

DEPARTMENT OF TRANSPORTATION

BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
TDD (510) 286-4454



ENVIRONMENTAL
PROTECTION
NOV 30 PM 1:00

November 29, 1995

Ms. Susan Hugo, Senior Hazardous Waste Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Quarterly Groundwater Monitoring Reports For Former Sutta Recycling Site

Dear Ms. Hugo:

Enclosed is the October 1995 quarterly groundwater report for the referenced former UST site located at 3401 Wood Street in Oakland. This is the third quarter of sampling at the site. The fourth and final scheduled sampling round will take place in January 1996. If you have any questions or comments please call at 286-5647.

Sincerely,

Christopher R. Wilson

Christopher R. Wilson, P.E.
Office of Environmental Engineering

Attachment

cc: file

DEPARTMENT OF TRANSPORTATION

BOX 23660
OAKLAND, CA 94623-0660
(510) 286-4444
TDD (510) 286-4454



April 24, 1996

Ms. Susan Hugo, Senior Hazardous Waste Specialist
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: Quarterly Groundwater Monitoring Well Sampling at Sutta Recycling, 3401
Wood Street, Oakland.

Dear Ms. Hugo:

As I recently told you via your telephone voice mail, our office is seeking Alameda County's guidance on a problem we have with the quarterly groundwater sampling at the referenced site. Three of the scheduled four quarters have been completed, but recent freeway construction activities at the site have destroyed the wells, preventing the completion of the yearlong sampling program. Laboratory analysis of the groundwater from the three completed rounds of sampling have found virtually no contamination at the site. The only detected contaminant levels have been diesel in all three wells at concentrations less than 0.5 mg/L (detected in the third quarter, October 1995).

Considering the low concentrations of petroleum hydrocarbons found in the site subsurface and the strong likelihood that these contaminants will be mitigated by intrinsic microbes, our office is of the opinion that the fourth quarter of sampling is not imperative; especially when considering the cost of installing three new wells just to conduct one round of sampling. Is it possible to close this site with three quarters of sampling completed? We appreciate your help in considering the situation. If you have any questions please call me at 286-5647.

Sincerely,

Christopher R. Wilson

Christopher Wilson, P.E.
Office of Environmental Engineering

cc: file

**OCTOBER 1995
GROUNDWATER INVESTIGATION REPORT
SUTTA RECYCLING
3401 WOOD STREET
OAKLAND, CALIFORNIA 94607**

Submitted By:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
OAKLAND, CALIFORNIA**

November 28, 1995

Prepared By:

Christopher R. Wilson
Christopher R. Wilson, P.E.



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1	Sutta Recycling Groundwater Analytical Results
2	Groundwater Conductivity, pH, and Temperature Measurements
3	Sutta Recycling Groundwater Investigation Water Level Data

I Introduction

This report is for the October 1995 quarterly groundwater monitoring of the former Sutta Recycling site at 3401 Wood Street in Oakland (see Figure 1 for site location map). This is the third quarter of a scheduled four quarters of sampling at the former underground storage tank (UST) site. The 1000-gallon underground tank was used to store diesel fuel until its removal in August 1991. Soil and groundwater samples taken from the tank excavation pit were analyzed for total petroleum hydrocarbons as diesel (TPH-d), and revealed elevated levels of diesel fuel contamination in the site subsurface. Following these laboratory results, the tank pit was over-excavated and more soil samples analyzed until the laboratory analytical results were non-detect (ND) for TPH-d.

In 1994 the site was purchased by the State Department of Transportation (Caltrans) to be used as right of way for the Cypress freeway replacement. After Caltrans became the owner of the property, Alameda County Health Care Services Agency (ACHCSA) requested Caltrans to conduct a site groundwater investigation involving the installation of three monitoring wells around the former tank location and quarterly sampling and analysis of the wells. Figure 2, a detailed site map, shows the monitoring well locations and the former UST location.

The wells were installed and the first sampling session took place in early May 1995. The second round of sampling was conducted in late June 1995. Virtually no detectable levels of petroleum hydrocarbon contamination have been found in the monitoring wells during the first two quarters: all TPH-d analyses have been ND, as have the total recoverable petroleum hydrocarbon (TRPH) screens. The third sampling session was conducted on October 24, 1995.

II Monitoring Well Sampling Procedures

The sampling was conducted by Caltrans' Office of Environmental Engineering. The bolted well covers and the locking well caps were removed; after which, the depth to water was measured in each well with an electric sounder and recorded. The wells were then purged of at least three well casing volumes, using dedicated, disposable bailers. During purging activities, the groundwater conductivity, pH, and temperature were measured and recorded approximately every well casing volume removed. See Table 2 for a historical summary of the site results and Appendix B for the field data. The purged groundwater was stored on-site in a 55-gallon, DOT-approved drum, pending analytical results and the evaluation of available recycling/disposal alternatives.

The groundwater samples were collected using the dedicated bailers and were decanted into sterile, laboratory-supplied containers through disposable volatile compound samplers. The samples were immediately placed in a cooler containing blue ice. After the sampling was

completed, the samples were delivered under chain of custody to American Environmental Network (AEN), a state-certified laboratory in Pleasant Hill, for analysis.

Because the first two quarters of sampling at Sutta Recycling showed virtually no remaining contamination problems from the removed UST, ACHCSA reduced the analytic program scope. The screen for heavy metals was eliminated, as was the semi-volatile analysis, and the volatile organic compound scan was decreased to just benzene, toluene, ethyl benzene, and xylenes (BTEX). As a result, the October 1995 samples were submitted to AEN for the following tests:

Total Petroleum Hydrocarbons as Diesel (TPH-d) by EPA Method 8015-m
Total Petroleum Hydrocarbons as Gasoline (TPH-g) by EPA Method 8015-m
Oil & Grease and Total Recoverable Petroleum Hydrocarbons (TRPH) by Standard Methods 5520 B+F
Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX) by EPA Method 8020

III Analytical Results

The water level measurements found the water table at the site to be approximately 3 feet below the ground surface, about 1 foot deeper than the findings of the first two quarters of sampling. A summary of the water level measurements is shown in Table 3. The groundwater table gradient derived from this quarter's depth to water measurements is 0.0070, with a flow direction towards the southwest. Figure 3 shows the groundwater table contour map for this sampling period.

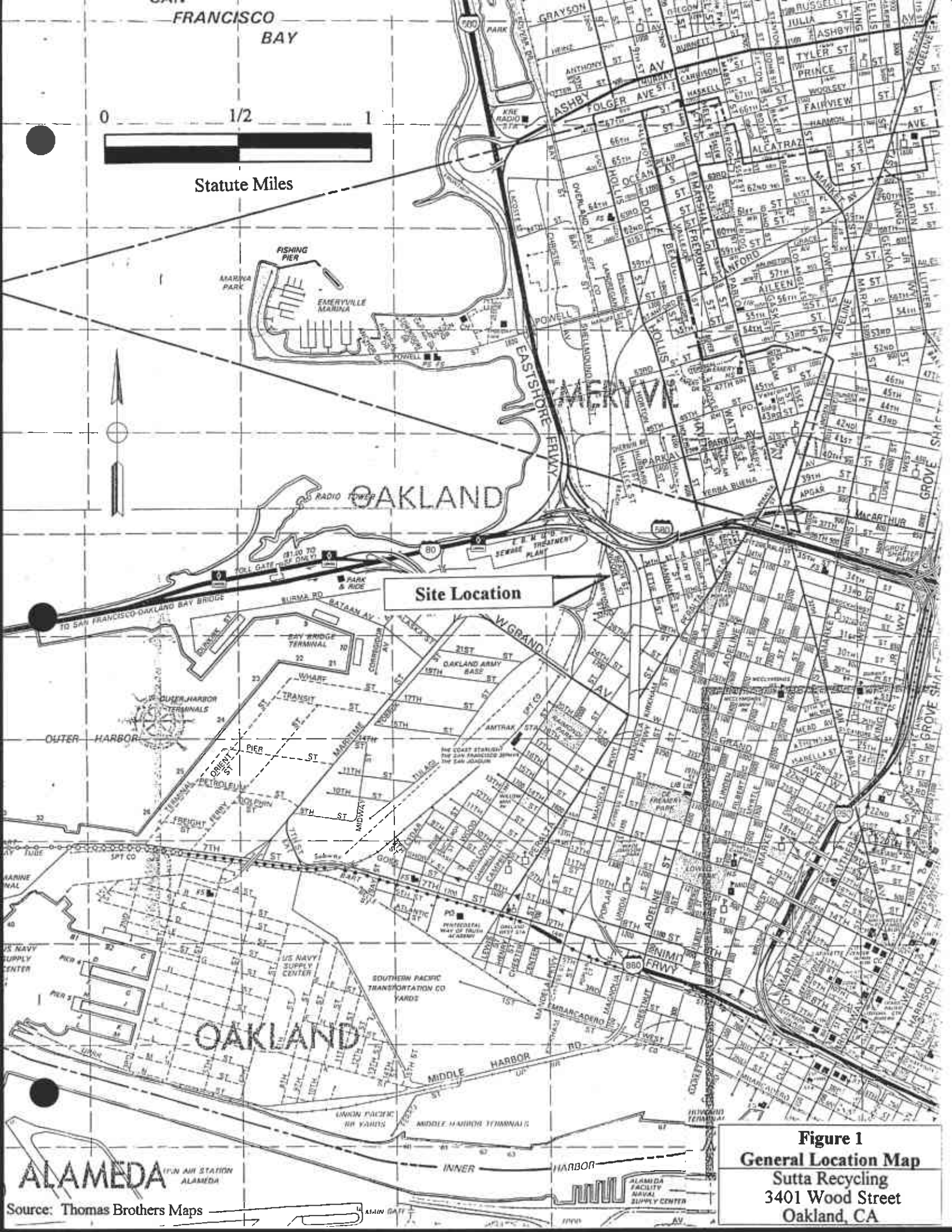
The laboratory analytical results this quarter had the first detectable levels of petroleum hydrocarbon contamination in the monitoring wells, albeit low levels: TPH-d was detected in MW1, MW2, and MW3 at 0.2 mg/L, 0.4 mg/L, and 0.4 mg/L, respectively. The TPH-g analyses were ND for all three wells, as were the BTEX analyses. The oil & grease/TRPH analyses were ND for MW1 and MW2. Because MW3 was slow to recharge after purging, not enough sample volume could be collected to run all the analytical tests, even after allowing almost 2 hours for recharge. It was decided that the one 1-liter sample bottle that was collected from MW3 would be submitted for the TPH-d analysis. A summary of the laboratory analytical results is presented in Table 1, and the laboratory data sheets, including the QA/QC data, are included in Appendix A.

IV Conclusions

The groundwater flow direction (towards the southwest) derived from the October 1995 measurements is fairly consistent with what would be expected in the site vicinity: a general tendency to flow towards the Bay. However, the flow direction differs from the findings of

the first two quarters of sampling, which found flow directions tending to the east. This change in the groundwater flow direction is most likely explained by what has been suspected all along: the site is subject to tidal influences from the ocean/Bay. Sutta Recycling is less than half a mile from the Bay, and used to be on the Bay margin until it was filled in during the late nineteenth century. The site's proximity to tidal waters suggests there is influence on the groundwater table from the ocean. The groundwater flow direction will be analyzed again next sampling period.

After two quarters of non-detectable levels of diesel fuel contamination, low levels of TPH-d (< 0.5 mg/L) were found in all three monitoring wells. The TPH-g, BTEX, and TRPH analyses were found to be ND for the third straight quarter. The next round of sampling and analyzing for these contaminants is tentatively scheduled for January 1996.



Statute Miles

Site Location

Figure 1
General Location Map
 Sutta Recycling
 3401 Wood Street
 Oakland, CA

ALAMEDA 17th AIR STATION ALAMEDA

Source: Thomas Brothers Maps

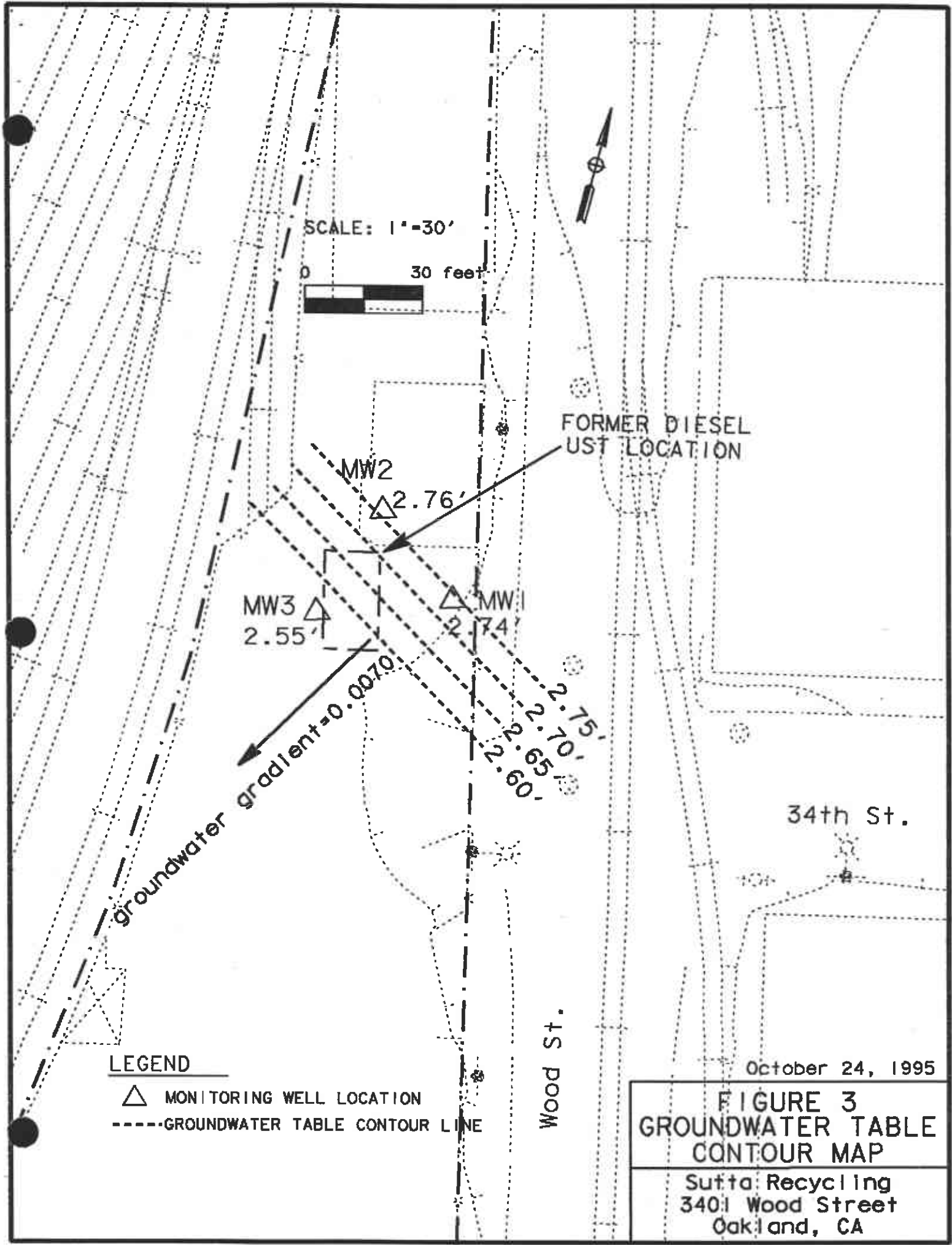


FIGURE 3
GROUNDWATER TABLE
CONTOUR MAP

Sutta Recycling
 3401 Wood Street
 Oakland, CA

Table 1: Sutta Recycling Groundwater Analytical Results

MWell #	Date of Sampling	Hydrocarbons (mg/L)			8020 BTEX (ug/L)	Benzene	Ethyl Benzene	Toluene	Xylenes, Total
		8015-m Diesel	8015-m Gasoline	418.1/5520 B+F TRPH					
MW1	5/12/95	ND	ND	ND	ND	ND	ND	ND	
MW1	6/29/95	ND	ND	ND	ND	ND	ND	ND	
MW1	10/24/95	0.2	ND	ND	ND	ND	ND	ND	
MW2	5/12/95	ND	ND	ND	ND	ND	ND	ND	
MW2	6/29/95	ND	ND	ND	ND	ND	ND	ND	
MW2	10/24/95	0.4	ND	ND	ND	ND	ND	ND	
MW3	5/12/95	ND	ND	ND	ND	ND	ND	ND	
MW3	6/29/95	ND	ND	ND	ND	ND	ND	ND	
MW3	10/24/95	0.4	ND	-	ND	ND	ND	ND	

ND=Not Detected
 --=Not Analyzed

Table 2
Sutta Recycling Groundwater Investigation
Groundwater Conductivity, pH, and Temperature Measurements

Well Number	Measuring Date	Conductivity (umhos/cm)	pH	Temperature (degrees fahrenheit)
MW1	05/12/95	1190	7.96	64.7
	06/29/95	2590	8.07	66.0
	10/24/95	1870	7.14	73.6
MW2	05/12/95	880	7.28	63.9
	06/29/95	860	8.05	68.6
	10/24/95	1640	6.66	74.8
MW3	05/12/95	1540	7.02	67.0
	06/29/95	3540	7.95	65.7
	10/24/95	3570	7.36	74.1

Table 3
Sutta Recycling Groundwater Investigation
Water Level Data

Well Number	Top of Casing Elevation*	Measuring Date	Depth To Water**	Water Level Elevation*
MW1	5.38	05/12/95	1.35	4.03
		06/29/95	1.64	3.74
		10/24/95	2.64	2.74
MW2	6.16	05/12/95	2.04	4.12
		06/29/95	2.27	3.89
		10/24/95	3.40	2.76
MW3	6.12	05/12/95	1.92	4.20
		06/29/95	2.17	3.95
		10/24/95	3.57	2.55

*=Measurement in feet above USGS Mean Sea Level

**=Measurement in feet from top of casing

Reporting Information:

1. Client: Caltrans Office of Env. Eng.
 Address: 111 Grand Ave., 14th Floor
Oakland, CA 94612
 Contact: Chris Wilson
 Alt. Contact: Joel Howie

American Environmental Network

3440 Vincent Road, Pleasant Hill, CA 94523
 Phone (510) 930-9090
 FAX (510) 930-0256

AEN

R-VS-4
 34
 Page 1 of 1
REQUEST FOR ANALYSIS / CHAIN OF CUSTODY
9510321

Lab Job Number: _____
 Lab Destination: _____
 Date Samples Shipped: _____
 Lab Contact: _____
 Date Results Required: standard turn around time
 Date Report Required: _____
 Client Phone No.: (510) 286-5647
 Client FAX No.: (510) 286-5642

Address Report To:

2. Chris Wilson, Office of Env. Eng.
Caltrans
111 Grand Ave., 14th Floor
Oakland, CA 94612

Send Invoice To:

3. Same as #2

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: _____ Client Project I.D. No.: Sutta Recycling

Sample Team Member (s) _____

Lab Number	Client Sample Identification	Air Volume	Date/Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS										Comments / Hazards				
								1	2	3	4	5	6	7	8	9	10		11	12		
04A	TB					1	VOA	X														Run for 6-BTEX R. Byans

Relinquished by: <u>Joel Howie</u>	DATE: <u>10-26-95</u> TIME: <u>1225</u>	Received by: <u>Ann Gillespie</u>	DATE: <u>10-26-95</u> TIME: <u>1225</u>
Relinquished by: _____	DATE: _____ TIME: _____	Received by: _____	DATE: _____ TIME: _____
Relinquished by: _____	DATE: _____ TIME: _____	Received by: _____	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 _____

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172

AIHA Accreditation: 11134

PAGE 1

CALTRANS
OFFICE OF ENV. ENG.
111 GRAND AVE., 14th FLOOR
OAKLAND, CA 94612

ATTN: CHRIS WILSON
CLIENT PROJ. ID: SUTTA RECYCLING

REPORT DATE: 11/03/95

DATE(S) SAMPLED: 10/24/95-10/26/95

DATE RECEIVED: 10/24/95

AEN WORK ORDER: 9510321


PROJECT SUMMARY:

On October 24, 1995, this laboratory received 4 water sample(s).

Client requested sample(s) be analyzed for organic parameters. 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

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-1
 AEN LAB NO: 9510321-01
 AEN WORK ORDER: 9510321
 CLIENT PROJ. ID: SUTTA RECYCLING

DATE SAMPLED: 10/24/95
 DATE RECEIVED: 10/24/95
 REPORT DATE: 11/03/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		11/01/95
Toluene	108-88-3	ND	0.5 ug/L		11/01/95
Ethylbenzene	100-41-4	ND	0.5 ug/L		11/01/95
Xylenes, Total	1330-20-7	ND	2 ug/L		11/01/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		11/01/95
#Extraction for TPH	EPA 3510	-		Extrn Date	10/27/95
TPH as Diesel	GC-FID	0.2 *	0.05 mg/L		10/29/95
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	10/26/95
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	10/26/95
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1 mg/L		10/26/95
Oil & Grease (Gravimetric)	SM 5520B	ND	1 mg/L		10/26/95

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-2
 AEN LAB NO: 9510321-02
 AEN WORK ORDER: 9510321
 CLIENT PROJ. ID: SUTTA RECYCLING

DATE SAMPLED: 10/24/95
 DATE RECEIVED: 10/24/95
 REPORT DATE: 11/03/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5 ug/L		10/31/95
Toluene	108-88-3	ND	0.5 ug/L		10/31/95
Ethylbenzene	100-41-4	ND	0.5 ug/L		10/31/95
Xylenes, Total	1330-20-7	ND	2 ug/L		10/31/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05 mg/L		10/31/95
#Extraction for TPH	EPA 3510	-		Extrn Date	10/27/95
TPH as Diesel	GC-FID	0.4 *	0.05 mg/L		10/29/95
#Water Extrn for HCs (GR)	SM 5520BF	-		Extrn Date	10/26/95
#Water Extrn for O&G (GR)	SM 5520B	-		Extrn Date	10/26/95
Hydrocarbons (Gravimetric)	SM 5520BF	ND	1 mg/L		10/26/95
Oil & Grease (Gravimetric)	SM 5520B	ND	1 mg/L		10/26/95

ND = Not detected at or above the reporting limit

* = Value at or above reporting limit

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: MW-3
 AEN LAB NO: 9510321-03
 AEN WORK ORDER: 9510321
 CLIENT PROJ. ID: SUTTA RECYCLING

DATE SAMPLED: 10/24/95
 DATE RECEIVED: 10/24/95
 REPORT DATE: 11/03/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	10/31/95
Toluene	108-88-3	ND	0.5	ug/L	10/31/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	10/31/95
Xylenes, Total	1330-20-7	ND	2	ug/L	10/31/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	10/31/95
#Extraction for TPH	EPA 3510	-		Extrn Date	10/27/95
TPH as Diesel	GC-FID	0.4 *	0.05	mg/L	10/29/95

ND = Not detected at or above the reporting limit
 * = Value at or above reporting limit

CALTRANS OFFICE OF ENV. ENG.

SAMPLE ID: TB
AEN LAB NO: 9510321-04
AEN WORK ORDER: 9510321
CLIENT PROJ. ID: SUTTA RECYCLING

DATE SAMPLED: 10/26/95
DATE RECEIVED: 10/24/95
REPORT DATE: 11/03/95

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	10/31/95
Toluene	108-88-3	ND	0.5	ug/L	10/31/95
Ethylbenzene	100-41-4	ND	0.5	ug/L	10/31/95
Xylenes, Total	1330-20-7	ND	2	ug/L	10/31/95
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	10/31/95

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9510321

CLIENT PROJECT ID: SUTTA RECYCLING

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: SM 5520

AEN JOB NO: 9510321
 DATE EXTRACTED: 10/26/95
 DATE ANALYZED: 10/26/95
 SAMPLE SPIKED: DI WATER
 INSTRUMENT: GRAVIMETRIC
 MATRIX: WATER

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Duplicate Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
					Percent Recovery	RPD
Oil	107	123	73	3	60-108	5

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 3510 GCFID

AEN JOB NO: 9510321
 DATE EXTRACTED: 10/27/95
 INSTRUMENT: C
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			n-Pentacosane	
10/29/95	MW-1	01	99	
10/29/95	MW-2	02	101	
10/29/95	MW-3	03	99	
QC Limits:			59-118	

DATE EXTRACTED: 10/27/95
 DATE ANALYZED: 10/28/95
 SAMPLE SPIKED: DI WATER
 INSTRUMENT: C

Method Spike Recovery Summary

Analyte	Spike Added (mg/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Diesel	2.07	87	1	58-107	15

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9510321
 INSTRUMENT: H
 MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery	
			Fluorobenzene	
11/01/95	MW-1	01	99	
10/31/95	MW-2	02	100	
10/31/95	MW-3	03	99	
10/31/95	TB	04	100	
QC Limits:			92-109	

DATE ANALYZED: 10/31/95
 SAMPLE SPIKED: LCS
 INSTRUMENT: H

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Average Percent Recovery	RPD	QC Limits	
				Percent Recovery	RPD
Benzene	35.4	107	1	60-120	20
Toluene	108	108	3	60-120	20
Hydrocarbons as Gasoline	1000	109	3	60-120	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit.

*** END OF REPORT ***

**CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM**

Project Name: Sitta Recycling Date: 10/24/95

Well Number: MW1 Tested By: Chris Wilson

Measuring Datum Description: Top of Casing

Water Level Measurement Method: electric meter sounder Depth To Water: 2.64'

Purge Method: Leaking Disposable Bailer Sample Method: Leaking Disposable Bailer

Sampling Start Time: 12:00 Sampling Depth: _____

Comments: _____

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				(2")	4"	6"	
	10 bgs	2.64	7.36	0.16	0.65	147	1.18
Time	10:50	10:53	10:55	11:02	12:15		
Volume Purged (gal)	1 gal	2 gal	3 gal	4 gal	After Sampling		
Purge Rate (gpm)	—	0.33	0.5	0.14	—		
Conductivity (umhos/cm)	800	1,930	3,550	4,550	1,870		
Temperature (deg F or C)	73.2°F	70.9	70.1	70.4	73.6		
pH	7.15 7.88	7.10	7.06	7.10	7.14		
Odor							
Turbidity/Color				turbid	relatively clear		
Number of Casing Volumes Purged	0.85	1.69	2.54	3.39	—		
Dewatered				almost			

**CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM**

Project Name: Sutta Recycling Date: 10/24/95

Well Number: MW2 Tested By: _____

Measuring Datum Description: Top of Casing

Water Level Measurement Method: electric Meter Sander Depth To Water: 3.4'

Purge Method: ~~bucket~~ Disposable Bailer Sample Method: ~~bucket~~ Disposable Bailer

Sampling Start Time: 12:20 Sampling Depth: _____

Comments: _____

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				2"	4"	6"	
				0.16	0.65	1.47	
	10 bgs	3.40	6.60	0.16	0.65	1.47	1.06
Time	11:10	11:15	11:18	11:21	12:35		
Volume Purged (gal)	1 gal	2 gal	3 gal	4 gal	After sampling		
Purge Rate (gpm)	—	0.2	0.33	0.33	—		
Conductivity (umhos/cm)	1,850	1,870	2,750	4,900	1,640		
Temperature (deg F or C)	71.9 F	71.1	71.8	70.9	74.8		
pH	6.82	6.77	6.79	6.84	6.66		
Odor							
Turbidity/Color				turbid	clear		
Number of Casing Volumes Purged	0.94	1.89	2.83	3.77	—		
Dewatered							

**CALTRANS DISTRICT 4
OFFICE OF ENVIRONMENTAL ENGINEERING
MONITORING WELL PURGE AND SAMPLE FORM**

Project Name: Sutta Recycling Date: 10/24/95

Well Number: MW 3 Tested By: _____

Measuring Datum Description: Top of Casing

Water Level Measurement Method: electric meter sounder Depth To Water: 3.57

Purge Method: Disposable Bailer Sample Method: Disposable Bailer

Sampling Start Time: 11:00 Sampling Depth: _____

Comments: Well recharging slowly. Collected BTEX and TPH-g samples and well is dry again. Only got enough sample for 1 one liter bottle. Very low yield

Well Volume Calculation: (complete before purging)	Well Depth (ft)	Depth To Water (ft)	Water Column (ft)	Multiplier for Casing Diameter (in)			Casing Water Volume (gal)
				2"	4"	6"	
	10 hrs	3.57	6.43	0.16	0.65	1.47	1.03
Time	11:30	11:32	11:37	12:45	2:50		
Volume Purged (gal)	1 gal	2 gal	3 gal	3.5 gal	After sample		
Purge Rate (gpm)	—	0.5	0.2	—			
Conductivity (umhos/cm)	2,940	5,220	8,140	4,780	3,570		
Temperature (deg F or C)	72.8	71.2	70.8	72.4	74.1		
pH	7.01	7.05	7.02	7.32	7.36		
Odor							
Turbidity/Color			turbid		clear		
Number of Casing Volumes Purged	0.97	1.94	2.91	3.40			
Dewatered			Yes	Yes	Yes		