallow composite samples (1.5 to 7.5 feet bgs) from borings SRB23, SRB26, and SRB28 contained TPHm at concentrations of 5 mg/kg, 12 mg/kg, and 130 mg/kg, respectively. TPHm was not detected in the deeper composite samples (10 to 14.5 feet bgs) from borings SRB23, SRB26, and SRB28. The discrete sample from 1.5 feet bgs at boring SRB27 contained TPHm at a concentration of 72 mg/kg; TPHm was not detected above the laboratory reporting limit in the discrete sample from 4.5 feet bgs. The chromatograms indicate that the TPHm detected at these locations generally consist of a weathered oil (higher boiling) product that may contain biogenic material which could positively interfere with the quantification of the detected TPHm (that is, indicate a higher concentration of TPHm than is actually present).

PNAs were detected at relatively low concentrations in 9 of the 14 samples analyzed from borings SRB20, SRB21, SRB22, SRB23, SRB24, and SRB27. The concentrations of the detected PNAs were lower than the EPA Preliminary Remediation Goals (PRGs) for industrial

exposures (EPA, 1996). PNAs were not detected above laboratory reporting limits in the deeper soil samples analyzed at each location.

Metals were detected within expected regional background concentrations (as shown on Table 3) and less than ten times the soluble threshold limit concentration (STLC) in all soil samples collected.

5.2 GROUNDWATER

VOCs were not detected above method reporting limits in the 11 grab groundwater samples, with the exception of 300 micrograms per liter (µg/l) of acetone in the sample collected from SRB30. Additionally, according to AEN, the acetone detected in this sample may have been due to a laboratory impurity. TPHd and TPHm were not detected above the method reporting limit in all grab groundwater samples.

6.0 DISCUSSION

The results of the Phase II sampling program indicate no significant environmental impacts at the property as a result of historical activities or features (such as soil staining) noted during the Phase I assessment. Petroleum hydrocarbons were detected in soil at elevated concentrations at two locations (near a former oil trap at boring SRB21 and at SRB20); however, the presence of petroleum hydrocarbons at these locations decrease with depth. Additionally, the chromatograms indicated that the detected TPH is weathered and generally immobile with respect to groundwater. This conclusion is confirmed by the absence of TPH and VOCs, such as BTEX, in groundwater at the property. Finally, the absence of significant concentrations of TPH in soil at other sampling locations suggests that the presence of TPH in soil at the property is not widespread.

Polynuclear aromatic compounds, where detected in soil, are present at concentrations below EPA screening criteria for industrial exposure, Additionally, the concentrations of metals in soil at the property are within expected background concentrations.

Groundwater analytical results indicate that former site operations have had no impact to groundwater at locations sampled on the option property. No TPHd, TPHm, or VOCs, including BTEX, were detected in grab groundwater samples collected approximately downgradient of the location of the former fuel oil tank. These results indicate that, although petroleum hydrocarbons may be present specifically at the former fuel oil tank location (based on previous sampling results at IC-B6 where the presence of TPHd was formerly reported), their potential presence is not impacting groundwater across the property.

7.0 REFERENCES

Geomatrix Consultants (Geomatrix), 1996, Phase II and Phase III Program Findings, Northwestern Pacific Railroad, Novato to Willits, California, March.

Industrial Compliance, 1992, Preliminary Soil and Groundwater Investigation, Southern Pacific Transportation Company, Third Street Property, Santa Rosa, California, 30 July.

United States Environmental Protection Agency (EPA), 1996, Region 9 Preliminary Remediation Goals, 1 August.

GEOMATRIX

TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL TESTING PROGRAM

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Boring	Depth, feet below ground surface	Soil Analyses				Groundwater Analyses		
		TPHd[1]	TPHm[2]	PNAs[3]	Metals[4]	TPHd[5]	TPHm[5]	VOCs[6]
SRB20	---					■	■	■
	1.0, 4.0, 6.5-c[7]	■	■	■	■			
	4.0		■					
	6.5		■					
	9.0, 11.5, 1.40-c	■	■	■	■			
SRB21	---					■	■	■
	1.5, 4.0-c	■	■	■	■			
	7.0	■	■	■	■			
	9.0	■	■	■	■			
	11.0	■	■	■	■			
	13.5	■	■	■	■			
SRB22	---					■	■	■
	1.5, 4.0, 7.0-c	■	■	■	■			
	10.5	■	■	■	■			
	12.5	■	■	■	■			
	14.5	■	■	■	■			
SRB23	---					■	■	■
	1.5, 4.5, 7.5-c	■	■	■	■			
	10.0, 13.0, 14.5-c	■	■	■	■			
SRB24	1.0, 4.0, 6.5-c	■	■	■	■			
	9.0, 11.5, 14.0-c	■	■	■	■			

GEOMATRIX

TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL TESTING PROGRAM

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Boring	Depth, feet below ground surface	Soil Analyses				Groundwater Analyses		
		TPHd[1]	TPHm[2]	PNAs[3]	Metals[4]	TPHd[5]	TPHm[5]	VOCs[6]
SRB25	1.5, 4.0, 6.5-c	■	■	■	■			
	9.0, 11.0, 14.0-c	■	■	■	■			
SRB26	---					■	■	■
	1.5, 4.0, 6.5-c	■	■	■	■			
	10.5, 12.0, 14.5-c	■	■	■	■			
SRB27	1.5	■	■	■	■			
	4.5	■	■	■	■			
SRB28	---					■	■	■
	1.5, 4.5, 7.0-c	■	■	■	■			
	9.0, 11.5, 14.0-c	■	■	■	■			
SRB29	---					■	■	■
SRB30	---					■	■	■
SRB31	---					■	■	■

GEOMATRIX

TABLE 1

SUMMARY OF SOIL AND GROUNDWATER ANALYTICAL TESTING PROGRAM

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Notes:

■ Indicates analysis performed by American Environmental Network, Inc., of Pleasant Hill, California

[1] Total petroleum hydrocarbons characterized as diesel (TPHd) analyzed in accordance with Modified EPA Method 8015.
[2] Total petroleum hydrocarbons characterized as motor oil (TPHm) analyzed in accordance with Modified EPA Method 8015.
[3] Polynuclear aromatic hydrocarbons (PNAs) analyzed in accordance with EPA Method 8310.
[4] California Code of Regulations Title 17 metals: arsenic, barium, beryllium, cadmium, total chromium, cobalt, copper, lead , mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc analyzed in accordance with EPA 6000/7000 Series Method.
[5] Groundwater samples analyzed following silica gel cleanup in accordance with Modified EPA Method 3630.
[6] Volatile organic compounds (VOCs) analyzed in accordance with EPA Method 8240M.
[7] c = indicates composite sample.

GEOMATRIX

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB20-1,4,6.5	11/15/96	1.0, 4.0, 6.5	<20	900	Chrysene Dibenzo(a,h)anthracene Indeno(1,2,3-cd)pyrene	0.028 0.049 0.025
SRB20-4	11/15/96	4.0	---[5]	69	---	
SRB20-6.5	11/15/96	6.5	---	<5	---	
SRB20-9,11.5,14	11/15/96	9.0, 11.5, 14.0	<1	56	ND[6]	
SRB21-1.5,4	11/14/96	1.5, 4.0	130	510	Benzo(g,h,i,)perylene Fluoranthene Indeno(1,2,3-cd)pyrene	0.029 0.027 0.075
SRB21-7	11/14/96	7.0	1600	<100	Anthracene Benzo(a)anthracene Chrysene Fluoranthene Fluorene Phenanthrene Pyrene	0.081 0.021 0.10 0.33 0.87 0.19 0.20

GEOMATRIX

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB21-9	11/14/96	9.0	960	<50	Anthracene	0.078
					Benzo(a)anthracene	0.038
					Chrysene	0.33
					Fluoranthene	0.088
					Fluorene	0.63
					Phenanthrene	0.18
					Pyrene	0.18
SRB21-11	11/14/96	11.0	150	<5	ND	
SRB21-13.5	11/14/96	13.5	<1	<5	ND	
SRB22-1.5, 4,7	11/14/96	1.5, 4.0, 7.0	<1	43	ND	
SRB22-10.5	11/14/96	10.5	<1	120	ND	
SRB22-12.5	11/14/96	12.5	67	210	Benzo(a)pyrene	0.026
					Benzo(g,h,i)perylene	0.045
					Chrysene	0.052
					Pyrene	0.10
SRB22-14.5	11/14/96	14.5	<1	<5	Indeno(1,2,3-cd)pyrene	0.020
SRB23-1.5,4.5,7.5	11/14/96	1.5, 4.5, 7.5	5	28	Fluoranthene	0.025
SRB23-10,13,14.5	11/14/96	10.0, 13.0, 14.5	<1	<5	ND	
SRB24-1,4,6.5	11/15/96	1.0, 4.0, 6.5	<1	<5	Indeno(1,2,3-cd)pyrene	0.034
					Phenanthrene	0.019
					Pyrene	0.04
SRB24-9,11.5, 14	11/15/96	9.0, 11.5, 14.0	<1	<5	ND	

GEOMATRIX

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Sample Name	Date Collected	Sample Depth, feet below ground surface[2]	TPH[3] as Diesel (mg/kg)	TPH as Motor Oil (mg/kg)	Polynuclear Aromatic Hydrocarbons[4] (mg/kg)	
SRB25-1.5,4,6.5	11/15/96	1.5, 4.0, 6.5	<1	<5	ND	
SRB25-9,11.5,14	11/15/96	9.0, 11.0, 14.0	<1	<5	ND	
SRB26-1.5,4,6.5	11/14/96	1.5, 4.0, 6.5	<1	12	ND	
SRB26-10.5,12,14.5	11/14/96	10.5, 12.0, 14.5	<1	<5	ND	
SRB27-1.5	11/14/96	1.5	<1	72	Benzo(b)fluoranthene Benzo(g,h,i)perylene Chrysene Phenanthrene Pyrene	0.021 0.02 0.046 0.046 0.032
SRB27-4.5	11/14/96	4.5	<1	<5	ND	
SRB28-1.5,4.5,7	11/14/96	1.5, 4.5, 7.0	<1	130	ND	
SRB28-9,11.5,14	11/14/96	9.0, 11.5, 14.0	<1	<5	ND	

TABLE 2

ANALYTICAL RESULTS[1]
FOR ORGANICS IN SOIL SAMPLES

Northwestern Pacific Railroad
Santa Rosa Station Option Property
Santa Rosa, California

Notes:

1. Chemical analyses performed by American Environmental Network of Pleasant Hill, California. Laboratory analytical reports detailing the analyses performed, method detection limits for each constituent, and analytical results are included in Appendix D.
2. If more than one sample depth is shown, discrete samples from the depths shown were composited into one sample for analysis.
3. TPH = Total petroleum hydrocarbons quantified as diesel or motor oil. Analyses by modified EPA Method 8015.
4. Polynuclear aromatic hydrocarbons (PNAs) analyzed by EPA Test Method 8310. Only those compounds shown in this table were detected.
5. --- indicates sample not analyzed by that method.
6. ND = no constituent detected at a concentration greater than the method detection limit.

Sample Name	Date Sampled	Sample Depth, feet below ground surface[1]	Sb	Se	Tl	V	Zn
Shacklette Background[4]	---	---	---[5]	0.15-0.5	---[5]	70-500	74-400
STLC[6] (mg/l)	---	---	15	1.0	7.0	24	250
TTLC[7] (mg/kg)	---	---	500	100	700	2400	5000
SRB20-1,4,6.5	11/15/96	1.0, 4.0, 6.5	1	<1	4	40	53
SRB20-9,11.5,14	11/15/96	9.0, 11.5, 14.0	<1	<1	11	27	34
SRB21-1.5,4	11/14/96	1.5, 4.0	<1	<1	24	46	47
SRB21-7	11/14/96	7.0	<1	<1	22	39	44
SRB21-9	11/14/96	9.0	<1	<1	26	40	50
SRB21-11	11/14/96	11.0	<1	<1	17	25	40
SRB21-13.5	11/14/96	13.5	<1	<1	18	20	37
SRB22-1.5,4,7	11/14/96	1.5, 4.0, 7.0	<1	<1	8	43	48
SRB22-10.5	11/14/96	10.5	<1	<1	20	37	44
SRB22-12.5	11/14/96	12.5	<1	<1	22	33	42
SRB22-14.5	11/14/96	14.5	<1	<1	23	30	46
SRB23-1.5,4.5,7.5	11/14/96	1.5, 4.5, 7.5	<1	<1	22	52	46
SRB23-10,13,14.5	11/14/96	10.0, 13.0, 14.5	1	<1	15	35	34
SRB24-1,4,6.5	11/15/96	1.0, 4.0, 6.5	<1	<1	17	39	49
SRB24-9,11.5,14	11/15/96	9.0, 11.5, 14.0	<1	<1	16	29	36
SRB25-1.5,4,6.5	11/15/96	1.5, 4.0, 6.5	<1	<1	19	42	47
SRB25-9,11.5,14	11/15/96	9.0, 11.5, 14.0	<1	<1	18	30	38
SRB26-1.5,4,6.5	11/14/96	1.5, 4.0, 6.5	1	<1	23	47	47
SRB26-10.5-12-14.5	11/14/96	10.5, 12.0, 14.5	<1	<1	26	41	49
SRB27-1.5	11/14/96	1.5	0.6	<1	12	38	48
SRB27-4.5	11/14/96	4.5	<1	<1	20	43	46
SRB28-1.5,4.5,7	11/14/96	1.5, 4.5, 7.0	<1	<1	22	47	49
SRB28-9,11.5,14	11/14/96	9,0, 11.5, 14.0	<1	<1	21	36	41

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GEOMATRIX

SITE LOCATION MAP
Northwestern Pacific Railroad Corridor
Santa Rosa Station Option Property
Santa Rosa, California

Figure
1

Project No.
2770.02

APPENDIX A

MW-2 AND MW-3 WELL DESTRUCTION PERMITS

CONTROL BOARD
REGION 1
JUN 30 '95

SF Trans Co
2nd St

COUNTY OF SONOMA – DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION – HAZMAT PROGRAM
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6565

For Office Use Only
Amount paid $213.00
Receipt number 2-035B
Payment date 06/14/95
Revenue code 1475

APPLICATION FOR MONITORING WELL PERMIT
for Regional Board Lead/Environmental Assessment

☐ BK ☐ RK
☐ CJ ☐ LR
☐ FA ☐ KD
☐ RT ☐ PG
☐ JH ☐
☐ SW ☐
☐ ☐
☐ ☐

Site ID # 0004 Permit # 95-1471-HMW

Well type: ☐ Monitoring well ☐ Recovery extraction well ☐ Boring ☐ Injection well
☐ Soil gas survey ☐ Hydropunch ☐ Air sparging/venting ☒ Other ASSESSMENT

Well depth 25 Boring depth _____ Hydro depth _____ Air sparging/venting depth _____

On-site well/boring _____ ID # _____ # Off-site well/boring _____ ID # _____

Submit legal right-of-entry/off-site well address/encroachment permit

On-Site Address [redacted] 45 Railroad

On-Site Owner [redacted] Phone _____

Address [redacted] AP# _____

Responsible Party [redacted] Phone 571-2675

Address 5550 Skylane Blvd. Santa Rosa CA 95403

Consultant Clark Heard Drilling Phone _____

Address _____ License #/Type _____

Drilling Contractor Clark Heard Drilling Phone 869-9610

Address 17851 Santa Rosa Avenue Guerneville, 95446 C-57 License # 467904

Type of work: ☐ Initial investigation _____ # Wells ☐ Subsequent investigation _____ # Wells ☒ Destruct 2 # Wells
MW2 MW3

Groundwater investigation due to: ☐ Underground tank ☐ Surface impoundment ☒ Assessment
☐ Surface disposal practice—specify involved industry _____
☐ Other _____

Perforated intervals 5-20' Chemical constituents _____

Disposal method for soil cuttings _____ Disposal method for development water N/A

Drilling method _____ Method of drill equip. rinsate containment _____

If destroying a well, abandonment method Cement grout and cover

ENVIRONMENTAL HEALTH DIVISION

Submit plot plan of wells in relation to all sewer or septic lines.

Is well to be constructed within: 100 feet of a septic tank or leachfield? ☐ Yes ☐ No
50 feet of any sanitary sewer line? ☐ Yes ☐ No
25 feet of any private sanitary sewer line? ☐ Yes ☐ No 06/14/95

001475D
UST-FEES 213.
TTLAMT 213.
CHECKS 213.
CHANGE 0.
D 35B M2 9:

In addition, all monitoring wells must include *identification system* affixed to interior surface:

1) Well identification 2) Well type 3) Well depth 4) Well casing diameter 5) Perforated intervals

Well identification number and well type shall be *affixed* to the *exterior surface* security structure.

RWQCB approval _____ Date 6/17/95

Address: 115 Railroad
Santa Rosa

Site ID #: 0004

Permit #: 95-1471-HMW

WORKERS COMPENSATION CERTIFICATE

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 525-6565, 24 hours in advance, to notify the Hazardous Materials Specialist when completing or destroying a well. I will furnish the Director of Public Health and the owner a legible copy of the State Water Well Driller's Report within 15 days in order to obtain final approval on this well. I acknowledge that the application will become a permit *only* after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

☑ A currently effective certificate of Workers Compensation Insurance coverage is on file with this office, *made out in the name of the Sonoma County Public Health Department.*

Jay M. Forde
Signature of Well Driller—*no proxies*

Date 6/14/95

Insurance Carrier Golden Eagle

Expiration Date 7/1/96

Once all wells/borings are installed, submit a "Letter of Completion" to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

Conditions of permit:

FOR OFFICE USE ONLY – ENVIRONMENTAL HEALTH DIVISION

Permit approval by John L Carlson Date 6/28/95

Constr. approved by _____ Observed? ☐ Yes ☐ No Well # _____ Date ___/___/___

Copies: File–white Driller–yellow Consultant–pink Owner/RP–gold

monwell2.frm (rev. 07/94)

GEOMATRIX

APPENDIX B

SONOMA COUNTY ENVIRONMENTAL HEALTH DRILLING PERMITS

10 [illegible]
Total Cheque = $612.00

2770.04-0210

For Office Use Only
Amount Paid $340.00 SJ
Receipt Number 265B-2
Date of Payment 10/23/96
Revenue Code 1475 MP

COUNTY OF SONOMA PUBLIC HEALTH DEPT. - HAZMAT SECTION
1030 Center Drive, Suite A, Santa Rosa, CA 95403-2067 (707) 525-6565

APPLICATION FOR MONITORING WELL PERMIT

Site ID # 23041
Permit # 96-1866-HMW

Well Type: ☐ Mon. Well ☐ Recovery Extraction Well ☐ Geol. Boring ☐ Geotech. Boring ☐ Injection Well
☐ Soil Gas Survey ☒ Other hydropunch

Well Depth ≤ 15' Boring Depth

On-Site Well/Boring 10 ID # # Off-Site Well/Boring ID

Submit Legal Right-of-Entry/Off-Site Well Address/Encroachment Permit

Location of wells within: ☒ Santa Rosa ☐ Healdsburg

On-Site Address Santa Rosa Station - 94th Street Santa Rosa 95401

On-Site Owner Union Pacific / Southern Pacific Transportation Company Phone 415-541-2545

Address 1 Market Plaza, SF, CA 94105 AP#

Responsible Party Union Pacific / Southern Pacific Transportation Company Phone 415-541-2545

Address 1 Market Plaza, 7th floor SF, CA 94105

Consultant Geomatrix Consultants Phone 415-434-9400

Address 100 Pine Street, 10th floor, SF, CA, 94111 License #/Type # pending GE 038154

Drilling Contractor Precision Sampling, Inc Phone 415-456-9875

Address 47 Louise Street, San Rafael, CA 94901 C-57 License # 636387

Type of Work: ☐ Initial Investigation ___ # Wells ☒ Subsequent Investigation 10 # Wells ☐ Destruct ___ # Wells

Groundwater Investigation Due To: ☐ Underground Tank ☐ Surface Impoundment ☐ Assessment
☐ Surface Disposal Practice - Specify involved industry
☒ Other Continuation of previous investigation work

Perforated Intervals NA Chemical Constituents Suspected TPHd/mo

Disposal Method for Soil Cuttings Drum on-site Disposal Method for Development Water n/a

Drilling Method n/a Method of Drill Equip. Rinsate Containment Drum

If destroying a well, abandonment method

Sewer Information: Submit plot plan of wells in relation to all sewer or septic lines.

100 ft. from septic tank or leach line? ☐ Yes ☒ No
50 ft. from any public sanitary sewer line? ☐ Yes ☒ No
25 ft. from any private sanitary sewer line? ☐ Yes ☒ No

10/23/96

001475D
UST-FEES 612.00
TTLAMT 612.00
CHECKS 612.00
CHANGE 0.00
265B #2 11:48

In addition, all monitoring wells must include identification system affixed to interior surface:

1) Well Identification 2) Well Type 3) Well Depth 4) Well Casing Diameter 5) Perforated Intervals

Well identification number and well type shall be affixed to the exterior surface security structure.

Is well located within an existing public water system boundary? ☐ Yes ☒ No NA

RWQCB Approval NA Date of Work Plan

96-1866-H/HA41

9.5 FL Street, SR 95401

WORKER'S COMPENSATION CERTIFICATE

I hereby agree to comply with all laws and regulations of the County of Sonoma and State of California pertaining to water well construction. I will telephone (707) 525-6565, 24 hours in advance, to notify the Hazardous Materials Specialist when completing or destroying a well. I will furnish the Director of Public Health and the owner a legible copy of the State Water Well Driller's Report within 15 days in order to obtain final approval on this well. I acknowledge that the application will become a permit only after site approval and payment of fee. I understand that this permit is not transferable and expires one year from date of issuance.

☒ A currently effective certificate of Worker's Compensation Insurance coverage is on file with this office, made out in the name of the Sonoma County Public Health Department.

☐ I certify that in the performance of the work for which this permit is issued I shall not employ any person in any manner so as to become subject to the Worker's Compensation laws of California.

[signature] BRENNAN SAMPLING, INC. — 10-22-96

Signature of Well Driller - no proxies — Date

Insurance Carrier STATE FUND — Expiration Date 02-01-97

[signature] — 10/18/96

Signature of Consultant — Date

Insurance Carrier American Automobile Insurance Co — Expiration Date 7/1/97

Once all wells/borings are installed, submit a "Letter of Completion" to complete permit process.

Indicate on attached plot plan the exact location of well(s) with respect to the following items: property lines, water bodies or water courses drainage pattern, roads, existing wells, sewer main and laterals and private sewage disposal systems or other sources of contamination or pollution. INCLUDE DIMENSIONS. The validity of this permit depends upon the accuracy of the information provided by the applicant.

FOR OFFICE USE ONLY _ ENVIRONMENTAL HEALTH DIVISION

Permit Approval by John L Anderson MPH — Date 11 / 9 /19 96

Constr. Approved by _____ Date ___ / ___ /19 ___ Observed? ☐ Yes ☐ No Well # _____

Constr. Approved by _____ Date ___ / ___ /19 ___ Observed? ☐ Yes ☐ No Well # _____

Constr. Approved by _____ Date ___ / ___ /19 ___ Observed? ☐ Yes ☐ No Well # _____

Constr. Approved by _____ Date ___ / ___ /19 ___ Observed? ☐ Yes ☐ No Well # _____

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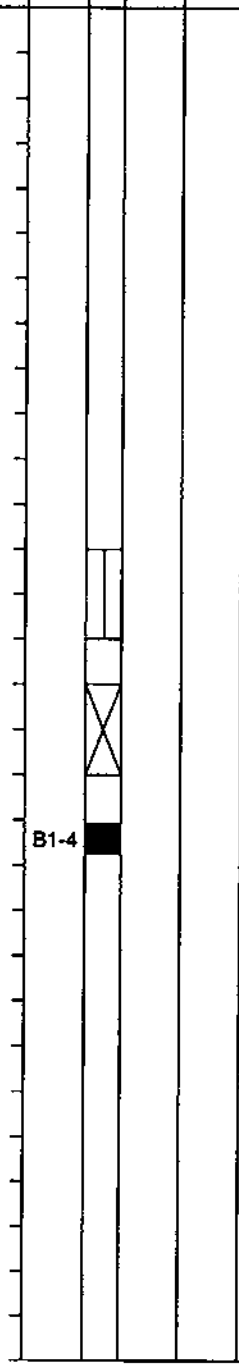
GEOMATRIX

APPENDIX C

LITHOLOGIC LOGS

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California		**Boring Log Explanation**	
BORING LOCATION:		ELEVATION AND DATUM:	
DRILLING CONTRACTOR:		DATE STARTED:	DATE FINISHED:
DRILLING METHOD:		TOTAL DEPTH:	MEASURING POINT:
DRILLING EQUIPMENT:		DEPTH TO WATER: FIRST	COMPL.
SAMPLING METHOD:		LOGGED BY:	
HAMMER WEIGHT:	DROP:	RESPONSIBLE PROFESSIONAL:	REG. NO.

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation	REMARKS



Notes

1. Soil descriptions are in accordance with the USCS as set forth by ASTM D2488-90 "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)."
2. Soil color described according to Munsell Color Chart.
3. Dashed lines separating soil strata represent inferred boundaries between sampled intervals that may be abrupt or gradual transitions. Solid lines represent approximate boundaries observed within sample intervals.
4. Odor, if noted, is subjective and not necessarily indicative of specific compounds or concentrations

Interval of recovered soil core collected with split-barrel sampler

Interval of no recovery

Sample collected for chemical analysis and sample identification

First water level ▽

Second water level ▼

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.023

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-20

BORING LOCATION: Southwest end of property	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 11 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: —	REMARKS
1	SRB20-1.0				WELL-GRADED SAND with SILT and GRAVEL (SW-SP) Grayish brown (10YR 5/2), dry, 50% fine to medium sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Very dark grayish brown (2.5Y 3/2), moist, 95% fines, 5% fine sand, medium plasticity, firm	
3						
4	SRB20-4.0					
5						
6						
7	SRB20-6.5					
8					Color change to olive gray (5Y 4/2)	
9	SRB20-9.0					
10					SANDY LEAN CLAY (CL) Brown (10YR 4/3), wet, 60% fines, 40% fine sand, low plasticity, soft	
11	SRB20-11.5					
12					LEAN CLAY (CL) Reddish brown (5YR 4/3), wet, 90% fines, 10% fine sand, trace fine to coarse gravel, medium plasticity, soft	
13						
14	SRB20-14.0				SANDY LEAN CLAY (CL) Brown (4/3), moist, 65% fines, 25% fine to coarse sand, 10% fine to coarse gravel, low plasticity, firm	
15						

B-1 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-20 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					SANDY LEAN CLAY (CL) (continued)	
17	SRB20-16.5				CLAYEY SAND with GRAVEL (SC) Dark reddish brown (5YR 3/3), wet, 65% fine to medium sand, 20% medium plasticity fines, 15% fine to coarse gravel	
18						
19						
20	SRB20-20.0				WELL-GRADED SAND with CLAY (SW-SC) Dark reddish brown (5YR 3/3), wet, 85% fine to coarse sand, 10% low plasticity fines, 5% fine gravel, loose	
21						
22						
23						
24	SRB20-23.5					
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California			**Log of Boring No. SRB-21**
BORING LOCATION: West side of property near former oil trap		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/14/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: 10.5 feet / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1					POORLY-GRADED GRAVEL with SAND and SILT (GP-GM) 50% well-rounded fine gravel, 40% fine to coarse sand, 10% low plasticity fines, loose	
2	SRB21-1.5				LEAN CLAY with SAND (CL) Very dark gray (2.5Y 3/1), moist, 85% fines, 15% fine to coarse sand, medium plasticity, soft	
3						
4	SRB21-4.0					
5						
6					Change of color to dark greenish gray (5BG 3/1)	
7	SRB21-7.0					
8						
9	SRB21-9.0					
10						
11	SRB21-11.0				Clayey sand zone, wet	
12					LEAN CLAY (CL) Dark grayish brown (2.5Y 4/2), moist, 95% fines, 5% fine to medium sand, medium plasticity, firm	
13						
14	SRB21-13.5					
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.003

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-21 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16	SRB21-15.5				LEAN CLAY (CL) (continued)	
17					Poorly-graded medium sand zone, wet	
18	SRB21-18.0				Trace fine angular gravel	
19					CLAYEY SAND (SC) Dark yellowish brown (10YR 3/6), moist, 70% fine to coarse sand, 30% medium plasticity fines, trace fine gravel, medium dense	
20						
21	SRB21-20.5					
22					POORLY-GRADED SAND with GRAVEL (SP) Dark yellowish brown (10YR 3/6), wet, 70% coarse sand, 25% fine gravel, 5% low plasticity fines, loose	
23						
24	SRB21-24.0				LEAN CLAY (CL) Dark yellowish brown (10YR 3/6), moist, 100% fines, trace fine to medium sand, medium plasticity, hard	
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-22

BORING LOCATION: West side of property, near former oil trap

ELEVATION AND DATUM: Ground surface

DRILLING CONTRACTOR: Precision Sampling, Inc.

DATE STARTED: 11/14/96 | DATE FINISHED: 11/14/96

DRILLING METHOD: Direct push

TOTAL DEPTH: 25 feet | MEASURING POINT: ---

DRILLING EQUIPMENT: XD-1

DEPTH TO WATER: FIRST 10 feet | COMPL. ---

SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)

LOGGED BY: C. H. Crocker/R. Visage

HAMMER WEIGHT: --- | DROP: ---

RESPONSIBLE PROFESSIONAL: C. H. Crocker | REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
					Surface Elevation: ---	
1					WELL-GRADED SAND with GRAVEL and SILT (SW-SM) Brown (10YR 4/3), dry, 60% fine to medium sand, 30% fine to coarse gravel, 10% low plasticity fines, loose	
2	SRB22-1.5				SANDY LEAN CLAY with GRAVEL (CL) Very dark gray (10YR 3/1), moist, 70% fines, 25% fine to coarse sand, 5% fine gravel, low plasticity, hard	
3						
4	SRB22-4.0					
5						
6					Coarse gravel up to 15%	
7	SRB22-7.0					
8						
9						
10					SANDY LEAN CLAY (CL) Dark grayish brown (10YR 4/2), wet, 60% fines, 40% fine sand, low plasticity, soft	
11	SRB22-10.5				LEAN CLAY (CL) Dark brown (7.5YR 3/3), moist, 90% fines, 10% fine sand, trace gravel, medium plasticity, firm	
12						
13	SRB22-12.5				Color change to dark greenish gray (10GY 4/1)	
14	SRB22-14.5					
15						

B-1 (12/95)

Project No. 2770.04 | Geomatrix Consultants | Figure ---

2770.04.005

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-22 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY (CL) (continued)	
17	SRB22-17.0				SANDY LEAN CLAY (CL) Dark grayish brown (10YR 4/2), moist, 60% fines, 20% fine gravel, 20% medium to coarse sand, medium plasticity, firm	
18						
19	SRB22-19.0					
20					POORLY-GRADED SAND with GRAVEL (SP) Dark grayish brown (10YR 4/2), wet, 60% coarse sand, 35% fine to coarse gravel, 5% medium plasticity fines, medium dense	
21						
22	SRB22-22.0					
23						
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-23

BORING LOCATION: Northwest end of property, near former oil tank	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation: —	
1					WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Greenish gray (5GY 5/1), moist, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2	SRB23-1.5				LEAN CLAY (CL) Very dark grayish brown (10YR 3/2), moist, 90% fines, 10% fine to coarse sand, trace gravel, medium plasticity, firm	
3						
4						
5	SRB23-4.5					
6						
7					CLAYEY SAND (SC) Very dark grayish brown (10YR 3/2), moist, 50% fine to coarse sand, 40% medium plasticity fines, 10% fine gravel, dense	
8	SRB23-7.5					
9						
10	SRB23-10.0				Wet	
11						
12						
13	SRB23-13.0					
14	SRB23-14.5				LEAN CLAY (CL) Very dark gray (10YR 3/1), moist,100% fines, trace fine to coarse sand, medium plasticity, firm	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.007

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-23 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY (CL) (continued)	
17						
18					Fine to medium gravel increases	
19	SRB23-19.0				WELL-GRADED SAND with CLAY and GRAVEL (SP-SC) Very dark gray (10YR 3/1), wet, 40% medium to coarse sand, 30% fine to coarse gravel, 30% medium plasticity fines, medium dense	
20						
21						
22	SRB23-22.0				50% medium to coarse sand, 40% fine to coarse gravel, 10% medium plasticity fines	
23						
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California	**Log of Boring No. SRB-24**
BORING LOCATION: South side of former turntable area	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/15/96 / DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 15 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10 feet / COMPL ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter. Surface Elevation: ---	REMARKS
1	SRB24-1.0				WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Dark gray (7.5YR 4/1), dry, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Black (7.5YR 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
3						
4	SRB24-4.0					
5						
6					Trace gravel	
7	SRB24-6.5					
8						
9	SRB24-9.0				Color change to dark brown (7.5 YR 3/2), sand content up to 10%	
10					CLAYEY SAND with GRAVEL (SC) Dark brown (7.5YR 3/2), wet, 60% fine to medium sand, 25% medium plasticity fines, 15% fine to coarse gravel, medium dense	
11						
12	SRB24-11.5					
13					LEAN CLAY (CL) Very dark gray (7.5YR 3/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
14	SRB24-14.0					
15					Bottom of boring at 15 feet.	

B-1 (12/95)

Project No. 2770.04	**Geomatrix Consultants**	Figure ---

2770.04.009

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California			**Log of Boring No. SRB-25**
BORING LOCATION: North side of former turntable		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 15 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER: FIRST 12 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1	SRB25-1.5				WELL-GRADED SAND with SILT and GRAVEL (SM-SW) Dark greenish gray (10Y 4/1), moist, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Greenish black (10Y 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, hard	
3						
4	SRB25-4.0					
5						
6						
7	SRB25-6.5				Color change to dark reddish brown (5YR 3/2)	
8						
9	SRB25-9.0				Trace of gravel	
10					CLAYEY SAND (SC) Brown (10YR 4/3), moist, 50% fine to medium sand, 45% medium plasticity fines, 5% fine to coarse gravel, medium dense	
11	SRB25-11.5					
12					Sand content up to 65%, wet, soft	
13					LEAN CLAY (CL) Very dark gray (7.5YR 3/1), moist, 90% fines, 10% fine sand, medium plasticity, firm	
14	SRB25-14.0					
15					Bottom of boring at 15 feet.	

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.010

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-26

BORING LOCATION: West side of yard, near former oil column	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 25 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10.5 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. Inter.	REMARKS
					Surface Elevation: ---	
1	SRB26-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Olive brown (2.5YR 4/3), moist, 50% fine to coarse sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY with SAND (CL) Very dark brown (10YR 2/2), moist, 85% fines, 15% medium to coarse sand, trace fine gravel, medium plasticity, firm	
3						
4	SRB26-4.0					
5						
6						
7	SRB26-6.5				Gravel content increases	
8						
9					LEAN CLAY (CL) Brown (10YR 4/3), moist, 95% fines, 5% fine to medium sand, medium plasticity, soft	
10	SRB26-10.5					
11					SANDY LEAN CLAY (CL) Brown (10YR 4/3), wet, 60% fines, 40% fine sand, medium plasticity, very soft	
12	SRB26-12.0					
13					LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 100% fines, trace sand and fine gravel, medium plasticity, firm	
14	SRB26-14.5					
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.011

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-26 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16	SRB26-16.5				LEAN CLAY (CL) (continued)	
17						
18						
19	SRB26-19.5					
20					SANDY LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 70% fines, 30% medium to coarse sand, trace fine gravel, medium plasticity, firm	
21					CLAYEY SAND (SC) Dark olive brown (2.5Y 3/3), wet, 70% fine to coarse sand, 20% medium plasticity fines, 10% fine gravel, medium dense	
22						
23	SRB26-23.0				100% sand zone, loose	
24						
25					Bottom of boring at 25 feet.	
26						
27						
28						
29						
30						
31						
32						
33						

B-2 (12/85)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-27

BORING LOCATION: Inside fenced area, near surface station	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 12 feet	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.)	REMARKS
					Surface Elevation: ---	
1	SRB27-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2						
3					LEAN CLAY (CL) Black (2.5Y 2.5/1), moist, 95% fines, 5% fine sand, medium plasticity, firm	
4	SRB27-4.5					
5						
6						
7	SRB27-7.0					
8					LEAN CLAY with SAND (CL) Very dark grayish brown (2.5Y 3/2), moist, 85% fines, 15% fine to medium sand, medium plasticity, firm	
9	SRB27-9.5					
10					Color change to olive brown (2.5Y 4/3), soft	
11						
12	SRB27-12.0				CLAYEY SAND (SC) Dark grayish brown (2.5Y 4/2), wet, 70% fine sand, 30% medium plasticity fines, medium dense	
13					Lens of coarse sand	
14	SRB27-14.0				LEAN CLAY with SAND (CL) Very dark grayish brown (2.5Y 3/2), moist, 80% fines, 20% fine to medium sand, medium plasticity, firm	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.013

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-27 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/ Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.	REMARKS
16					LEAN CLAY with SAND (CL) (continued) Bottom of boring at 16 feet.	
17						
18						
19						
20						
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B-2 (12/95)

Project No. 2770.04 | Geomatrix Consultants | Figure ---

2770.04.014

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-28

BORING LOCATION: Inside fenced enclosure, near fuel storage house	ELEVATION AND DATUM: Ground surface
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96 / DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet / MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST 10 feet / COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage
HAMMER WEIGHT: --- / DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker / REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION (NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter.)	REMARKS
					Surface Elevation: ---	
1–2	SRB28-1.5				WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to medium gravel, 10% low plasticity fines, loose	
3–7	SRB28-4.5				LEAN CLAY (CL) Very dark brown (10YR 2/2), moist, 95% fines, 5% fine sand, trace fine gravel, medium plasticity, firm	
7–8	SRB28-7.0					
8–10	SRB28-9.0				LEAN CLAY with SAND (CL) Dark brown (10YR 3/3), moist, 85% fines, 15% fine to coarse sand, trace fine gravel, medium plasticity, firm	
10					Color change to olive (5Y 4/3), soft	
10					Wet, 70% fine sand zone	
11					Wet, 70% fine sand zone	
11–13	SRB28-11.5					
13					Color change to very dark grayish brown (10YR 2/2), sand content increases to 25%	
13–15	SRB28-14.0					

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.015

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-28 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16		X			LEAN CLAY with SAND (CL) (continued) Bottom of boring at 16 feet.	
17						
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B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-29

BORING LOCATION: Near former fuel oil tank	ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.	DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push	TOTAL DEPTH: 16 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1	DEPTH TO WATER: FIRST ---	COMPL. ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)	LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: --- DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
					Surface Elevation: ---	
0					WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
1						
2					LEAN CLAY (CL) Black (10YR 2/1), moist, 95% fines, 5% fine sand, trace fine gravel, medium plasticity, hard	
3						
4						
5					Sand content increases to 30%	
6					Color change to dark olive brown (2.5Y 3/3), soft	
7						
8						
9						
10					Fine sand content increases to 40%	
11						
12						
13					SANDY LEAN CLAY (CL) Dark olive gray (5Y 3/2), moist, 60% fines, 40% fine to medium sand, trace fine gravel, medium plasticity, soft	
14						
15						

B-1 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-29 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16		⊠			LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 95% fines, 5% fine sand, medium plasticity, firm	
					Bottom of boring at 16 feet.	
17						
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B-2 (12/95)

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California		**Log of Boring No. SRB-30**	
BORING LOCATION: Near former fuel oil tank		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/14/96	DATE FINISHED: 11/14/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 19 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER:	FIRST: --- / COMPL.: ---
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker/R. Visage	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight, plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1					WELL-GRADED SAND with SILT and GRAVEL (SW-SP) Grayish brown (2.5Y 5/2), dry, 50% fine to coarse sand, 40% fine to coarse gravel, 10% low plasticity fines, loose	
2					LEAN CLAY (CL) Black (5Y 2.5/1), moist, 95% fines, 5% fine to coarse sand, trace fine to coarse gravel, medium plasticity, hard	
3						
4						
5						
6						
7						
8					LEAN CLAY with SAND (CL) Olive (5Y 4/3), moist, 80% fines, 20% fine sand, medium plasticity, soft	
9						
10					Fine sand content increases to 40%	
11						
12						
13					Color change to dusky red (2.5YR 3/3)	
14					Fine sand content increases to 40%	
15						

B-1 (12/95)

Project No. 2770.04	Geomatrix Consultants	Figure ---

2770.04.019

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-30 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl. geo. inter.	REMARKS
16					LEAN CLAY (CL) Very dark grayish brown (10YR 3/2), moist, 100% fines, trace fine sand, medium plasticity, firm	
17					Color change to very dark gray (2.5Y 3/1)	
18						
19					Bottom of boring at 19 feet.	
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21						
22						
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33						

PROJECT: SANTA ROSA OPTION PROPERTY Santa Rosa, California		**Log of Boring No. SRB-31**	
BORING LOCATION: Near former MW-2		ELEVATION AND DATUM: Ground surface	
DRILLING CONTRACTOR: Precision Sampling, Inc.		DATE STARTED: 11/15/96	DATE FINISHED: 11/15/96
DRILLING METHOD: Direct push		TOTAL DEPTH: 22 feet	MEASURING POINT: ---
DRILLING EQUIPMENT: XD-1		DEPTH TO WATER: FIRST 13 feet	COMPL ----
SAMPLING METHOD: Direct push (6-inch long, 1 1/16-inch O.D.)		LOGGED BY: C. H. Crocker	
HAMMER WEIGHT: ---	DROP: ---	RESPONSIBLE PROFESSIONAL: C. H. Crocker	REG. NO. RG 6114

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. inter. Surface Elevation: ---	REMARKS
1					WELL-GRADED SAND with SILT and GRAVEL (SW-SM) Grayish brown (10YR 5/2), dry, 50% fine to medium sand, 40% fine gravel, 10% low plasticity fines, loose	
2					LEAN CLAY with SAND (CL) Very dark gray (10YR 3/1), moist, 85% fines, 15% fine to coarse sand, trace fine gravel, medium plasticity, firm	
3						
4						
5						
6						
7						
8					Fine gravel up to 20%	
9						
10					Color change to olive brown (2.5Y 4/3)	
11					SANDY LEAN CLAY (CL) Dark olive brown (2.5Y 3/3), moist, 60-70% fines, 30-40% medium to coarse sand, trace fine gravel, medium plasticity, soft	
12						
13					CLAYEY SAND (SC) Dark olive brown (2.5Y 3/3), wet, 70% fine to coarse sand, 30% medium plasticity fines, trace fine gravel, medium dense	
14						
15						

B-1 (12/95)

Project No. 2770.04	**Geomatrix Consultants**	Figure ---

2770.04.021

PROJECT: SANTA ROSA OPTION PROPERTY
Santa Rosa, California

Log of Boring No. SRB-31 (cont.)

DEPTH (feet)	SAMPLES: Sample No.	SAMPLES: Sample	SAMPLES: Blows/Foot	OVM Reading (ppm)	DESCRIPTION: NAME (USCS Symbol): color, moist, % by weight., plast., consistency, structure, cementation, react. w/HCl, geo. Inter.	REMARKS
16					CLAYEY SAND (SC) (continued)	
17					POORLY-GRADED SAND with GRAVEL (SP) Very dark grayish brown (2.5Y 3/2), wet, 60% coarse sand, 35% rounded fine gravel, 5% low plasticity fines, loose Gravel zone	
18						
19						
20					LEAN CLAY (CL) Olive brown (2.5Y 4/3), moist, 90% fines, 10% fine to medium sand, trace fine gravel, medium plasticity, hard	
21						
22					Bottom of boring at 22 feet.	
23						
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29						
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31						
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33						

B-2 (12/95)

GEOMATRIX

APPENDIX D

CHAIN-OF-CUSTODY RECORDS AND LABORATORY ANALYTICAL REPORTS

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 4212

REPORT DATE: 12/07/96

DATE(S) SAMPLED: 11/15/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611230

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 12 (1 water & 11 soil) sample(s).

Client requested 6 soil samples be analyzed for chemical parameters as composited and discrete samples, along with 1 water sample; 5 soil samples were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB30
AEN LAB NO: 9611230-01
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	300 *	100	ug/L	11/21/96
Benzene	71-43-2	ND	5	ug/L	11/21/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/21/96
Bromoform	75-25-2	ND	5	ug/L	11/21/96
Bromomethane	74-83-9	ND	10	ug/L	11/21/96
2-Butanone	78-93-3	ND	100	ug/L	11/21/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/21/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/21/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/21/96
Chloroethane	75-00-3	ND	10	ug/L	11/21/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/21/96
Chloroform	67-66-3	ND	5	ug/L	11/21/96
Chloromethane	74-87-3	ND	10	ug/L	11/21/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/21/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/21/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/21/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/21/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/21/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/21/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/21/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/21/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/21/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/21/96
2-Hexanone	591-78-6	ND	50	ug/L	11/21/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/21/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/21/96
Styrene	100-42-5	ND	5	ug/L	11/21/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/21/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/21/96
Toluene	108-88-3	ND	5	ug/L	11/21/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/21/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/21/96
Trichloroethene	79-01-6	ND	5	ug/L	11/21/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB30
AEN LAB NO: 9611230-01
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/21/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/21/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/21/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-1.0,4.0,6.5
AEN LAB NO: 9611230-02
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	20	mg/kg	11/26/96
TPH as Oil	GC-FID	900 *	100	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	2.6 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	150 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	75 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	25 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/18/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	130 *	1	mg/kg	11/20/96
Lead	EPA 6010	14 *	1	mg/kg	11/20/96
Antimony	EPA 6010	1 *	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	4 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	40 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	53 *	1	mg/kg	11/20/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-9.0,11.5,14.0
AEN LAB NO: 9611230-03
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	56 *	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	1.4 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	150 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	14 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	49 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	21 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/18/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	80 *	1	mg/kg	11/20/96
Lead	EPA 6010	7 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	11 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	27 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	34 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-4.0
AEN LAB NO: 9611230-09
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/27/96
TPH as Oil	GC-FID	69 *	5	mg/kg	11/30/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20-6.5
AEN LAB NO: 9611230-10
AEN WORK ORDER: 9611230
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/27/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/30/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611230

CLIENT PROJECT ID: 2770.04

Quality Control Summary

Acetone is a common laboratory contaminant.

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611230
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611230
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/25/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID, 3630M

AEN JOB NO: 9611230
DATE(S) EXTRACTED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB30	01	79
QC Limits:			56-122

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611230
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	2.98	75	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1127-BLANK
DATE EXTRACTED: 11/27/96
DATE ANALYZED: 11/27/96
INSTRUMENT: A

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
DATE(S) EXTRACTED: 11/20/96; 11/27/96
INSTRUMENT: A
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/26/96	SRB20-1.0,4.0,6.5	02	D
11/26/96	SRB20-9.0,11.5,14.0	03	79
11/30/96	SRB20-4.0	09	99
11/30/96	SRB20-6.5	10	99
QC Limits:			55-115

D: Surrogate diluted out.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611230
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.16	83	55-110

DATE EXTRACTED: 11/27/96
DATE ANALYZED: 11/27/96
SAMPLE SPIKED: LCS
INSTRUMENT: A

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.2	83	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611230
AEN LAB NO: 1121-BLANK
DATE ANALYZED: 11/21/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611230
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/21/96	SRB30	01	84	90	98
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 11/16/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	49.4	99	59-155
Trichloroethene	50.0	53.0	106	71-157
Benzene	50.0	50.6	101	37-151
Toluene	50.0	48.9	98	47-150
Chlorobenzene	50.0	51.5	103	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611230
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/18-20/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.23	5.18	105	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	9.93	10.7	99	7	67-136	15
Ba, Barium	ICP/6010	100	ND	113.0	114.0	113	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.7	10.6	107	1	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	55.1	54.5	108	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	52.3	52.5	105	<1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.407	0.401	102	1	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	54.0	54.0	108	<1	90-120	10
Pb, Lead	ICP/6010	50.0	ND	55.4	54.8	111	1	90-120	10
Se, Selenium	4000/7740	20.0	ND	17.6	18.3	88	4	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	53.3	51.9	107	3	90-115	10

*** END OF REPORT ***

R-3,S-4 R-5,S-0

961230

Chain-of-Custody Record

No 4212

Date: 11/15/96

Page 1 of 3

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (Solid)	PNAs (8310)	Silica Gel Cleanup (1664)	Metals (CAM 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
F	11/15/96	0800	SRB30			X		X		X		X			Y	W	Y	6
		0855	SRB20-1.0					X		X	X		X		Y	S	-	1
A		0858	SRB20-4.0					X		X	X		X		Y	S	-	1
		0900	SRB20-6.5					X		X	X		X		Y	S	-	1
		0905	SRB20-9.0					X		X	X		X		Y	S	-	1
A		0910	SRB20-11.5					X		X	X		X		Y	S	-	1
		0915	SRB20-14.0					X		X	X		X		Y	S	-	1
A		0925	SRB20-16.5					X		X	X		X	X	Y	S	-	1
A		0932	SRB20-20.0					X		X	X		X	X	Y	S	-	1
A		0947	SRB20-23.5					X		X	X		X	X	Y	S	-	1
A		1035	SRB23-19.0					X		X	X		X	X	Y	S	-	1
A		1057	SRB23-22.0					X		X	X		X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite and run as one sample where noted. Please save a portion of each sample for possible future discrete analyses

Composite

Composite

HOLD

Turnaround time: STD

Results to: Charlie Gracia

Total No. of containers: 17

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Gracia		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGA / JRH	
Received by:	Time:	Received by:	Time:	Received by:	Time:
Signature:	1650	Signature:		Signature:	1925
Printed name:		Printed name:		Printed name: Lurena Podkomorski	11/15/96
Company: AGA / JRH		Company:		Company: AGA	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geometrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

R-3, S-4 R-5, S-0

9611231

Chain-of-Custody Record

No 4213

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM17)	Silica Gel Cleanup (1664)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
01A-E	11/15/96	1100	SRB31			X			X		X			X		Y	W	Y	5
02A-E		1120	SRB101			X			X		X			X		Y	W	Y	5
03A		1210	SRB21-20.5						X		X	X	X		X	Y	S	-	1
04A		1225	SRB21-24.0						X		X	X	X		X	Y	S	-	1
05A-E		1300	SRB20			X			X		X			X		Y	W	Y	5
06A-E		1330	SRB23			X			X		X			X		Y	W	Y	5
07A-E		1400	SRB102			X			X		X			X		Y	W	Y	5
08A		1358	SRB26-16.5						X		X	X	X		X	Y	S	-	1
09A		1400	SRB26-19.5						X		X	X	X		X	Y	S	-	1
10A		1403	SRB26-23.0						X		X	X	X		X	Y	S	-	1
11A-E		1445	SRB21			X			X		X		RGA	X		Y	W	Y	5
12A-E		1600	SRB26			X			X		X			X		Y	W	Y	5

HOLD

HOLD

HOLD

REMARKS

Additional comments

See page 1

*Note from page #1
Composit and run as 1 sample when noted. Please save a portion of each sample for possible future discreti analyses
JP 11/15/96

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 40

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment: Pickup
Signature:	11/15/96	Signature:		Signature:	11/15/96	Laboratory comments and Log No.:
Printed name: Charlie Crocker		Printed name:		Printed name:		
Company: Geomatrix		Company:		Company: AGI-ITRI		
Received by:	Time:	Received by:	Time:	Received by:	Time:	
Signature:	1650	Signature:		Signature:	1925	
Printed name:		Printed name:		Printed name: Lucero Podkomorski	19:00	
Company: AGI-ITRI		Company:		Company: A.E.N	11/15/96	

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-5, S-0

9611231 cont.

Chain-of-Custody Record

No 4214

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Total Oil & Grease (5520 E&F)	PNAs (8310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/15/96	1415	SRB24 - 1.0						X		X	X	X	Y	S	-	1	See page 1
	1418	SRB24 - 4.0						X		X	X	X	Y	S	-	1	Composite 13A
	1420	SRB24 - 6.5						X		X	X	X	Y	S	-	1	
	1428	SRB24 - 9.0						X		X	X	X	Y	S	-	1	Composite 14A
	1433	SRB24 - 11.5						X		X	X	X	Y	S	-	1	
	1437	SRB24 - 14.0						X		X	X	X	Y	S	-	1	
	1455	SRB25 - 1.5						X		X	X	X	Y	S	-	1	
	1459	SRB25 - 4.0						X		X	X	X	Y	S	-	1	Composite 15A
	1500	SRB25 - 6.5						X		X	X	X	Y	S	-	1	
	1502	SRB25 - 9.0						X		X	X	X	Y	S	-	1	
	1512	SRB25 - 11.5						X		X	X	X	Y	S	-	1	Composite 16A
	1513	SRB25 - 14.0						X		X	X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment:
Signature:	11/15/96	Signature:		Signature:	11/15/96	Pickup
Printed name: Charlie Crocker		Printed name:		Printed name:		Laboratory comments and Log No.:
Company: Geomatrix		Company:		Company: AGV / JSH		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	1650	Signature:		Signature:	1615	
Printed name:		Printed name:		Printed name:	11/15/96	
Company: AGV / JSH		Company:		Company: AGV	1900	

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611619

December 10, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611231/2770.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received four soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA **AEN I.D.:** 611619
PROJECT #: 2770.04
PROJECT NAME:

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611619-1	SRB24-1.0, 4.0, 6.5	11/15/96	SOIL
611619-2	SRB24-9.0, 11.5, 14.0	11/15/96	SOIL
611619-3	SRB25-1.5, 4.0, 6.5	11/15/96	SOIL
611619-4	SRB25-9.0, 11.5, 14.0	11/15/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA **AEN I.D.:** 611619
PROJECT #: 2770.04
PROJECT NAME:

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-1
CLIENT I.D.:	SRB24-1.0, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	0.019
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.04
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	0.034
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst: CC 12/2/96

Reviewer: PA 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-2
CLIENT I.D.:	SRB24-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	89%

Analyst: GE 12/5/96

American Environmental Network, Inc. Reviewer: p.m. 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-3
CLIENT I.D.:	SRB25-1.5, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	83%

Analyst: CE 12/5/96

Reviewer: [illegible] 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611619-4
CLIENT I.D.:	SRB25-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	64%

Analyst: CE 12/5/96

American Environmental Network, Inc Reviewer: PS 12/5/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611619
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.61	96%	1.37	82%	16
PHENANTHRENE	<	0.0083	0.167	0.142	85%	0.136	81%	4
PYRENE	<	0.017	0.167	0.162	97%	0.155	93%	4
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.148	89%	0.167	100%	12
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.105	63%	0.106	63%	1
SURROGATE:								
BIPHENYL (26% - 126%)				95%		82%		

CONTROL LIMITS

	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: P.M. 12/5/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611619 B
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.32	79%	1.02	61%	26
PHENANTHRENE	<	0.0083	0.167	0.134	80%	0.121	72%	10
PYRENE	<	0.017	0.167	0.144	86%	0.143	86%	1
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.153	92%	0.149	89%	3
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.109	65%	0.110	66%	1
SURROGATE:								
BIPHENYL (26% - 126%)				75%		63%		

CONTROL LIMITS

	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: P ~ 12/6/96

Reporting Information:

1. Client: AEN
Address:
Contact: Bill Spanda
Alt. Contact: Robin Byers

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611619
Lab Destination: AEN OP
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-21-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To:
2. #1

Send Invoice To:
3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 9611331 Client Project I.D. No.: 2710.04

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: 8015C	Comments / Hazards
-1	SRB24-1.0,4.0,6.5		11-15-96	B	Cold	1	JAR	X	Include P.O. # and project I.D. on report and invoice
-2	SRB24-9.0,11.5,14.0		↓	↓	↓	↓	↓	↓	
-3	SRB25-1.5,4.0,6.5		↓	↓	↓	↓	↓	↓	FAX results.
-4	SRB25-9.0,11.5,14.0		↓	↓	↓	↓	↓	↓	

RUSH

Relinquished by: (Signature) Jamie Gillespie	DATE 11-19-96	TIME 1500	Received by: (Signature) Paul Spiegel	DATE 11-20-96 TIME 10:40
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE TIME
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE TIME
Method of Shipment			Lab Comments Return cooler + ice	

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611620

December 9, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611230/2770.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received two soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA
PROJECT #: 2770.04
PROJECT NAME:

AEN I.D.: 611620

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611620-1	SRB20-1.0, 4.0, 6.5	11/15/96	SOIL
611620-2	SRB20-9.0, 11.5, 14.0	11/15/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA **AEN I.D.:** 611620
PROJECT #: 2770.04
PROJECT NAME:

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	60%

Analyst: CE 12/4/96

American Environmental Network, Inc. Reviewer: pm 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-1
CLIENT I.D.:	SRB20-1.0, 4.0, 6.5	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	0.028
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	0.049
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	0.025
SURROGATE:	
BIPHENYL (26% - 126%)	71%

Analyst: CC 12/5/96

Reviewer: [illegible] 12/5/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611620-2
CLIENT I.D.:	SRB20-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/15/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/27/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst GE 12/5/96

Reviewer: [illegible] 12/5/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611620
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.32	79%	1.02	61%	26
PHENANTHRENE	<	0.0083	0.167	0.134	80%	0.121	72%	10
PYRENE	<	0.017	0.167	0.144	86%	0.143	86%	1
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.153	92%	0.149	89%	3
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.109	65%	0.110	66%	1
SURROGATE:								
BIPHENYL (26% - 126%)				75%		63%		

CONTROL LIMITS

	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: pm 12/5/96

Blank In:

American Environmental Network AEN

3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

1. Client: AEN
Address:
Contact: Bill Svoboda
Alt. Contact: Robin Byars

Lab Job Number: 611620
Lab Destination: AEN OR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To:
2. #1

Send Invoice To:
3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 96112310 Client Project I.D. No.: 2770.04

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: 8310	Comments / Hazards
-1	SRB20-1.0,4.0,6.5	/	11-15-96	B	COLD	1	JAR	X	Include P.O.# and project I.D. on Report and Invoice
-2	SRB20-9.0,11.5,14.0	/	↓	↓	↓	1	↓	X	FAX results

RUSH

Relinquished by: (Signature)	Lynda Gillespie	DATE 11-19-96	TIME 1500
Received by: (Signature)		DATE	TIME
Relinquished by: (Signature)		DATE	TIME
Received by: (Signature)		DATE	TIME
Relinquished by: (Signature)		DATE	TIME
Received by: (Signature)		DATE	TIME
Method of Shipment		Lab Comments	

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 4213,4214

REPORT DATE: 12/07/96

DATE(S) SAMPLED: 11/15/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611231

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 24 (17 soil & 7 water) sample(s).

Client requested 12 soil samples be composited and analyzed with discrete water samples for chemical parameters; five soil samples were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB31
AEN LAB NO: 9611231-01
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB31
AEN LAB NO: 9611231-01
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB101
AEN LAB NO: 9611231-02
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB101
AEN LAB NO: 9611231-02
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20
AEN LAB NO: 9611231-05
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/25/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/25/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB20
AEN LAB NO: 9611231-05
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23
AEN LAB NO: 9611231-06
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23
AEN LAB NO: 9611231-06
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB102
AEN LAB NO: 9611231-07
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	**EPA 8240**				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB102
AEN LAB NO: 9611231-07
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21
AEN LAB NO: 9611231-11
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21
AEN LAB NO: 9611231-11
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26
AEN LAB NO: 9611231-12
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	100	ug/L	11/22/96
Benzene	71-43-2	ND	5	ug/L	11/22/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/22/96
Bromoform	75-25-2	ND	5	ug/L	11/22/96
Bromomethane	74-83-9	ND	10	ug/L	11/22/96
2-Butanone	78-93-3	ND	100	ug/L	11/22/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/22/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/22/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/22/96
Chloroethane	75-00-3	ND	10	ug/L	11/22/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/22/96
Chloroform	67-66-3	ND	5	ug/L	11/22/96
Chloromethane	74-87-3	ND	10	ug/L	11/22/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/22/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/22/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/22/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/22/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/22/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/22/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/22/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/22/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/22/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/22/96
2-Hexanone	591-78-6	ND	50	ug/L	11/22/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/22/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/22/96
Styrene	100-42-5	ND	5	ug/L	11/22/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/22/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/22/96
Toluene	108-88-3	ND	5	ug/L	11/22/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/22/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/22/96
Trichloroethene	79-01-6	ND	5	ug/L	11/22/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26
AEN LAB NO: 9611231-12
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/22/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/22/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/22/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB24-1.0,4.0,6.5
AEN LAB NO: 9611231-13
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	1.6 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	180 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	69 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	100 *	1	mg/kg	11/20/96
Lead	EPA 6010	18 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	17 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	39 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	49 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB24-9.0.11.5.14.0
AEN LAB NO: 9611231-14
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/20/96
Barium	EPA 6010	180 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	62 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	98 *	1	mg/kg	11/20/96
Lead	EPA 6010	8 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	16 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	29 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	36 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB25-1.5,4.0,6.5
AEN LAB NO: 9611231-15
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/20/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	0.8 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	210 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	21 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	76 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	130 *	1	mg/kg	11/20/96
Lead	EPA 6010	8 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	19 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	42 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	47 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB25-9.0,11.5,14.0
AEN LAB NO: 9611231-16
AEN WORK ORDER: 9611231
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/15/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/07/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/19/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/19/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/20/96
Arsenic	EPA 7060	0.7 *	0.5	mg/kg	11/20/96
Barium	EPA 6010	170 *	1	mg/kg	11/20/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/20/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/20/96
Cobalt	EPA 6010	11 *	0.2	mg/kg	11/20/96
Chromium	EPA 6010	64 *	0.5	mg/kg	11/20/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/20/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/25/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/20/96
Nickel	EPA 6010	97 *	1	mg/kg	11/20/96
Lead	EPA 6010	7 *	1	mg/kg	11/20/96
Antimony	EPA 6010	ND	1	mg/kg	11/20/96
Selenium	EPA 7740	ND	1	mg/kg	11/20/96
Thallium	EPA 6010	18 *	1	mg/kg	11/20/96
Vanadium	EPA 6010	30 *	0.5	mg/kg	11/20/96
Zinc	EPA 6010	38 *	1	mg/kg	11/20/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611231

CLIENT PROJECT ID: 2770.04

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611231
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611231
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/25/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID, 3630M

AEN JOB NO: 9611231
DATE(S) EXTRACTED: 11/20/96; 11/21/96
INSTRUMENT: C
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB31	01	89
11/25/96	SRB101	02	81
11/25/96	SRB20	05	96
11/26/96	SRB23	06	81
11/26/96	SRB102	07	91
11/26/96	SRB21	11	93
11/26/96	SRB26	12	89
QC Limits:			56-122

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/20/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: WATER

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	2.98	75	60-110

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	3.46	86	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
AEN LAB NO: 1120-BLANK
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96; 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/22/96	SRB24-1.0,4.0,6.5	13	84
11/22/96	SRB24-9.0,11.5,14.0	14	101
11/22/96	SRB25-1.5,4.0,6.5	15	98
11/22/96	SRB25-9.0,11.5,14.0	16	64
QC Limits:			55-115

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611231
DATE EXTRACTED: 11/20/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	37.32	93	55-110

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	28.84	72	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611231
AEN LAB NO: 1122-BLANK
DATE ANALYZED: 11/22/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611231
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/22/96	SRB31	01	88	90	93
11/22/96	SRB101	02	88	93	93
11/22/96	SRB20	05	86	91	94
11/22/96	SRB23	06	83	90	94
11/22/96	SRB102	07	85	92	89
11/22/96	SRB21	11	82	90	92
11/22/96	SRB26	12	89	89	93
QC Limits:			76-114	88-110	86-115

DATE ANALYZED: 11/25/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	51.4	103	59-155
Trichloroethene	50.0	55.0	110	71-157
Benzene	50.0	60.7	121	37-151
Toluene	50.0	48.6	97	47-150
Chlorobenzene	50.0	52.8	106	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611231
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/20-25/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.23	5.18	105	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	9.93	10.7	99	7	67-136	15
Ba, Barium	ICP/6010	100	ND	113.0	114.0	113	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.7	10.6	107	1	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	55.1	54.5	108	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	52.3	52.5	105	<1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.405	0.399	101	1	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	54.0	54.0	108	<1	90-120	10
Pb, Lead	ICP/6010	50.0	ND	55.4	54.8	111	1	90-120	10
Se, Selenium	4000/7740	20.0	ND	17.6	18.3	88	4	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	53.3	51.9	107	3	90-115	10

*** END OF REPORT ***

R-3,5-4 R-5,5-0

96/1230

Chain-of-Custody Record

No. 4212

Date: 11/15/96

Page 1 of 3

Project No.: 2770.04

Samplers (Signatures):

	Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Hydrocarbon (Boiling Point)	PNAs (8310)	Silica Gel Cleanup (3630)	Metals (CAM 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
01A-F	11/15/96	0800	SRB30			X			X		X		X			Y	W	Y	6	Composite and run as one sample unless noted. Please save a portion of each sample for possible future discrete analyses
		0865	SRB20-1.0						X		X	X		X		Y	S	-	1	
02A		0858	SRB20-4.0						X		X	X		X		Y	S	-	1	Composite
		0900	SRB20-6.5						X		X	X		X		Y	S	-	1	
		0905	SRB20-9.0						X		X	X		X		Y	S	-	1	
03A		0910	SRB20-11.5						X		X	X		X		Y	S	-	1	Composite
		0915	SRB20-14.0						X		X	X		X		Y	S	-	1	
04A		0925	SRB20-16.5						X		X	X		X	X	Y	S	-	1	
05A		0932	SRB20-20.0						X		X	X		X	X	Y	S	-	1	HOLD
06A		0947	SRB20-23.5						X		X	X		X	X	Y	S	-	1	
07A		1035	SRB23-19.0						X		X	X		X	X	Y	S	-	1	
08A		1057	SRB23-22.0						X		X	X		X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Gracka

Total No. of containers: 17

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Gracka	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Gracka		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI / JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1650	Signature:		Signature: Lorena Podkowacki	1925
Printed name:		Printed name:		Printed name: Lorena Podkowacki	11/15/96
Company: AGI / JRH		Company:		Company: AGI	

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA. 94111
(415) 434-9400

R-3, S-4 R-5, S-0

9611231

Chain-of-Custody Record

No 4213

Date: 11/15/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM17)	Silica Gel Cleanup (1664)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/15/96	1100	SRB81			X			X		X			X		Y	W	Y	5
	1120	SRB101			X			X		X			X		Y	W	Y	5
11/15/96	1210	SRB21-20.5						X		X	X	X		X	Y	S	-	1
11/15/96	1225	SRB21-24.0						X		X	X	X		X	Y	S	-	1
	1300	SRB20			X			X		X			X		Y	W	Y	5
	1330	SRB23			X			X		X			X		Y	W	Y	5
	1400	SRB102			X			X		X			X		Y	W	Y	5
	1358	SRB26-16.5						X		X	X	X		X	Y	S	-	1
	1400	SRB26-19.5						X		X	X	X		X	Y	S	-	1
	1403	SRB26-23.0						X		X	X	X		X	Y	S	-	1
	1445	SRB21			X			X		X	RG		X		Y	W	Y	5
	1600	SRB26			X			X		X	RG		X		Y	W	Y	5

HOLD

HOLD

Additional comments

See page 1

*Note from page #1
Composit and run as 1 sample when noted. Please save a portion of each sample for possible future discrete analyses
JP 11/15/96

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 40

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN/TRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1825
Printed name:		Printed name:		Printed name: Lucera Podkomorski	19:00
Company: AEN/TRH		Company:		Company: A.E.N	11/15/96

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

R-5, 5-0

9611231 cont.

Chain-of-Custody Record

No 4214

Date: 11/15/96

Page 3 of 3

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Reinder [Basin]	PNAs (8310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/15/96	1415	SRB24 - 1.0						X		X	X	X	Y	S	-	1	See page 1
	1418	SRB24 - 4.0						X		X	X	X	Y	S	-	1	Composite 13A
	1420	SRB24 - 6.5						X		X	X	X	Y	S	-	1	
	1428	SRB24 - 9.0						X		X	X	X	Y	S	-	1	Composite 14A
	1433	SRB24 - 11.5						X		X	X	X	Y	S	-	1	
	1437	SRB24 - 14.0						X		X	X	X	Y	S	-	1	
	1455	SRB25 - 1.5						X		X	X	X	Y	S	-	1	Composite 15A
	1459	SRB25 - 4.0						X		X	X	X	Y	S	-	1	
	1500	SRB25 - 6.5						X		X	X	X	Y	S	-	1	
	1502	SRB25 - 9.0						X		X	X	X	Y	S	-	1	Composite 16A
	1512	SRB25 - 11.5						X		X	X	X	Y	S	-	1	
↓	1513	SRB25 - 14.0						X		X	X	X	Y	S	-	1	

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:	Method of shipment: Pickup.
Signature:	11/15/96	Signature:		Signature:	11/15/96	Laboratory comments and Log No.:
Printed name: Charlie Crocker		Printed name:		Printed name:		
Company: Geomatrix		Company:		Company: AGI / 524		
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**	
Signature:	1650	Signature:		Signature:	1825	
Printed name:		Printed name:		Printed name:	11/15/96	
Company: AGI / 524		Company:		Company: AGI	19:00	

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

GEOMATRIX CONSULTANTS
100 PINE ST., SUITE 1000
SAN FRANCISCO, CA 94111

ATTN: CHARLIE CROCKER
CLIENT PROJ. ID: 2770.04

C.O.C. NUMBER: 7828,7829,4344,7825

REPORT DATE: 12/09/96

DATE(S) SAMPLED: 11/14/96

DATE RECEIVED: 11/15/96

AEN WORK ORDER: 9611232

PROJECT SUMMARY:

On November 15, 1996, this laboratory received 45 (41 soil & 4 water) sample(s).

Client requested 32 soil samples be composited and analyzed with discrete water samples for chemical parameters; nine soil samples and one water sample were placed on hold. Portions for EPA 8310 were subcontracted to a DOHS certified laboratory; subcontract report will follow at a later date. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

Larry Klein
Laboratory Director

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26-1.5,4.0,6.5
AEN LAB NO: 9611232-01
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	12 *	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.8 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	19 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	81 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	1 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	23 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	47 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	47 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB26-10.5,12.0,14.5
AEN LAB NO: 9611232-02
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.5 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	190 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	88 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	26 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	41 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	49 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB27-1.5
AEN LAB NO: 9611232-03
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	72 *	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	7.6 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	57 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	10 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	29 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	0.13 *	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	40 *	1	mg/kg	11/25/96
Lead	EPA 6010	23 *	1	mg/kg	11/25/96
Antimony	EPA 6010	0.6 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	12 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	38 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	48 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB27-4.5
AEN LAB NO: 9611232-04
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	64 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	29 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	89 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	20 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	43 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB28-1.5,4.5,7.0
AEN LAB NO: 9611232-09
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	130 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	5.0 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	16 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	73 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	0.12 *	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	11 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	47 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	49 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB28-9.0,11.5,14.0
AEN LAB NO: 9611232-10
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/24/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/24/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.2 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	21 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	79 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	24 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	6 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	21 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	36 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	41 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-1.5,4.0
AEN LAB NO: 9611232-11
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	130 *	5	mg/kg	11/22/96
TPH as Oil	GC-FID	510 *	20	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.3 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	82 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	24 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	46 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	47 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-7.0
AEN LAB NO: 9611232-12
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	1,600 *	20	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	100	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.4 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	81 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	31 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	39 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	44 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-9.0
AEN LAB NO: 9611232-13
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	960 *	10	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	50	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	0.9 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	220 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	92 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	32 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	26 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	40 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	50 *	1	mg/kg	11/25/96

Reporting limits elevated for diesel and oil due to high levels of target compounds. Sample run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-11.0
AEN LAB NO: 9611232-14
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	150 *	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	8.6 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	72 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	83 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	17 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	25 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	40 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB21-13.5
AEN LAB NO: 9611232-15
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/25/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/25/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	160 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.6 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	14 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	56 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	23 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	92 *	1	mg/kg	11/25/96
Lead	EPA 6010	8 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	18 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	20 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	37 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23-1.5,4.5,7.5
AEN LAB NO: 9611232-16
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	5 *	1	mg/kg	11/22/96
TPH as Oil	GC-FID	28 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	3.1 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	130 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	15 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	62 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	93 *	1	mg/kg	11/25/96
Lead	EPA 6010	10 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	52 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB23-10.0,13.0,14.5
AEN LAB NO: 9611232-17
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	3.2 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	73 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	12 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	39 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	20 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	69 *	1	mg/kg	11/25/96
Lead	EPA 6010	4 *	1	mg/kg	11/25/96
Antimony	EPA 6010	1 *	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	15 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	35 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	34 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-1.5.4.0.7.0
AEN LAB NO: 9611232-18
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/22/96
TPH as Oil	GC-FID	43 *	5	mg/kg	11/22/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.3 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	1.9 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	150 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	19 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	70 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	26 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	130 *	1	mg/kg	11/25/96
Lead	EPA 6010	10 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	8 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	43 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	48 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-10.5
AEN LAB NO: 9611232-19
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/23/96
TPH as Oil	GC-FID	120 *	5	mg/kg	11/23/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	4.6 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.4 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	17 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	65 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	120 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	20 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	37 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	44 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-12.5
AEN LAB NO: 9611232-20
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	67 *	1	mg/kg	11/23/96
TPH as Oil	GC-FID	210 *	5	mg/kg	11/23/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	2.1 *	0.5	mg/kg	11/23/96
Barium	EPA 6010	180 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.5 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	13 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	70 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	25 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	110 *	1	mg/kg	11/25/96
Lead	EPA 6010	7 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	22 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	33 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	42 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22-14.5
AEN LAB NO: 9611232-21
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3550	-		Extrn Date	11/22/96
TPH as Diesel	GC-FID	ND	1	mg/kg	11/26/96
TPH as Oil	GC-FID	ND	5	mg/kg	11/26/96
#Digestion, Metals by GFAA	EPA 3050	-		Prep Date	11/21/96
#Digestion, Metals AA/ICP	EPA 3050	-		Prep Date	11/21/96
CCR 17 Metals					
Silver	EPA 6010	0.2 *	0.1	mg/kg	11/25/96
Arsenic	EPA 7060	ND	0.5	mg/kg	11/23/96
Barium	EPA 6010	190 *	1	mg/kg	11/25/96
Beryllium	EPA 6010	0.7 *	0.1	mg/kg	11/25/96
Cadmium	EPA 6010	ND	0.2	mg/kg	11/25/96
Cobalt	EPA 6010	18 *	0.2	mg/kg	11/25/96
Chromium	EPA 6010	63 *	0.5	mg/kg	11/25/96
Copper	EPA 6010	28 *	0.5	mg/kg	11/25/96
Mercury	EPA 7471	ND	0.06	mg/kg	11/26/96
Molybdenum	EPA 6010	ND	0.2	mg/kg	11/25/96
Nickel	EPA 6010	100 *	1	mg/kg	11/25/96
Lead	EPA 6010	9 *	1	mg/kg	11/25/96
Antimony	EPA 6010	ND	1	mg/kg	11/25/96
Selenium	EPA 7740	ND	1	mg/kg	11/23/96
Thallium	EPA 6010	23 *	1	mg/kg	11/25/96
Vanadium	EPA 6010	30 *	0.5	mg/kg	11/25/96
Zinc	EPA 6010	46 *	1	mg/kg	11/25/96

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB29
AEN LAB NO: 9611232-22
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB29
AEN LAB NO: 9611232-22
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limit elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22
AEN LAB NO: 9611232-23
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB22
AEN LAB NO: 9611232-23
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limit elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB100
AEN LAB NO: 9611232-24
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Silica gel Cleanup	EPA 3630M	-		Cleanup	11/25/96
#Extraction for TPH	EPA 3510	-		Extrn Date	11/21/96
TPH as Diesel	GC-FID	ND	0.05	mg/L	11/26/96
TPH as Oil	GC-FID	ND	0.2	mg/L	11/26/96
Volatile Organic Compounds	EPA 8240				
Acetone	67-64-1	ND	200	ug/L	11/25/96
Benzene	71-43-2	ND	5	ug/L	11/25/96
Bromodichloromethane	75-27-4	ND	5	ug/L	11/25/96
Bromoform	75-25-2	ND	5	ug/L	11/25/96
Bromomethane	74-83-9	ND	10	ug/L	11/25/96
2-Butanone	78-93-3	ND	100	ug/L	11/25/96
Carbon Disulfide	75-15-0	ND	10	ug/L	11/25/96
Carbon Tetrachloride	56-23-5	ND	5	ug/L	11/25/96
Chlorobenzene	108-90-7	ND	5	ug/L	11/25/96
Chloroethane	75-00-3	ND	10	ug/L	11/25/96
2-Chloroethyl Vinyl Ether	110-75-8	ND	10	ug/L	11/25/96
Chloroform	67-66-3	ND	5	ug/L	11/25/96
Chloromethane	74-87-3	ND	10	ug/L	11/25/96
Dibromochloromethane	124-48-1	ND	5	ug/L	11/25/96
1,1-Dichloroethane	75-34-3	ND	5	ug/L	11/25/96
1,2-Dichloroethane	107-06-2	ND	5	ug/L	11/25/96
1,1-Dichloroethene	75-35-4	ND	5	ug/L	11/25/96
cis-1,2-Dichloroethene	156-59-2	ND	5	ug/L	11/25/96
trans-1,2-Dichloroethene	156-60-5	ND	5	ug/L	11/25/96
1,2-Dichloropropane	78-87-5	ND	5	ug/L	11/25/96
cis-1,3-Dichloropropene	10061-01-5	ND	5	ug/L	11/25/96
trans-1,3-Dichloropropene	10061-02-6	ND	5	ug/L	11/25/96
Ethylbenzene	100-41-4	ND	5	ug/L	11/25/96
2-Hexanone	591-78-6	ND	50	ug/L	11/25/96
Methylene Chloride	75-09-2	ND	20	ug/L	11/25/96
4-Methyl-2-pentanone	108-10-1	ND	50	ug/L	11/25/96
Styrene	100-42-5	ND	5	ug/L	11/25/96
1,1,2,2-Tetrachloroethane	79-34-5	ND	5	ug/L	11/25/96
Tetrachloroethene	127-18-4	ND	5	ug/L	11/25/96
Toluene	108-88-3	ND	5	ug/L	11/25/96
1,1,1-Trichloroethane	71-55-6	ND	5	ug/L	11/25/96
1,1,2-Trichloroethane	79-00-5	ND	5	ug/L	11/25/96
Trichloroethene	79-01-6	ND	5	ug/L	11/25/96

GEOMATRIX CONSULTANTS

SAMPLE ID: SRB100
AEN LAB NO: 9611232-24
AEN WORK ORDER: 9611232
CLIENT PROJ. ID: 2770.04

DATE SAMPLED: 11/14/96
DATE RECEIVED: 11/15/96
REPORT DATE: 12/09/96

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
Vinyl Acetate	108-05-4	ND	50	ug/L	11/25/96
Vinyl Chloride	75-01-4	ND	10	ug/L	11/25/96
Xylenes, Total	1330-20-7	ND	10	ug/L	11/25/96

Reporting limits elevated for acetone by EPA 8240 due to background contamination.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9611232

CLIENT PROJECT ID: 2770.04

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spike(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analysis.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrumental performance.

D: Surrogates diluted out.

#: Indicates result outside of established laboratory QC limits.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9611232
AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/22/96
INSTRUMENT: C
MATRIX: WATER

Method Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

METHOD: EPA 3630M

AEN JOB NO: 9611232
DATE CLEANUP: 11/25/96
DATE ANALYZED: 11/26/96
INSTRUMENT: C
MATRIX: WATER

Silica Gel Cleanup Blank

	Result (mg/L)	Reporting Limit (mg/L)
Diesel	ND	0.05
Oil	ND	0.2

QUALITY CONTROL DATA

AEN JOB NO: 9611232
DATE(S) EXTRACTED: 11/21/96
INSTRUMENT: C
MATRIX: WATER

METHOD: EPA 3510 GCFID, 3630M
Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/26/96	SRB29	22	89
11/26/96	SRB22	23	84
11/26/96	SRB100	24	83
QC Limits:			56-122

DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/22/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

METHOD: EPA 3510 GCFID
Laboratory Control Sample

Analyte	Spike Added (mg/L)	LCS Result (mg/L)	Percent Recovery	QC Limits Percent Recovery
Diesel	4.00	3.46	86	60-110

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
AEN LAB NO: 1121-BLANK
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
INSTRUMENT: C
MATRIX: SOIL

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

AEN LAB NO: 1122-BLANK
DATE EXTRACTED: 11/22/96
DATE ANALYZED: 11/22/96
INSTRUMENT: C

Method Blank

	Result (mg/kg)	Reporting Limit (mg/kg)
Diesel	ND	1
Oil	ND	5

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
DATE EXTRACTED: 11/21/96; 11/22/96
INSTRUMENT: A, C
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery n-Pentacosane
11/25/96	SRB26-1.5,4.0,6.5	01	67
11/24/96	SRB26-10.5,12.0,14.5	02	69
11/25/96	SRB27-1.5	03	65
11/24/96	SRB27-4.5	04	67
11/22/96	SRB28-1.5,4.5,7.0	09	91
11/24/96	SRB28-9.0,11.5,14.0	10	58
11/22/96	SRB21-1.5,4.0	11	79
11/25/96	SRB21-7.0	12	D
11/25/96	SRB21-9.0	13	55
11/26/96	SRB21-11.0	14	64
11/25/96	SRB21-13.5	15	71
11/22/96	SRB23-1.5,4.5,7.5	16	92
11/26/96	SRB23-10.0,13.0,14.5	17	84
11/22/96	SRB22-1.5,4.0,7.0	18	88
11/23/96	SRB22-10.5	19	82
11/23/96	SRB22-12.5	20	84
11/26/96	SRB22-14.5	21	88
QC Limits:			55-115

D: Surrogate diluted out.

QUALITY CONTROL DATA

METHOD: EPA 3550 GCFID

AEN JOB NO: 9611232
DATE EXTRACTED: 11/21/96
DATE ANALYZED: 11/21/96
SAMPLE SPIKED: LCS
INSTRUMENT: C
MATRIX: SOIL

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	28.84	72	55-110

DATE EXTRACTED: 11/22/96
DATE ANALYZED: 11/22/96
SAMPLE SPIKED: LCS
INSTRUMENT: C

Laboratory Control Sample

Analyte	Spike Added (mg/kg)	LCS Result (mg/kg)	Percent Recovery	QC Limits Percent Recovery
Diesel	40.0	33.68	84	55-110

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
AEN LAB NO: 1125-BLANK
DATE ANALYZED: 11/25/96
INSTRUMENT: 13
MATRIX: WATER

Method Blank

Analyte	CAS #	Result (ug/L)	Reporting Limit (ug/L)
Acetone	67-64-1	ND	100
Benzene	71-43-2	ND	5
Bromodichloromethane	75-27-4	ND	5
Bromoform	75-25-2	ND	5
Bromomethane	74-83-9	ND	10
2-Butanone	78-93-3	ND	100
Carbon Disulfide	75-15-0	ND	10
Carbon Tetrachloride	56-23-5	ND	5
Chlorobenzene	108-90-7	ND	5
Chloroethane	75-00-3	ND	10
2-Chloroethyl Vinyl Ether	110-75-8	ND	10
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	10
Dibromochloromethane	124-48-1	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
1,1-Dichloroethane	75-34-3	ND	5
1,2-Dichloroethane	107-06-2	ND	5
1,1-Dichloroethene	75-35-4	ND	5
cis-1,2-Dichloroethene	156-59-2	ND	5
trans-1,2-Dichloroethene	156-60-5	ND	5
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	5
Ethylbenzene	100-41-4	ND	5
2-Hexanone	591-78-6	ND	50
Methylene Chloride	75-09-2	ND	20
4-Methyl-2-pentanone	108-10-1	ND	50
Styrene	100-42-5	ND	5
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
Toluene	108-88-3	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	5
Trichloroethene	79-01-6	ND	5
Vinyl Acetate	108-05-4	ND	50
Vinyl Chloride	75-01-4	ND	10
Xylenes, total	1330-20-7	ND	10

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
INSTRUMENT: 13
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery 1,2-Dichloroethane-d_4	Toluene-d_8	p-Bromofluorobenzene
11/25/96	SRB29	22	91	102	100
11/25/96	SRB22	23	95	94	93
11/25/96	SRB100	24	94	96	100
QC Limits:			76-114	88-110	86-115

QUALITY CONTROL DATA

METHOD: EPA 8240

AEN JOB NO: 9611232
DATE ANALYZED: 11/25/96
SAMPLE SPIKED: 9611232-22 (SRB29)
INSTRUMENT: 13
MATRIX: WATER

Matrix Spike Recovery Summary

Analyte	Spike Conc. (ug/L)	Sample Result (ug/L)	MS Result (ug/L)	MSD Result (ug/L)	Average Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	50	ND	54.7	52.8	108	4	59-155	25
Trichloroethene	50	ND	46.7	52.7	99	12	71-157	25
Benzene	50	ND	53.0	63.8	117	18	37-151	25
Toluene	50	ND	46.7	49.6	96	6	47-150	25
Chlorobenzene	50	ND	53.8	55.7	110	3	37-160	25

DATE ANALYZED: 11/25/96
SAMPLE SPIKED: LCS
INSTRUMENT: 13

Laboratory Control Sample

Analyte	Spike Added (ug/L)	LCS Result (ug/L)	Percent Recovery	QC Limits Percent Recovery
1,1-Dichloroethene	50.0	51.4	103	59-155
Trichloroethene	50.0	55.0	110	71-157
Benzene	50.0	60.7	121	37-151
Toluene	50.0	48.6	97	47-150
Chlorobenzene	50.0	52.8	106	37-160

QUALITY CONTROL DATA

AEN JOB NO: 9611232
SAMPLE SPIKED: SAND
DATE(S) ANALYZED: 11/23-26/96
MATRIX: SOIL

Method Blank and Spike Recovery Summary

Analyte	Inst./ Method	Spike Conc. (mg/kg)	Blank Result (mg/kg)	MS Result (mg/kg)	MSD Result (mg/kg)	MS Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Ag, Silver	ICP/6010	5.0	ND	5.17	5.24	103	1	60-120	10
As, Arsenic	4000/7060	10.0	ND	10.3	10.1	103	2	67-136	15
Ba, Barium	ICP/6010	100	ND	106.0	107.0	106	1	80-115	10
Cd, Cadmium	ICP/6010	10.0	ND	10.1	10.3	101	2	90-120	10
Cr, Chromium	ICP/6010	50.0	ND	51.7	52.4	103	1	90-120	10
Cu, Copper	ICP/6010	50.0	ND	51.8	52.5	104	1	90-115	10
Hg, Mercury	Hg/7471	0.4	ND	0.411	0.399	103	3	79-118	15
Ni, Nickel	ICP/6010	50.0	ND	50.7	51.6	101	2	90-120	10
Pb, Lead	ICP/6010	50.0	ND	51.1	52.3	102	2	90-120	10
Se, Selenium	4000/7740	20.0	ND	20.2	19.7	101	3	71-115	13
Zn, Zinc	ICP/6010	50.0	ND	49.5	50.2	99	1	90-115	10

*** END OF REPORT ***

R-3,5-4 R-5,5-G soil

9611232

Chain-of-Custody Record

№ 7828

Date: 11/14/96

Page 1 of 4

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015M)	PNAs (8310)	Metals (CAM17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	0745	SRB26-1.5						X		X	X	X		Y	S	-	1
	0748	SRB26-4.0						X		X	X	X		Y	S	-	1
	0755	SRB26-6.5						X		X	X	X		Y	S	-	1
	0804	SRB26-10.5						X		X	X	X		Y	S	-	1
	0812	SRB26-12.0						X		X	X	X		Y	S	-	1
	0815	SRB26-14.5						X		X	X	X		Y	S	-	1
	0846	SRB27-1.5						X		X	X	X		Y	S	-	1
	0851	SRB27-4.5						X		X	X	X		Y	S	-	1
	0858	SRB27-7.0						X		X	X	X	X	Y	S	-	1
	0859	SRB27-9.5						X		X	X	X	X	Y	S	-	1
	0905	SRB27-12.0						X		X	X	X	X	Y	S	-	1
	0915	SRB27-14.0						X		X	X	X	X	Y	S	-	1

ANALYSES

REMARKS

Additional comments

Composite and run one sample where noted. Please save a portion of each for possible future discrete analysis.

Composite

Composite.

as 2 separate samples

Composite

1 RV

Composite

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN / IRH	1825
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1650	Signature:		Signature: Lurena Podkowski	825
Printed name:		Printed name:		Printed name: Lurena Podkowski	11/5
Company: AEN / IRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont

Chain-of-Custody Record

№ 7829

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPHm (8015 Mod)	PNAs (8310)	Metals (CAM17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	
11/14/96	0935	SRB28 - 1.5						X		X	X	X	Y	S	-	1	
	0940	SRB28 - 4.5						X		X	X	X	Y	S	-	1	Composite
	0945	SRB28 - 7.0						X		X	X	X	Y	S	-	1	
	0948	SRB28 - 9.0						X		X	X	X	Y	S	-	1	
	0952	SRB28 - 11.5						X		X	X	X	Y	S	-	1	Composite
	1000	SRB28 - 14.0						X		X	X	X	Y	S	-	1	
	1215	SRB21 - 1.5						X		X	X	X	Y	S	-	1	
	1220	SRB21 - 4.0						X		X	X	X	Y	S	-	1	Composite (two)
	1222	SRB21 - 7.0						X		X	X	X	Y	S	-	1	
	1225	SRB21 - 9.0						X		X	X	X	Y	S	-	1	Analyze as 4 separate samples
	1226	SRB21 - 11.0						X		X	X	X	Y	S	-	1	
	1230	SRB21 - 13.5						X		X	X	X	Y	S	-	1	

ANALYSES

REMARKS

Additional comments: see page 1

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN/JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1650	Signature:		Signature: Lorena Podkowacki	1825
Printed name:		Printed name:		Printed name: Lorena Podkowacki	11/15
Company: AEN/JRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont.

Chain-of-Custody Record

Nº 4344 | Date: 11/14/96 | Page 3 of 4

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (Resin)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	1311	SRB23-1.5						X		X	X	X	Y	S	-	1	See page 1
A	1320	SRB23-4.5						X		X	X	X	Y	S	-	1	Composite
	1322	SRB23-7.5						X		X	X	X	Y	S	-	1	
	1329	SRB23-10.0						X		X	X	X	Y	S	-	1	
A	1333	SRB23-13.0						X		X	X	X	Y	S	-	1	Composite
	1335	SRB23-14.5						X		X	X	X	Y	S	-	1	
	1430	SRB22-1.5						X		X	X	X	Y	S	-	1	
A	1437	SRB22-4.0						X		X	X	X	Y	S	-	1	Composite
	1441	SRB22-7.0						X		X	X	X	Y	S	-	1	
A	1445	SRB22-10.5						X		X	X	X	Y	S	-	1	
A	1447	SRB22-12.5						X		X	X	X	Y	S	-	1	~~Composite~~ JRV
A	1450	SRB22-14.5						X		X	X	X	Y	S	-	1	Analyse as 3 separate samples

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGI / JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ron Hamilton	1450	Signature:		Signature: Lucera Podkowski	1935
Printed name:		Printed name:		Printed name: Lucera Podkowski	11/5/96
Company: AGI / JRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

961232 cont.

Chain-of-Custody Record

№ 7825

Date: 11/14/96

Page 4 of 4

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (8015m)	PNAs (8310)	Metals (CAM17)	HOLD	Silica Gel Cleanup	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	1430	SRB29			X			X		X				X	Y	W	Y	6
	1630	SRB22			X			X		X				X	Y	W	Y	5
	1645	SRB100			X			X		X				X	Y	W	Y	5
11/14/96	1232	SRB21 - 15.5						X		X	X	X	X		Y	S	-	1
	1241	SRB21 - 18.0						X		X	X	X	X		Y	S	-	1
	1510	SRB22 - 17.0						X		X	X	X	X		Y	S	-	1
	1527	SRB22 - 19.0						X		X	X	X	X		Y	S	-	1
	1535	SRB22 - 22.0						X		X	X	X	X		Y	S	-	1
	1540	SRB28			X			X		X			X	X	Y	W	Y	5

ANALYSES

REMARKS

Additional comments: See page 1

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 26

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: MEA / JRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature	1825
Printed name:		Printed name:		Printed name: Lurena Radkowski	11/15
Company: MEA / JRH		Company:		Company: A.E.N	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St. 10th Floor
San Francisco, CA 94111
(415) 434-9400

American Environmental Network, Inc.

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 684-0447

AEN I.D. 611618

December 5, 1996

Bill Svoboda
AEN - California
3440 Vincent Rd.
Pleasant Hill, CA 94523

Project Name/Number: 9611232/277.04

Attention: Bill Svoboda

On November 20, 1996, American Environmental Network (OR), Inc. received seventeen soil samples for analysis for the above listed project. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed. The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions or comments, please do not hesitate to contact us at (503)684-0447.

Andi Hoevet
Project Manager

Steven E. Stanley
Laboratory Manager

AH/SES:alm
Enclosure

SAMPLE CROSS REFERENCE SHEET

CLIENT: AEN-CA **AEN I.D.:** 611618
PROJECT #: 2770.04
PROJECT NAME:

AEN #	CLIENT DESCRIPTION	DATE SAMPLED	MATRIX
611618-1	SRB26-1.5, 4.0, 6.5	11/14/96	SOIL
611618-2	SRB26-10.5, 12.0, 14.5	11/14/96	SOIL
611618-3	SRB27-1.5	11/14/96	SOIL
611618-4	SRB27-4.5	11/14/96	SOIL
611618-5	SRB28-1.5, 4.5, 7.0	11/14/96	SOIL
611618-6	SRB28-9.0, 11.5, 14.0	11/14/96	SOIL
611618-7	SRB21-1.5, 4.0	11/14/96	SOIL
611618-8	SRB21-7.0	11/14/96	SOIL
611618-9	SRB21-9.0	11/14/96	SOIL
611618-10	SRB21-11.0	11/14/96	SOIL
611618-11	SRB21-13.5	11/14/96	SOIL
611618-12	SRB23-1.5, 4.5, 7.5	11/14/96	SOIL
611618-13	SRB23-10.0, 13.0, 14.5	11/14/96	SOIL
611618-14	SRB22-1.5, 4.0, 7.0	11/14/96	SOIL
611618-15	SRB22-10.5	11/14/96	SOIL
611618-16	SRB22-12.5	11/14/96	SOIL
611618-17	SRB22-14.5	11/14/96	SOIL

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of the report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

ANALYTICAL SCHEDULE

CLIENT: AEN-CA
PROJECT #: 2770.04
PROJECT NAME:

AEN I.D.: 611618

ANALYSIS	TECHNIQUE	REFERENCE	LAB
PAHs	HPLC/UV/FLUOR	EPA 8310	PLD

PLD = AEN - Portland
PHX = AEN - Phoenix
PNR = AEN - Pensacola
CA = AEN - Pleasant Hill
MD = AEN - Columbia
SUB = Subcontract

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-0
CLIENT I.D.:	Method Blank	**DATE SAMPLED:**	NA
CLIENT:	AEN-CA	**DATE RECEIVED:**	NA
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-1
CLIENT I.D.:	SRB26-1.5, 4.0, 6.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	71%

Analyst: CE 12/6/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-2
CLIENT I.D.:	SRB26-10.5, 12.0, 14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	79%

Analyst: CE 12/2/96

Reviewer: ps 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-3
CLIENT I.D.:	SRB27-1.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	0.046
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.032
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	0.046
BENZO(b)FLUORANTHENE	0.021
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.020
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	85%

Analyst: LE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-4
CLIENT I.D.:	SRB27-4.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	65%

Analyst: CE 12/2/96

Reviewer: PM 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-5
CLIENT I.D.:	SRB28-1.5, 4.5, 7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	31%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-6
CLIENT I.D.:	SRB28-9.0, 11.5, 14.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	72%

Analyst: GE 12/2/96

Reviewer: P ~ 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-7
CLIENT I.D.:	SRB21-1.5, 4.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	0.027
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.029
INDENO(1,2,3-cd)PYRENE	0.075
SURROGATE:	
BIPHENYL (26% - 126%)	88%

Analyst: CE 12/4/96

Reviewer: PM 12/7/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-8
CLIENT I.D.:	SRB21-7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS	
NAPHTHALENE	<	0.083
ACENAPHTHYLENE	<	0.17
ACENAPHTHENE	<	0.17
FLUORENE		0.87
PHENANTHRENE		0.19
ANTHRACENE		0.081
FLUORANTHENE		0.33
PYRENE		0.20
BENZO(a)ANTHRACENE		0.021
CHRYSENE		0.10
BENZO(b)FLUORANTHENE	<	0.017
BENZO(k)FLUORANTHENE	<	0.017
BENZO(a)PYRENE	<	0.017
DIBENZO(a,h)ANTHRACENE	<	0.034
BENZO(g,h,i)PERYLENE	<	0.017
INDENO(1,2,3-cd)PYRENE	<	0.017
SURROGATE:		
BIPHENYL (26% - 126%)		101%

Analyst: CG 12/4/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-9
CLIENT I.D.:	SRB21-9.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	0.63
PHENANTHRENE	0.18
ANTHRACENE	0.078
FLUORANTHENE	0.088
PYRENE	0.18
BENZO(a)ANTHRACENE	0.038
CHRYSENE	0.33
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	96%

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-10
CLIENT I.D.:	SRB21-11.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	91%

Analyst: CE 12/2/96

Reviewer: PM 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-11
CLIENT I.D.:	SRB21-13.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	70%

Analyst: GB 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-12
CLIENT I.D.:	SRB23-1.5, 4.5, 7.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	0.025
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	69%

Analyst: CR 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-13
CLIENT I.D.:	SRB23-10.0, 13.0, 14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	87%

Analyst: CE 12/2/96

Reviewer: ρ~ 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-14
CLIENT I.D.:	SRB22-1.5, 4.0, 7.0	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	85%

Analyst: CR 12/2/96

Reviewer: pm 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-15
CLIENT I.D.:	SRB22-10.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	< 0.017
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	< 0.017
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	< 0.017
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	< 0.017
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	81%

Analyst: GE 12/3/96

Reviewer: PM 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-16
CLIENT I.D.:	SRB22-12.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS
NAPHTHALENE	< 0.083
ACENAPHTHYLENE	< 0.17
ACENAPHTHENE	< 0.17
FLUORENE	< 0.017
PHENANTHRENE	< 0.0083
ANTHRACENE	< 0.0083
FLUORANTHENE	< 0.017
PYRENE	0.10
BENZO(a)ANTHRACENE	< 0.017
CHRYSENE	0.052
BENZO(b)FLUORANTHENE	< 0.017
BENZO(k)FLUORANTHENE	< 0.017
BENZO(a)PYRENE	0.026
DIBENZO(a,h)ANTHRACENE	< 0.034
BENZO(g,h,i)PERYLENE	0.045
INDENO(1,2,3-cd)PYRENE	< 0.017
SURROGATE:	
BIPHENYL (26% - 126%)	66%

Analyst: CC 12/4/96

Reviewer: DA 12/4/96

LIQUID CHROMATOGRAPHY RESULTS

METHOD:	8310	**AEN I.D.:**	611618-17
CLIENT I.D.:	SRB22-14.5	**DATE SAMPLED:**	11/14/96
CLIENT:	AEN-CA	**DATE RECEIVED:**	11/20/96
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/26/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER	RESULTS	
NAPHTHALENE	<	0.083
ACENAPHTHYLENE	<	0.17
ACENAPHTHENE	<	0.17
FLUORENE	<	0.017
PHENANTHRENE	<	0.0083
ANTHRACENE	<	0.0083
FLUORANTHENE	<	0.017
PYRENE	<	0.02
BENZO(a)ANTHRACENE	<	0.017
CHRYSENE	<	0.017
BENZO(b)FLUORANTHENE	<	0.017
BENZO(k)FLUORANTHENE	<	0.017
BENZO(a)PYRENE	<	0.017
DIBENZO(a,h)ANTHRACENE	<	0.034
BENZO(g,h,i)PERYLENE	<	0.017
INDENO(1,2,3-cd)PYRENE		0.020
SURROGATE:		
BIPHENYL (26% - 126%)		85%

Analyst: CE 12/2/96

Reviewer: pm 12/3/96

LIQUID CHROMATOGRAPHY BLANK SPIKE RESULTS

METHOD:	8310	**AEN I.D.:**	611618
CLIENT:	AEN-CA	**QC SAMPLE:**	Method Blank
PROJECT #:	2770.04	**DATE EXTRACTED:**	11/25/96
PROJECT NAME:		**DATE ANALYZED:**	11/25/96
SAMPLE MATRIX:	SOIL	**DILUTION FACTOR:**	1
		UNITS:	mg/kg

PARAMETER		SAMPLE RESULT	SPIKE CONC.	SPIKED RESULT	% REC.	DUP. SPIKED RESULT	DUP. % REC.	RPD
ACENAPHTHYLENE	<	0.17	1.67	1.61	96%	1.37	82%	16
PHENANTHRENE	<	0.0083	0.167	0.142	85%	0.136	81%	4
PYRENE	<	0.017	0.167	0.162	97%	0.155	93%	4
BENZO(k)FLUORANTHENE	<	0.017	0.167	0.148	89%	0.167	100%	12
DIBENZO(a,h)ANTHRACENE	<	0.034	0.167	0.105	63%	0.106	63%	1
SURROGATE:								
BIPHENYL (26% - 126%)				95%		82%		

CONTROL LIMITS

	% REC	RPD
ACENAPHTHYLENE	48-139	37
PHENANTHRENE	54-142	33
PYRENE	54-157	37
BENZO(k)FLUORANTHENE	60-139	30
DIBENZO(a,h)ANTHRACENE	51-143	29

Analyst: CE 12/2/96

Reviewer: pm 12/4/96

Reporting Information:

Client: AEN
Address:
Contact: Bill Suddath
Alt. Contact: Robin Bayers

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611618
Lab Destination: AENOR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

Address Report To: #1

Send Invoice To: 3. #1

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: 9611232 Client Project I.D. No.: 2710.04

Sample Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: 8310	Comments / Hazards
-1	SRB26-1.5,4.0,6.5		11-14-96	8	COLD	1	JAR	X	include P.O. # and project I.D. on report and invoice
-2	SRB26-10.5,12.0,14.5								
-3	SRB27-1.5								
-4	SRB27-4.5								
-5	SRB28-1.5,4.5,7.0								
-6	SRB28-9.5,11.5,14.0								
-7	SRB21-1.5,4.0								
-8	SRB21-7.0								
-9	SRB21-9.0								
-10	SRB21-11.0								
-11	SRB21-13.5								
-12	SRB23-1.5,4.5,7.5								
-13	SRB23-10.0,13.0,14.5								
-14	SRB22-1.5,4.0,7.0								

RUSH!

		DATE	TIME		DATE	TIME
Relinquished by: (Signature)	Anna Gillespie	11-19-96	1500	Received by: (Signature)		
Relinquished by: (Signature)				Received by: (Signature)		
Relinquished by: (Signature)				Received by: (Signature)		
Method of Shipment				Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

porting Information:

Client: AEN
Address:
Contact: Bill Svboda
Alt. Contact: Robin Byars

dress Report To:
#1

Send Invoice To:
3. #1

American Environmental Network AEN

3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

Page 2 of 5

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 611618
Lab Destination: AEN OR
Date Samples Shipped: 11-19-96
Lab Contact:
Date Results Required: 11-26-96
Date Report Required: ASAP
Client Phone No.:
Client FAX No.:

nd Report To: (1) or 2 (Circle one)
ent P.O. No.: 961032 Client Project I.D. No.: 2770.04
mple Team Member (s)

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	8310	Comments / Hazards
-15	SRB22-10.5		11-14-96	B	COLD	1	JAR	X	See page #1
-16	SRB22-12.5		↓	↓	↓	↓	↓	↓	
-17	SRB22-14.5		↓	↓	↓	↓	↓	↓	

elinquished by: Signature)	Anna Gillespie	DATE 11-19-96	TIME 1500	Received by: (Signature)	DATE 11/20/96 TIME 10:30
elinquished by: Signature)		DATE	TIME	Received by: (Signature)	DATE TIME
elinquished by: Signature)		DATE	TIME	Received by: (Signature)	DATE TIME
ethod of Shipment				Lab Comments	

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

K-3504 D.S.C.G. 9611232

Chain-of-Custody Record

7828 | Date: 11/14/96 | Page 1 of 4

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Motor Oil (5030M)	PNAs (8310)	Metals (CAM 17)	HOLD	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	0745	SRB26-1.5						X		X	X	X		Y	S	-	1
	0748	SRB26-4.0						X		X	X	X		Y	S	-	1
	0755	SRB26-6.5						X		X	X	X		Y	S	-	1
	0804	SRB26-10.5						X		X	X	X		Y	S	-	1
	0812	SRB26-12.0						X		X	X	X		Y	S	-	1
	0815	SRB26-14.5						X		X	X	X		Y	S	-	1
	0846	SRB27-1.5						X		X	X	X		Y	S	-	1
	0851	SRB27-4.5						X		X	X	X		Y	S	-	1
	0858	SRB27-7.0						X		X	X	X	X	Y	S	-	1
	0859	SRB27-9.5						X		X	X	X	X	Y	S	-	1
	0905	SRB27-12.0						X		X	X	X	X	Y	S	-	1
	0915	SRB27-14.0						X		X	X	X	X	Y	S	-	1

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

REMARKS

Additional comments

Composite and run as one sample unless noted. Please save a portion of each for possible future discrete analyses.

Composite

Composite - 2 separate samples

Composite

Composite

Relinquished by: Signature: Charlie Crocker Printed name: Charlie Crocker Company: Geomatrix — Date: 11/15/96

Relinquished by: Signature: Printed name: Company: — Date:

Relinquished by: Signature: Printed name: Company: AGI/JTM — Date: 11/15/96 1625

Received by: Signature: AGI, Hand Carried Printed name: Company: AGI/JTM — Time: 1650

Received by: Signature: Printed name: Company: — Time:

Received by: Signature: Printed name: Company: AGI — Time: 1825 11/15 2210

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

96 11232 cont

Chain-of-Custody Record

7829

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Total Oil & Grease (Solvent)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	0935	SRA28 - 1.5						X		X	X	X	Y	S	-	1	See page 1
	0940	SRB28 - 4.5						X		X	X	X	Y	S	-	1	Composite
	0945	SRB28 - 7.0						X		X	X	X	Y	S	-	1	
	0948	SRB28 - 9.0						X		X	X	X	Y	S	-	1	
	0952	SRB28 - 11.5						X		X	X	X	Y	S	-	1	Composite
	1000	SRB28 - 14.0						X		X	X	X	Y	S	-	1	
	1215	SRB21 - 1.5						X		X	X	X	Y	S	-	1	
	1220	SRB21 - 4.0						X		X	X	X	Y	S	-	1	Composite (Inc.)
	1222	SRB21 - 7.0						X		X	X	X	Y	S	-	1	
	1225	SRB21 - 9.0						X		X	X	X	Y	S	-	1	
	1226	SRB21 - 11.0						X		X	X	X	Y	S	-	1	
	1230	SRB21 - 13.5						X		X	X	X	Y	S	-	1	Composite lev — Analyze as 4 separate samples

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Ron Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN / TRH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Ken Hamilton	1650	Signature:		Signature: Lorena Podkowski	1825
Printed name:		Printed name:		Printed name: Lorena Podkowski	11/15
Company: AEN / TRH		Company:		Company: AEN	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

9611232 cont.

Chain-of-Custody Record

№ 4344

Date: 11/14/96

Page 3 of 4

Project No.: 2770.04

Samplers (Signatures):

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Hydrocarbon (8015M)	PNAs (8310)	Metals (CAM 17)	Cooled	Soil (S) or water (W)	Acidified	Number of containers	Additional comments
11/14/96	1311	SRB23-1.5						X		X	X	X	Y	S	-	1	See page 1
	1320	SRB23-4.5						X		X	X	X	Y	S	-	1	Composite
	1322	SRB23-7.5						X		X	X	X	Y	S	-	1	
	1329	SRB23-10.0						X		X	X	X	Y	S	-	1	
	1333	SRB23-13.0						X		X	X	X	Y	S	-	1	Composite
	1335	SRB23-14.5						X		X	X	X	Y	S	-	1	
	1430	SRB22-1.5						X		X	X	X	Y	S	-	1	
	1437	SRB22-4.0						X		X	X	X	Y	S	-	1	Composite
	1441	SRB22-7.0						X		X	X	X	Y	S	-	1	
	1445	SRB22-10.5						X		X	X	X	Y	S	-	1	
	1447	SRB22-12.5						X		X	X	X	Y	S	-	1	Composite
	1450	SRB22-14.5						X		X	X	X	Y	S	-	1	Analyze as 3 separate samples

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 12

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature: Charlie Crocker	11/15/96	Signature:		Signature: Roy Hamilton	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AGV/JSH	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature: Roy Hamilton	1450	Signature:		Signature: Teresa Podkowski	1825
Printed name:		Printed name:		Printed name: Teresa Podkowski	11/15/96
Company: AGV/JSH		Company:		Company: AEI	22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400

961232 cont.

Chain-of-Custody Record

7825

Date: 11/14/96

Project No.: 2770.04

Samplers (Signatures):

ANALYSES

REMARKS

Date	Time	Sample Number	EPA Method 8010	EPA Method 8020	EPA Method 8240	EPA Method 8270	TPH as gasoline	TPH as diesel	TPH as BTEX	TPH as Partial (8015)	PNAs (8310)	Metals (CAM17)	HOLD	Silica Gel Cleanup	Cooled	Soil (S) or water (W)	Acidified	Number of containers
11/14/96	1430	SRB29			X			X		X				X	Y	W	Y	6
	1630	SRB22			X			X		X				X	Y	W	Y	5
	1645	SRB100			X			X		X				X	Y	W	Y	5
11/14/96	1232	SRB21-15.5						X		X	X	X	X		Y	S	-	1
	1241	SRB21-18.0						X		X	X	X	X		Y	S	-	1
	1510	SRB22-17.0						X		X	X	X	X		Y	S	-	1
	1527	SRB22-19.0						X		X	X	X	X		Y	S	-	1
	1535	SRB22-22.0						X		X	X	X	X		Y	S	-	1
	1540	SRB28			X			X		X			X	X	Y	W	Y	5

Additional comments: See page 1

Turnaround time: STD

Results to: Charlie Crocker

Total No. of containers: 26

Relinquished by:	Date:	Relinquished by:	Date:	Relinquished by:	Date:
Signature:	11/15/96	Signature:		Signature:	11/15/96
Printed name: Charlie Crocker		Printed name:		Printed name:	
Company: Geomatrix		Company:		Company: AEN / JRK	
Received by:	**Time:**	**Received by:**	**Time:**	**Received by:**	**Time:**
Signature:	1650	Signature:		Signature:	1515
Printed name:		Printed name:		Printed name: Lurena Podkowski	
Company: AEN / JRK		Company:		Company: A.E.N.	11/15 22:30

Method of shipment: Pickup

Laboratory comments and Log No.:

Geomatrix Consultants
100 Pine St 10th Floor
San Francisco, CA 94111
(415) 434-9400