

1365 VANDER WAY

SAN JOSE, CALIFORNIA 95112

(408) 297-6969 or FAX (408) 297-7716

**TO:** Citation Builders  
404 Saratoga Avenue, Suite 100  
Santa Clara, California 95050

**DATE:** 9/14/89

**PROJECT NO.:** 4486/1

**ATTENTION:** Mr. Bryan Walsh

**SUBJECT:** Okada Fuel Tank Leakage

<b>We are:</b>	<input checked="" type="checkbox"/> Enclosing	<input checked="" type="checkbox"/> Reports
	<input type="checkbox"/> Forwarding	<input type="checkbox"/> Drawings
	<input type="checkbox"/> Per your request	<input type="checkbox"/> Specifications
	<input type="checkbox"/> <u>2</u> Number of copies	<input type="checkbox"/> Other

**Description:** Installation of Third Monitoring Well, Okada Fuel Tank Leakage

**Comments:** \_\_\_\_\_

**Sent by:**  First Class Mail

Special Delivery

Other: \_\_\_\_\_

ALAMEDA COUNTY  
DEPT. OF ENVIRONMENTAL HEALTH  
HAZARDOUS MATERIALS

**cc:** Mr. Larry Sita, Alameda County Health Agency  
Mr. Tom Callaghan, California Regional Water  
Quality Control Board

**Signature of Sender**

Eric R. Lautenbach

7891 WESTWOOD DR., SUITE 101  
225-K CANNERY ROW  
250 W. CHANNEL RD., UNIT B

GILROY, CA 95020  
MONTEREY, CA 93940  
BENICIA, CA 94510

(408) 842-0236  
(408) 372-3716  
(707) 746-8047

FAX (408) 842-7314  
FAX (408) 372-7481  
FAX (707) 746-8049

INSTALLATION OF THIRD MONITORING WELL  
OKADA FUEL TANK LEAKAGE  
16109 ASHLAND AVENUE  
SAN LEANDRO, CALIFORNIA

PROJECT 4486/1

FOR

CITATION BUILDERS  
404 SARATOGA AVENUE, SUITE 100  
SANTA CLARA, CALIFORNIA 95050

BY

TERRATECH, INC.  
1365 VANDER WAY  
SAN JOSE, CALIFORNIA 95112

AUGUST 31, 1989



August 31, 1989  
Project 4486/1

Mr. Bryan Walsh  
Citation Builders  
404 Saratoga Avenue, Suite 100  
Santa Clara, California 95050

Subject: Installation of Third Monitoring Well  
Okada Property Fuel Contamination Study  
16109 Ashland Avenue  
San Leandro, California

Dear Mr. Walsh:

This report presents the work performed for, and the findings and conclusions of Terratech's continued investigation of subsurface fuel contamination at the Okada Nursery, 16109 Ashland Avenue in San Leandro. The latest work was to install a ground water monitoring well (MW-3) near the former location of an underground gasoline tank to check for possible contamination from leakage. This third well was also necessary to triangulate the ground water gradient direction.

Terratech installed monitoring wells MW-1 and MW-2 at the Nursery as part of a previous investigation (see Terratech report, Phase I Ground Water Investigation, Okada Property, ..., dated April 7, 1989).

#### SUMMARY OF WORK PERFORMED

The following work was performed for this investigation:

1. Obtained Zone 7 Water District Permit No. 89476 for MW-3. A copy of the permit is presented in Appendix A.
2. Drilled one boring into the first (uppermost) ground water aquifer near the former gasoline tank (see Figure 1 - Site Plan). Drilling was performed by HEW Drilling, a licensed drilling firm from Palo Alto. MW-3 was drilled to a depth of 16 1/2 feet below the ground surface. Soil samples were collected in pre-cleaned brass liners at five-foot vertical intervals using a Modified California Sampler.

A geologist from our environmental staff packaged the soil samples to be analyzed and prepared logs describing the depths and types of soils encountered. The Unified Soil Classification System with visual-manual procedures (ASTM D2488-84) was used. Indications of contamination such as odor and discoloration were noted on the logs.



A 2-inch diameter PVC well casing was installed in the boring to construct the monitoring well. Zone 7 Water District guidelines were followed which included a five-foot minimum surface seal.

The Exploration Drill Hole Log and As-Built Monitoring Well Diagram for MW-3 are presented in Appendix A.

All drilling equipment was steam cleaned prior to use and drilling spoils were drummed pending laboratory results.

3. Developed, purged and sampled the ground water from MW-3. Approximately 10 well volumes were purged from MW-3 using a teflon bailer. Consistent readings of pH, temperature and conductivity were obtained prior to sampling. The samples were collected with a pre-cleaned teflon bailer. Two 1-liter amber jars and two 40-ml VOA vials of ground water were collected. The vials were filled via a stop-cock built into the bailer until a positive meniscus was formed. A Teflon-lined screw cap was then used to seal each vial. After capping, each vial was inverted and tapped to verify that no air bubbles were present.

The samples were then labeled and immediately placed in an ice chest and transported to Anametrix Laboratory, a State-certified laboratory in San Jose following proper chain-of-custody procedures.

4. Instructed Anametrix to analyze the ground water sample and three soil samples for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, and the specific fuel compounds - benzene, toluene, ethylbenzene and xylenes (BTEX).
5. Established the relative "top of casing" elevations for the three monitoring wells. Correlated ground water levels in the three wells to determine the local gradient direction.
6. Prepared this report describing the work performed, the findings and our updated conclusions and recommendations.

## FINDINGS

### Subsurface Profile

Based on subsequent conversations with a long-time nursery worker, it appears that the location of MW-3 may coincide with a former fuel oil tank. The exact location, orientation and size of this old tank is not known. The drill hole for MW-3 encountered near-surface clayey soils which appeared to be native until glass shards were noticed in the 5-foot sample. It therefore seems that this upper material is backfill, presumably placed after the old fuel oil tank was removed. Beneath this clayey BACKFILL was the saturated 3-foot thick SILTY SAND strata and moist CLAY as encountered at the other two borings.



The Exploration Drill Hole Log in Appendix A presents a more detailed description of the materials encountered at MW-3.

#### Soil Contamination

Most of the soil removed from the MW-3 drill hole had a slight fuel odor. Within the depth interval of about five to seven feet the odor was somewhat stronger and the soil had a greenish discoloration.

Table 1 presents a summary of the analysis results for soil samples collected as part of the monitoring well installation work to date. The 5.5-foot sample from the MW-3 boring was found to contain 30 parts per million (ppm) of TPH as diesel, just above the 10 ppm detection limit. The two deeper samples showed no detectable fuel contamination.

#### Ground Water Gradient

On August 21, 1989 the three monitoring wells were checked for depth to standing ground water. Based on a selected datum of 100.00' for the top of MW-2 and a level survey of the other two well casings (100.03' for MW-1 and 101.38' for MW-3), the relative water table elevations shown on the Site Plan - Figure 1 were calculated. The interpolated ground water gradient direction is westerly at about 0.0025 ft/ft.

#### Ground Water Contamination

No sheen or odors were noticed during the purging and sampling of MW-3.

Table 2 presents a summary of the ground water analysis results to date. No detectable fuel contamination was found in the MW-3 sample.

#### CONCLUSIONS AND RECOMMENDATIONS

Since we have confirmed that MW-1 and MW-3 are installed downgradient of the former fuel oil and gasoline tanks, and little to no contamination was found, we recommend that a quarterly monitoring program commence. The next round of sampling, analysis and gradient determination work should be performed in mid-November 1989.

It does not appear to us, based on the data gathered to date, that ground water cleanup work is needed.

#### LIMITATIONS

This report and the work associated with it have been provided in accordance with the general principles and practices currently employed in the environmental consulting profession. This is in lieu of all other warranties, express or implied.



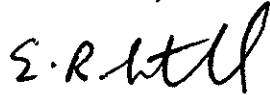
Project 4486/1

August 31, 1989

Since our conclusions are based on data obtained from subsurface sampling and testing that is necessarily limited, they are subject to modification as new information is gained.

Report prepared by:

TERRATECH, INC.



Eric R. Lautenbach  
CE 42437

cc: Mr. Larry Sito, Alameda County Health Agency  
Mr. Tom Callaghan, California Regional Water Quality Control Board



TABLE 1

SUMMARY OF SOIL SAMPLE ANALYSIS RESULTS

Okada Property  
San Leandro, California

SAMPLE LOCATION	SAMPLE DEPTH (feet)	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (ppm)	BENZENE (ppm)	TOLUENE (ppm)	ETHYL-BENZENE (ppm)	XYLENES (ppm)	TOTAL PETROLEUM HYDROCARBONS AS DIESEL (ppm)
MW-1	5.5	N.D.	0.0036	0.0055	0.0047	N.D.	N.D.
	15.5	N.D.	N.D.	0.28	0.024	0.21	N.D.
	20.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	25.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	5.5	N.D.	N.D.	0.0032	0.004	N.D.	N.D.
	15.5	N.D.	N.D.	0.0031	N.D.	N.D.	N.D.
MW-3	5.5	N.D.	N.D.	N.D.	N.D.	N.D.	30
	10.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
	15.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS							
MW-1 & MW-2		10	0.003	0.003	0.003	0.003	10
MW-3		1	0.005	0.005	0.005	0.005	10

*Detection Limits are too high.*

NOTES: MW-1 and MW-2 samples collected on 3/28/89 and analyzed by Superior Analytical; MW-3 samples collected on 8/17/89 and analyzed by Anametrix.

N.D. - None Detected (below detection limit of method)

ppm - parts per million



TABLE 2  
SUMMARY OF GROUND WATER SAMPLE ANALYSIS RESULTS

Okada Property  
San Leandro, California

SAMPLE LOCATION	DATE COLLECTED	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (ppb)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL-BENZENE (ppb)	XYLENES (ppb)	TOTAL PETROLEUM HYDROCARBONS AS DIESEL (ppb)
MW-1	3/31/89	N.D.	0.4	1.8	N.D.	N.D.	N.D.
MW-2	3/31/89	N.D.	0.4	1.8	0.4	1.8	N.D.
MW-3	8/21/89	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
.....							
DETECTION LIMITS *							
	MW-1 & MW-2	1000	0.3	0.3	0.3	0.3	1000
	MW-3	50	0.5	0.5	0.5	1.0	50
DRINKING WATER LIMITS **							
	MCL's	N/A	1.0	N/A	680	1750	N/A
	AL's	N/A	N/A	100	N/A	N/A	N/A

*Detection limit is too high*

NOTES: \* - MW-1 and MW-2 samples analyzed by Superior Analytical; MW-3 sample analyzed by Anametrix.

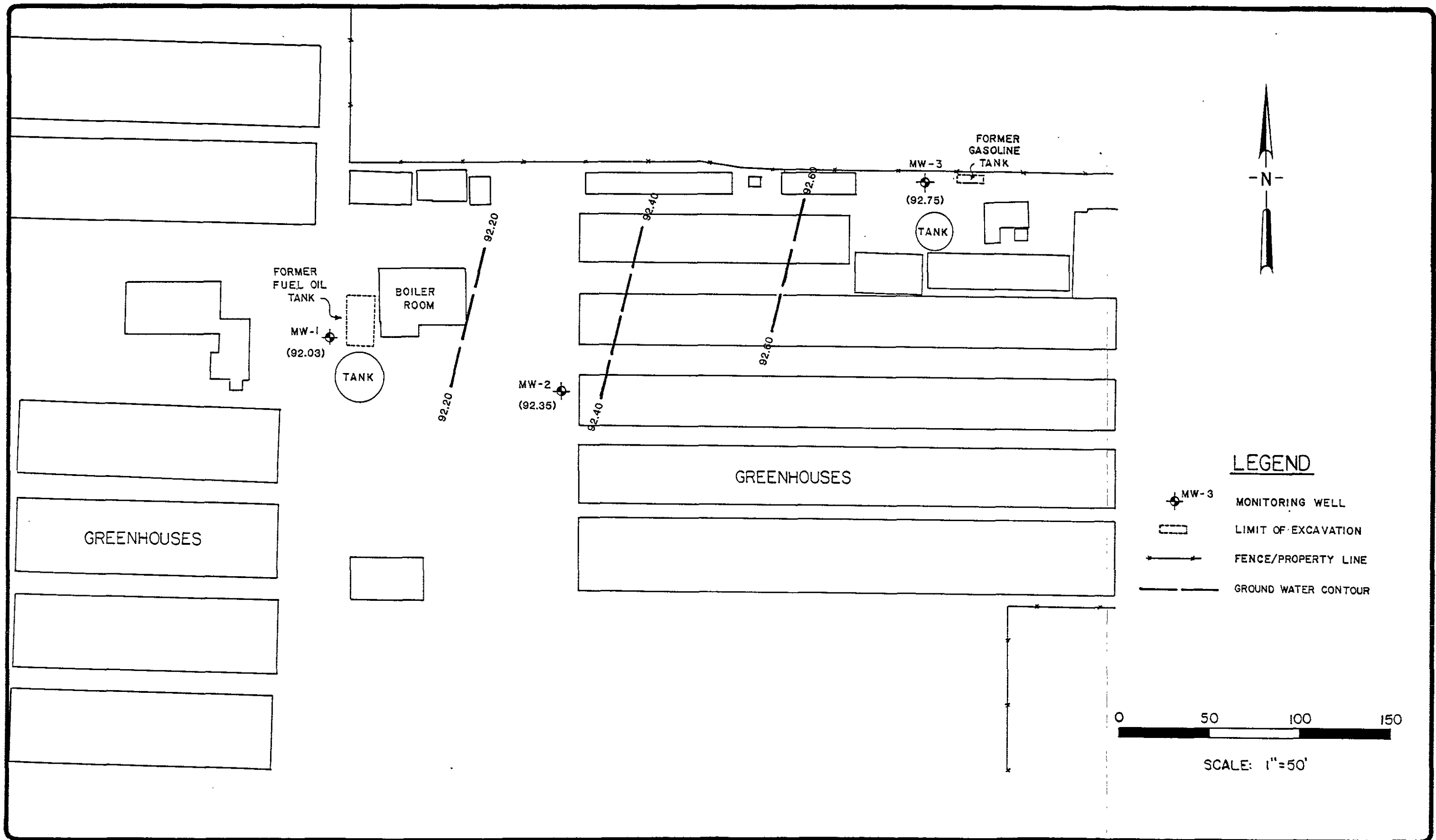
\*\* - State Maximum Contaminant Levels (MCL's) and Action Levels (AL's), April 1989.

N.D. - None Detected (below detection limit of method)

ppb - parts per billion







**GROUND WATER GRADIENT (8/21/89)**  
REF. DATUM - TOP OF MW-2 CASING = 100'

**SITE PLAN**  
OKADA PROPERTY  
SAN LEANDRO, CALIFORNIA

FIGURE  
1  
PROJECT  
4486

APPENDIX A

ZONE 7 WELL PERMIT,  
EXPLORATORY DRILL HOLE LOG  
AND  
AS-BUILT WELL DIAGRAM



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

(1) LOCATION OF PROJECT OKADA NURSERY
16109 Ashland Avenue
San Leandro

PERMIT NUMBER 89476
LOCATION NUMBER

(2) CLIENT
Name CITATION BUILDERS
Address 404 Saratoga Ave Phone 925-6000
City Santa Clara Zip 95050

PERMIT CONDITIONS

Circled Permit Requirements Apply

(3) APPLICANT
Name Terratech, Inc.
B. Kahl
Address 1365 Vander Way Phone 297-6969
City San Jose CA Zip 95112

(A) GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(4) DESCRIPTION OF PROJECT
Water Well Construction [X] Geotechnical Investigation
Cathodic Protection General
Well Destruction Contamination

(B) WATER WELLS, INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic, irrigation, and monitoring wells unless a lesser depth is specially approved.

(5) PROPOSED WATER WELL USE
Domestic Industrial Irrigation
Municipal Monitoring [X] Other

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

(6) PROPOSED CONSTRUCTION
Drilling Method:
Mud Rotary Air Rotary Auger [X]
Cable Other

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

DRILLER'S LICENSE NO. 384167

E. WELL DESTRUCTION. See attached.

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 20 ft.
Surface Seal Depth 5 ft. Number 1 (MW-3)

GEOTECHNICAL PROJECTS
Number of Borings Maximum
Hole Diameter in. Depth ft.

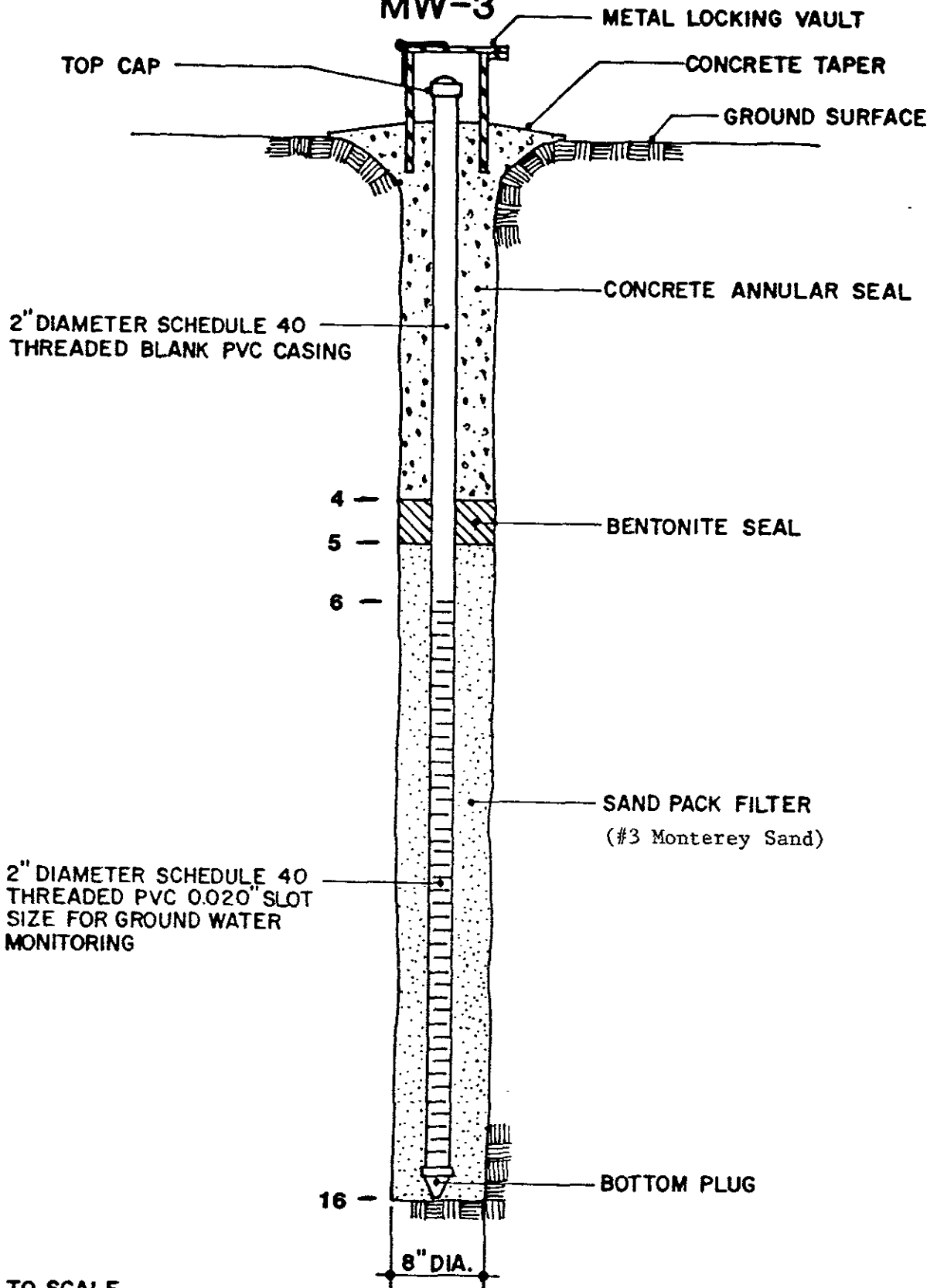
(7) ESTIMATED STARTING DATE 8/17/89
ESTIMATED COMPLETION DATE 8/17/89

(8) I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

Approved [Signature] Date 17 Aug 89
Todd N. Wendler

APPLICANT'S SIGNATURE [Signature] Date 8/14/89

MW-3



NOT TO SCALE



August 1989

TERRATECH

AS-BUILT MONITORING WELL DIAGRAM

CITATION - OKADA  
SAN LEANDRO, CALIFORNIA

FIGURE

2

PROJECT  
4486/1

# EXPLORATION DRILL HOLE LOG

HOLE No. **MW-3**

PROJECT **CITATION - OKADA**

DATE **8/17/89**

LOGGED BY **BMK**

DRILL RIG **HSW - Hollow Stem**

HOLE DIA. **8"**

SAMPLER **X = Modified Calif.**

GROUNDWATER DEPTH INITIAL **---**

FINAL **8 1/2'**

HOLE ELEV.

DESCRIPTION	SOIL TYPE	DEPTH	SAMPLE	BLOWS PER FOOT	POCKET PEN (tsf)	TORVANE (tsf)	LIQUID LIMIT	WATER CONTENT	PLASTIC LIMIT	DRY DENSITY (pcf)	FAILURE STRAIN (%)	UNCONFINED SHEAR STRENGTH (psf)
LEAN CLAY W/SAND AND GRAVEL(FILL?); brown, dry, stiff; odorless.	CL	1										
FAT CLAY(FILL?); black, moist, firm; trace fine sand; slight odor.	CH	2										
		3										
		4										
		5										
becomes greenish, with glass shards; very moist; stronger odor (possible fuel oil)		6	X	4								
SILTY SAND; gray, wet, loose; fine to medium grained. (driller reports water between 6' and 9')	SM	7										
		8										
FAT CLAY; gray - dark gray; moist, stiff; slight odor.	CH	9										
		10										
		11	X	12								
		12										
		13										
		14										
		15										
becomes light gray; still slight odor		16	X	11								
BOTTOM OF HOLE @ 16 1/2 FEET Monitoring Well Constructed		17										
		18										
		19										
		20										

APPENDIX B  
CHAIN-OF-CUSTODY RECORDS  
AND  
ANALYTICAL LABORATORY REPORTS



(408) 297-6969  
SAN JOSE OFFICE

TERRATECH

P.O. # 7931

SHEET 1 OF 1

CHAIN OF CUSTODY RECORD

"ONE-WEEK TURNAROUND"

PROJECT NAME: # 4486/1					Number of Containers	Analysis Required TPH as Gasoline TPH as Diesel BTEX	REMARKS
SAMPLERS (signature): B. Kahl							
Station Number	Date 1989	Time	Comp.	Grab	Station Location		
MW-3	8/17	AM		X		1 BRASS LINEYL	DEPTH
MW-3	8/17	AM		X			5.5-6'
MW-3	8/17	AM		X			10.5-11'
							15.5-16'
Relinquished by (signature): B. Kahl Company or Agency: Terratech			Date / Time: 8/17/89 15:10	Received by (signature): Company or Agency:		Relinquished by (signature): Company or Agency:	Date / Time: Received by (signature): Company or Agency:
Relinquished by (signature): Company or Agency:			Date / Time:	Received by (signature): Company or Agency:		Relinquished by: Company or Agency:	Date / Time: Received by (signature): Company or Agency:
Relinquished by (signature): Company or Agency: TERRATECH, INC.			Date / Time:	Received for Laboratory by: (signature) Date / Time: 8-17-89		Remarks/Shipping Information Send reports to: Eric Lautenbach 1365 VANDER WAY, SAN JOSE 95112	

# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 • Fax (408) 432-8198



# REPORT

TERRATECH  
AUG 25 1989  
RECEIVED

Eric Lautenbach  
Terratech, Inc.  
1365 Vander Way  
San Jose, CA 95112

August 23, 1989  
Anamatrix W.O.#: 8908145  
Date Received : 08/17/89  
Purchase Order#: 7931  
Project Number : 4486/1

Dear Mr. Lautenbach:

Your samples have been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

Terry Cooke  
TPH Supervisor

TC/dag



REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Terratech, Inc.	Anamatrix W.O.#: 8908145
Address : 1365 Vander Way	Date Received : 08/17/89
City : San Jose, CA 95112	Purchase Order#: 7931
Attn. : Eric Lautenbach	Project No. : 4486/1
	Date Released : 08/23/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8908145-01	MW-3 5.5-6'	SOIL	08/17/89	TPH	08/18/89	08/22/89	N/A
8908145-02	MW-3 10.5-11'	SOIL	08/17/89	TPH	08/18/89	08/22/89	N/A
8908145-03	MW-3 15.5-16'	SOIL	08/17/89	TPH	08/18/89	08/22/89	N/A

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 4486/1 MW-3 5.5-6'	Anametrix I.D. : 8908145-01
Matrix : SOIL	Analyst : <i>CS</i>
Date sampled : 08/17/89	Supervisor : <i>TC</i>
Date anl.TPHg: 08/22/89	Date released : 08/23/89
Date ext.TPHd: 08/18/89	Date ext. TOG : N/A
Date anl.TPHd: 08/22/89	Date anl. TOG : N/A

CAS #	Compound Name	Reporting Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	30000

- ND - Not detected at or above the practical quantitation limit for the method.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 4486/1 MW-3 10.5-11'  
 Matrix : SOIL  
 Date sampled : 08/17/89  
 Date anl.TPHg: 08/22/89  
 Date ext.TPHd: 08/18/89  
 Date anl.TPHd: 08/22/89

Anamatrix I.D. : 8908145-02  
 Analyst : *CR*  
 Supervisor : *TC*  
 Date released : 08/23/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Reporting Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
 ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 4486/1 MW-3 15.5-16'  
 Matrix : SOIL  
 Date sampled : 08/17/89  
 Date anl.TPHg: 08/22/89  
 Date ext.TPHd: 08/18/89  
 Date anl.TPHd: 08/22/89

Anamatrix I.D. : 8908145-03  
 Analyst : *CS*  
 Supervisor : *72*  
 Date released : 08/23/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Reporting Limit (ug/kg)	Amount Found (ug/kg)
71-43-2	Benzene	5	ND
108-88-3	Toluene	5	ND
100-41-4	Ethylbenzene	5	ND
1330-20-7	Total Xylenes	5	ND
	TPH as Gasoline	1000	ND
	TPH as Diesel	10000	ND

- ND - Not detected at or above the practical quantitation limit for the method.  
 TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.  
 TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following either EPA Method 3510 or 3550.  
 BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.



# ANAMETRIX INC

Environmental & Analytical Chemistry  
1961 Concourse Drive, Suite E, San Jose, CA 95131  
(408) 432-8192 - Fax (408) 432-8198



# REPORT

TERRATECH  
AUG 31 1989  
RECEIVED

Eric Lautenbach  
Terratech, Inc.  
1365 Vander Way  
San Jose, CA 95112

August 29, 1989  
Anamatrix W.O.#: 8908178  
Date Received : 08/22/89  
Purchase Order#: 7934

Dear Mr. Lautenbach:

Your sample has been received for analysis. The REPORT SUMMARY lists your sample identifications and the analytical methods you requested. The following sections are included in this report: RESULTS.

NOTE: Amounts reported are net values, i.e. corrected for method blank contamination.

If there is any more that we can do, please give us a call. Thank you for using ANAMETRIX, INC.

Sincerely,

ANAMETRIX, INC.

Terry Cooke  
TPH Supervisor

TC/dm

REPORT SUMMARY  
ANAMETRIX, INC. (408) 432-8192

Client : Terratech, Inc.  
Address : 1365 Vander Way  
City : San Jose, CA 95112  
Attn. : Eric Lautenbach

Anamatrix W.O.#: 8908178  
Date Received : 08/22/89  
Purchase Order#: 7934  
Project No. : 4486/1  
Date Released : 08/29/89

Anamatrix I.D.	Sample I.D.	Matrix	Date Sampled	Method	Date Extract	Date Analyzed	Inst I.D.
RESULTS							
8908178-01	MW-3	WATER	08/21/89	TPH		08/25/89	N/A

ANALYSIS DATA SHEET - PETROLEUM HYDROCARBON COMPOUNDS  
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 4386/1 MW-3  
 Matrix : WATER  
 Date sampled : 08/21/89  
 Date anl.TPHg: 08/25/89  
 Date ext.TPHd: 08/23/89  
 Date anl.TPHd: 08/24/89

Anamatrix I.D. : 8908178-01  
 Analyst : CB  
 Supervisor : TC  
 Date released : 08/29/89  
 Date ext. TOG : N/A  
 Date anl. TOG : N/A

CAS #	Compound Name	Reporting Limit (ug/l)	Amount Found (ug/l)
71-43-2	Benzene	0.5	ND
108-88-3	Toluene	0.5	ND
100-41-4	Ethylbenzene	0.5	ND
1330-20-7	Total Xylenes	1	ND
	TPH as Gasoline	50	ND
	TPH as Diesel	50	ND

- ND - Below reporting limit.
- TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
- TPHd - Total Petroleum Hydrocarbons and diesel is determined by GCFID using either EPA Method 3510 or 3550.
- BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.