City and County of San Francisco **Department of Public Health**

September 18, 1992

Attn: Scott Seery
Alameda County Health Care Services Agency
80 Swan Way #200
Oakland, CA 94621

Re: San Francisco Water Department, 505 Poloma Way, Sunol

Dear Scott:

Enclosed is the quarterly report for samples water samples taken on August 3, 1992 from the three monitoring wells at this site. Also enclosed are results of water level measurements taken on September 4, 1992.

Please call if you have any questions or concerns.

Sincerely,

Dave Wells
San Francisco Department of Public Health

cc: Lester Feldman, RWQCB

415-554-2780

Toxics, Health & Safety Services 101 Grove Street San Francisco, CA 94102

Maintenance Yard

received 10/1/92

505

Crosby & Overton

Industrial & Environmental Services

August 26, 1992 9423-S

Dave Wells
City & County of San Francisco
Department of Public Health
101 Grove Street Room 207
San Francisco, California 94102

RE: Quarterly Groundwater Monitoring Well Sampling At Sunol Water Department Facility, At 505 Paloma Way, Sunol CA. August 3, 1992 Sampling Event

Dear Mr. Wells,

Crosby & Overton, Inc. (C&O) is pleased to submit this letter report concerning the results of groundwater monitoring well sampling and analyses for three groundwater monitoring wells (MW-1, MW-2, MW-3) on August 3, 1992 at 505 Paloma Way, Sunol, California (see figure 1A).

Background

On May 15 and 16, 1990 three underground storage tanks (UST) used for the maintenance facility vehicles were removed from the Sunol yard by the joint venture of Stacy and Witbeck, and Rogers and Jenner. Soil samples were taken from two feet below the UST at a depth of approximately 10 feet below ground surface. Sampling results indicated that total petroleum hydrocarbons as gasoline (TPH-G) were found at 7.6 parts per million (ppm) and total petroleum hydrocarbons as diesel (TPH-D) were found at 40 ppm. Benzene, toluene, ethyl benzene, and total xylenes (BTEX) were detected in three of the four samples at concentrations up to 1.7 ppm.

In November 1989, American Environmental Management Corporation supervised excavation of oil-contaminated soil for the City and County of San Francisco Department of Public Health (SFDPH). Soil was excavated approximately 100 feet southwest of the former UST locations at the east end of the repair shop area, where San Francisco Water Department personnel disposed of used motor oil and solvents onto the ground. Approximately 225 square feet of soil was excavated. The excavation was extended to 5 to 7.5 feet below ground surface. During excavation, soil samples were collected by the SFDPH at depths where the soil appeared to be the most contaminated. Analysis of these soil samples indicated the presence of total oil and grease (TOG) at 31,000 ppm, and various volatile organic compounds (VOC) at 0.3 to 3.2 ppm. The excavated soil was sent to Laidlaw Environmental in Button Willow, California for disposal.

On August 22, 23, and 26, 1991 Harding Lawson Associates drilled three boreholes, converting them to three groundwater monitoring wells. Well MW-1 was installed within 10 feet of the former oil spill area. Well

8430 Amelia Street, Oakland, California 94621
(510) 633-0336 (800) 821-0424 FAX (510) 633-0759

MW-2 was installed within 10 feet of the former UST locations. Well MW-3 was installed in an assumed downgradient location from the two former source areas. At a latter date it was discovered that well MW-1 was in fact in a downgradient location from the former USTs(see figure 2).

On February 6, 1992 C&O was contracted by the SFDPH to begin quarterly sampling and monthly gauging of the three groundwater monitoring wells.

Procedures

Standard operating procedures for groundwater monitoring well sampling is included as an attachment.

After stabilization, the wells were sampled. Samples submitted for chemical analyses were delivered to Curtis & Tompkins, Ltd.. Curtis & Tompkins is certified by the state of California for the analyses requested. Samples were analyzed for extractable petroleum hydrocarbons in aqueous solutions (California DOHS method), total volatile hydrocarbons with BTEX distinction (EPA 5030/8020), total volatile hydrocarbons as gasoline (California DOHS method), total oil and grease (gravimetric, standard methods 5520 B/F), and volatile organics in water (EPA method 8240). The laboratory report and chain of custody are included at the end of this report.

TABLE 1
GROUNDWATER TABLE ELEVATION GAUGING

DATE	MW-1	MW-2	MW-3
8-27-91	218.87	218.30	218.28
10-3-91	218.92	219.10	219.06
2-7-92	218.21	218.30	218.28
2-21-92	219.28	219.42	219.39
4-1-92	218.39	218.62	218.69
4-29-92	218.61	218.70	218.68
5-27-92	218.55	218.64	218.62
6-25-92	218.72	218.90	218.80
8-3-92	218.46	218.55	218.53
TOC	238.79	239.32	238.70

TOC=TOP OF CASING ELEVATION CORRECTED TO USGS BENCHMARK DATUM 143
ALL MEASUREMENTS GIVEN IN FEET AND CORRECTED TO TOC ELEVATION

8240, incl. BTEX

TABLE 2
ANALYTIC RESULTS OF GROUNDWATER WELL SAMPLING

DATE	SAMPLE	TPH-G	TPH-D	TOG	B	T	E	X	[redacted]
2-21-92	MW-1	ND	ND	ND	NA	NA	NA	NA	ND
2-21-92	MW-2	ND	ND	ND	ND	ND	ND	ND	NA
2-21-92	MW-3	ND	ND	ND	NA	NA	NA	NA	ND
4-29-92	MW-1	ND	ND	ND	NA	NA	NA	NA	ND
4-29-92	MW-2	ND	ND	ND	ND	ND	ND	ND	NA
4-29-92	MW-3	ND	ND	ND	NA	NA	NA	NA	ND
8-3-92	MW-1	ND	ND	ND	NA	NA	NA	NA	ND
8-3-92	MW-2	ND	ND	ND	ND	ND	ND	ND	NA
8-3-92	MW-3	ND	ND	ND	NA	NA	NA	NA	ND

ND = NOT DETECTED AT OR ABOVE REPORTING LIMIT
NA = NOT ANALYZED
TPH-G = TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
TPH-D = TOTAL PETROLEUM HYDROCARBONS AS DIESEL
B = BENZENE
T = TOLUENE
E = ETHYL BENZENE
X = TOTAL XYLENES
VOC = VOLATILE ORGANIC COMPOUNDS

Analysis

All groundwater monitoring wells had below detectable quantities of contamination for the analyte measured (see table 2).

TABLE 3
GROUNDWATER GRADIENT

DATE	GROUNDWATER GRADIENT	GRADIENT DIRECTION
2-7-92	0.0015	SOUTHWEST
2-21-92	0.0022	SOUTHWEST
4-1-92	0.0046	SOUTHWEST
4-29-92	0.0015	SOUTHWEST
5-27-92	0.0014	SOUTHWEST
6-25-92	0.0026	SOUTHWEST
8-3-92	0.0012	SOUTHWEST

Conclusions

Groundwater table elevations should continue to be monitored on a monthly basis. Quarterly, groundwater samples should be taken according to the attached standard operating procedures and analyzed by EPA methods 8240, (modified)8015, and SM 5520.

Reportage

A copy of this report should be submitted, along with a cover letter from the SFDPH, to each of the addressees listed below:

Scott Seery
Alameda County Health
Care Services Agency
80 Swan Way #200
Oakland, CA 94621

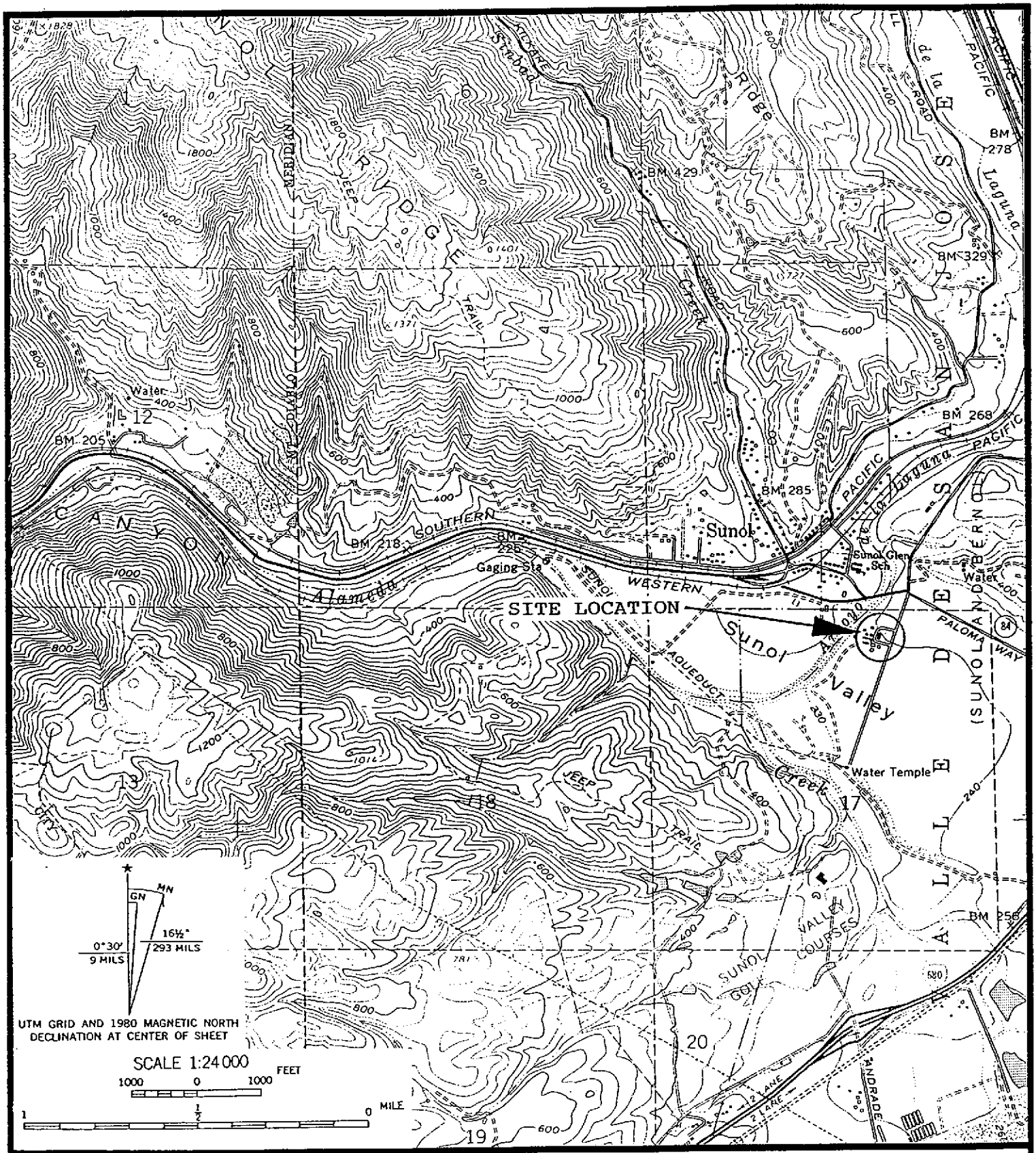
Lester Feldman
Water Quality Control Board
2101 Webster Street Suite 500
Oakland, CA 94621

If we may be of further service, or if you should have any questions please do not hesitate to contact us at your convenience (510) 633-0336.

Sincerely,

Darrell Taylor
Staff Geologist

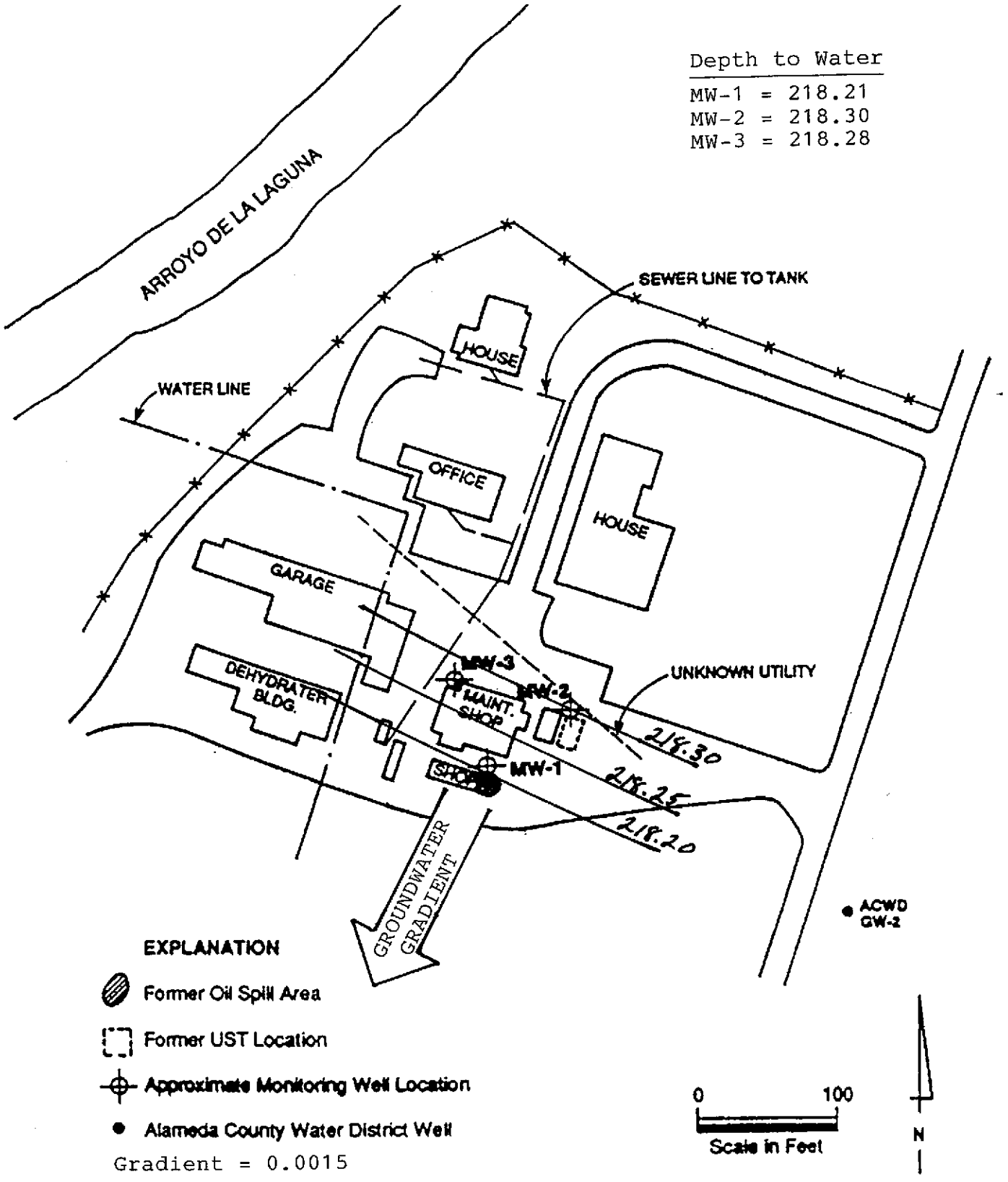
wp51\scott\sunol3.lrt



CROSBY & OVERTON, INC.

FIGURE 1A
SITE LOCATION MAP
AFTER USGS

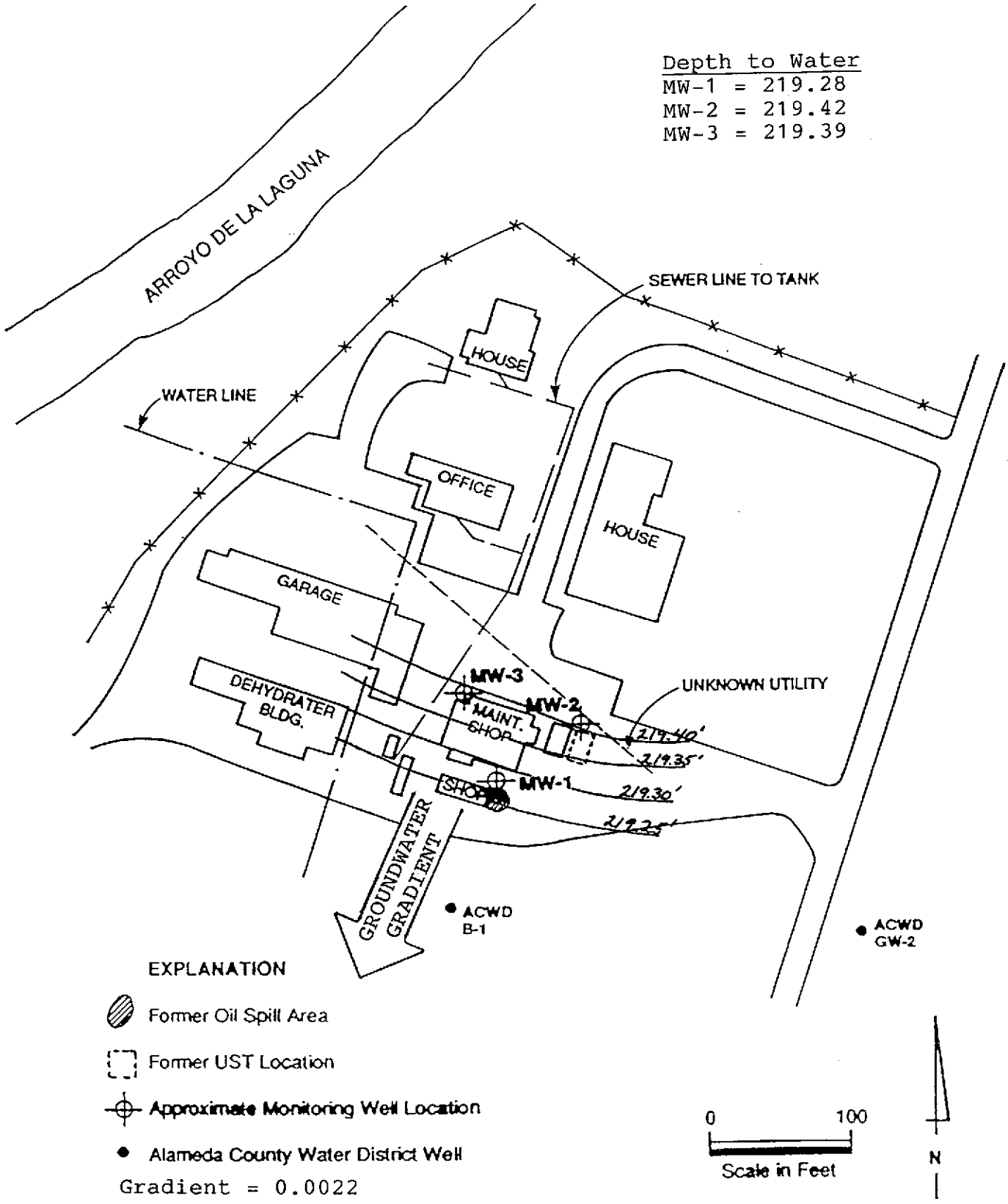
DATE: 3-16-92 JOB NUMBER: 9423-S DRAWN BY: D. Taylor



CROSBY & OVERTON, INC.

FIGURE 1
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

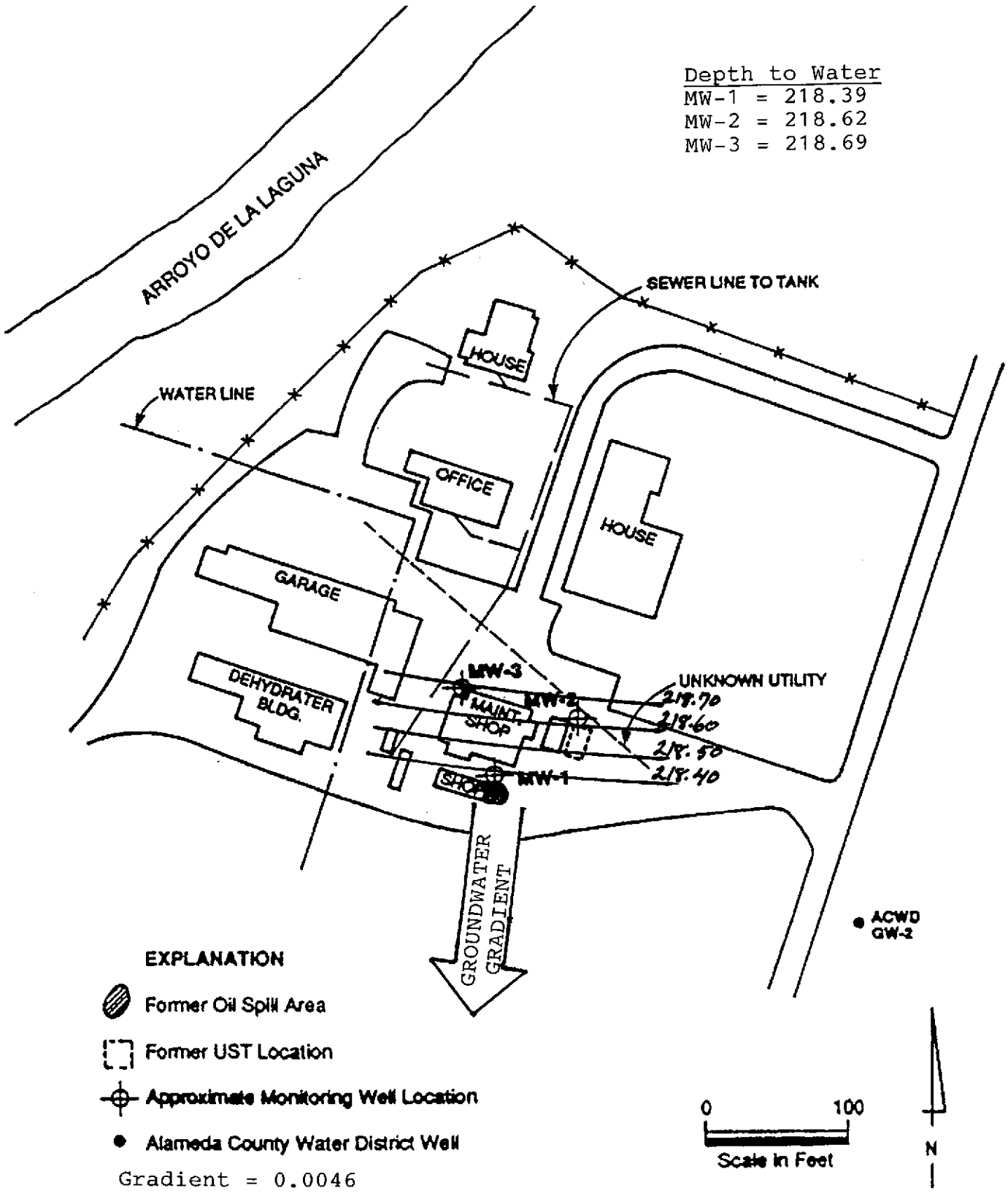
DATE: 2-7-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90



CROSBY & OVERTON, INC.

FIGURE 2
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

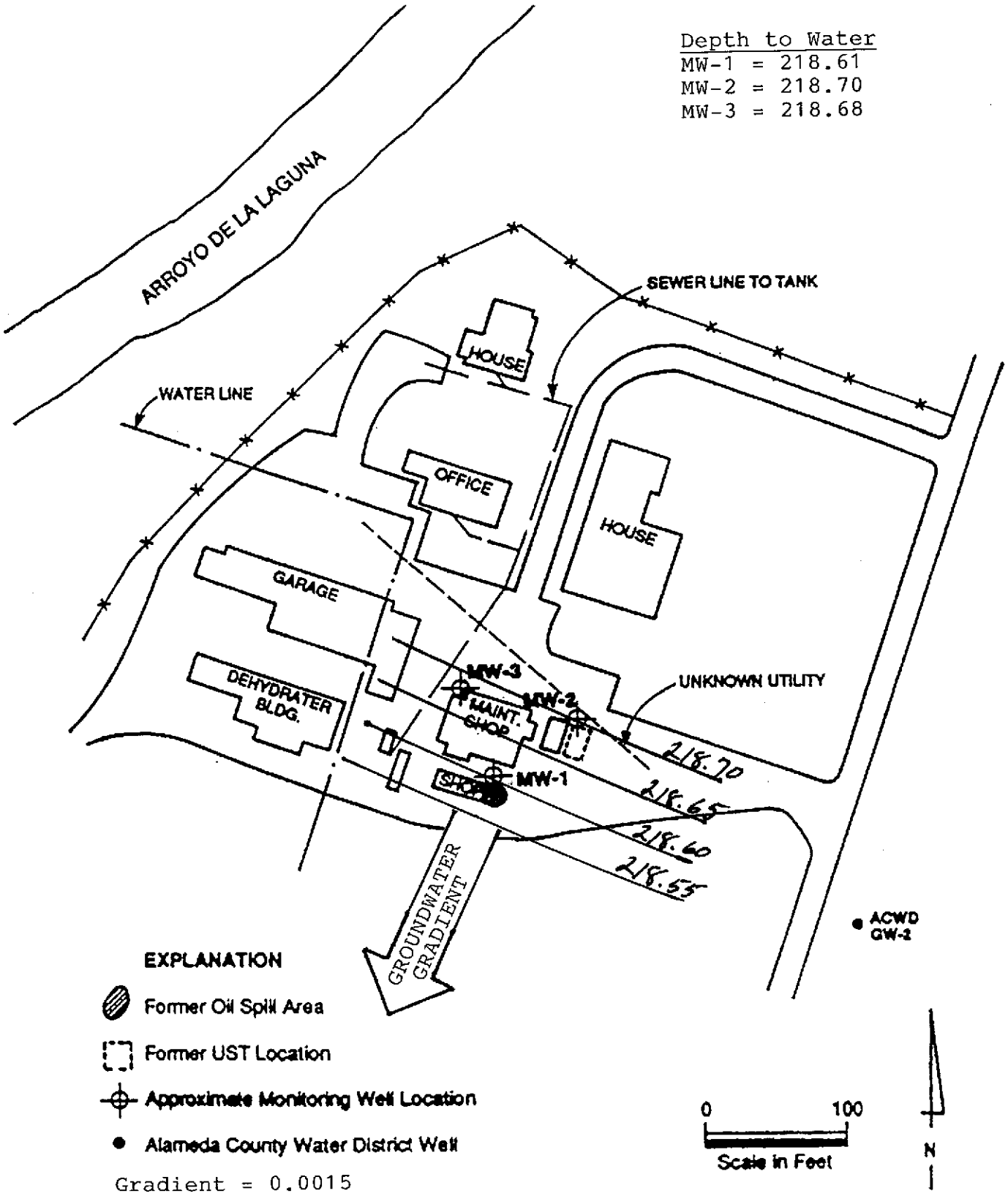
DATE: 2-21-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90



CROSBY & OVERTON, INC.

FIGURE 3
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

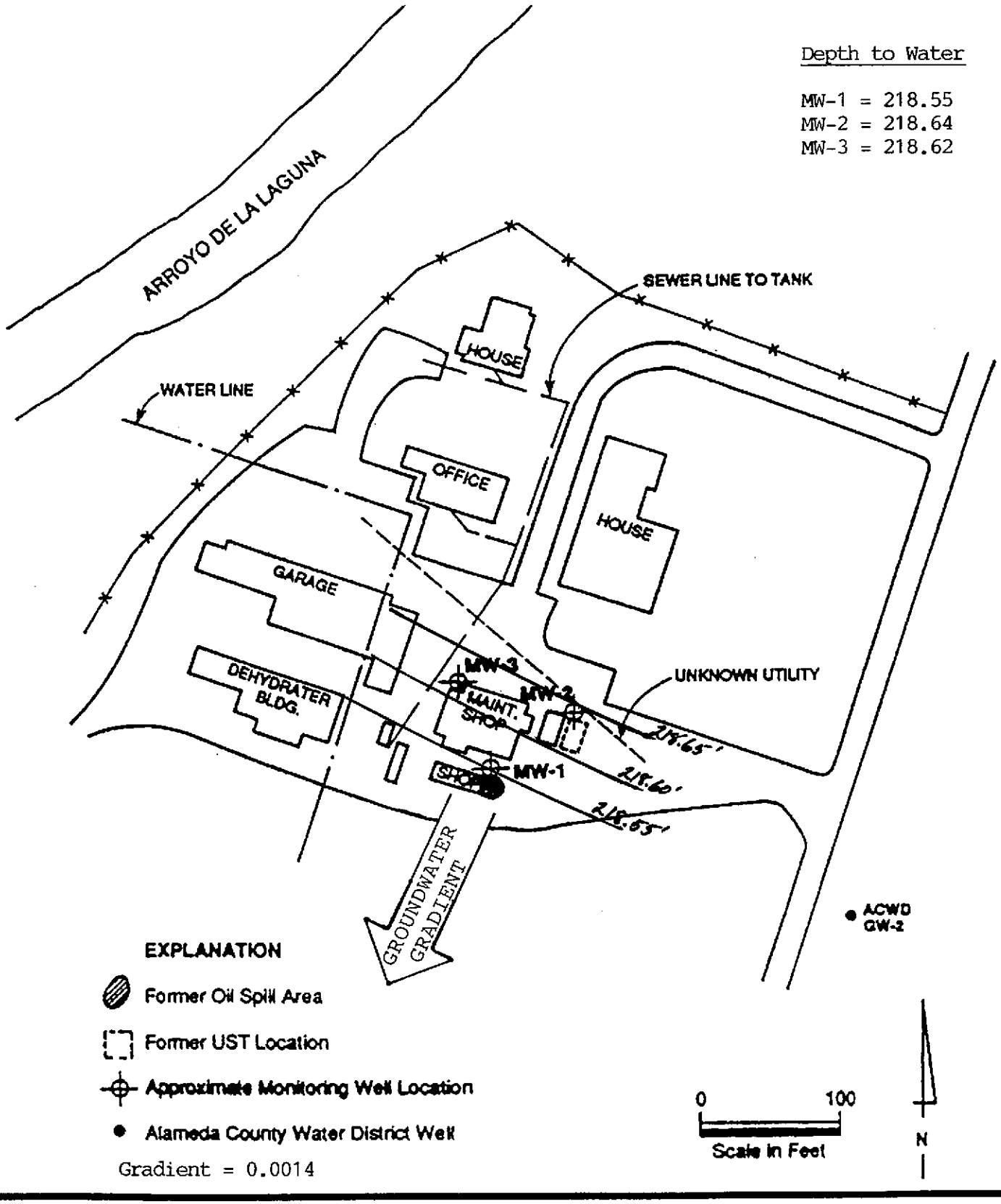
DATE: 4-1-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90



CROSBY & OVERTON, INC.

FIGURE 4
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

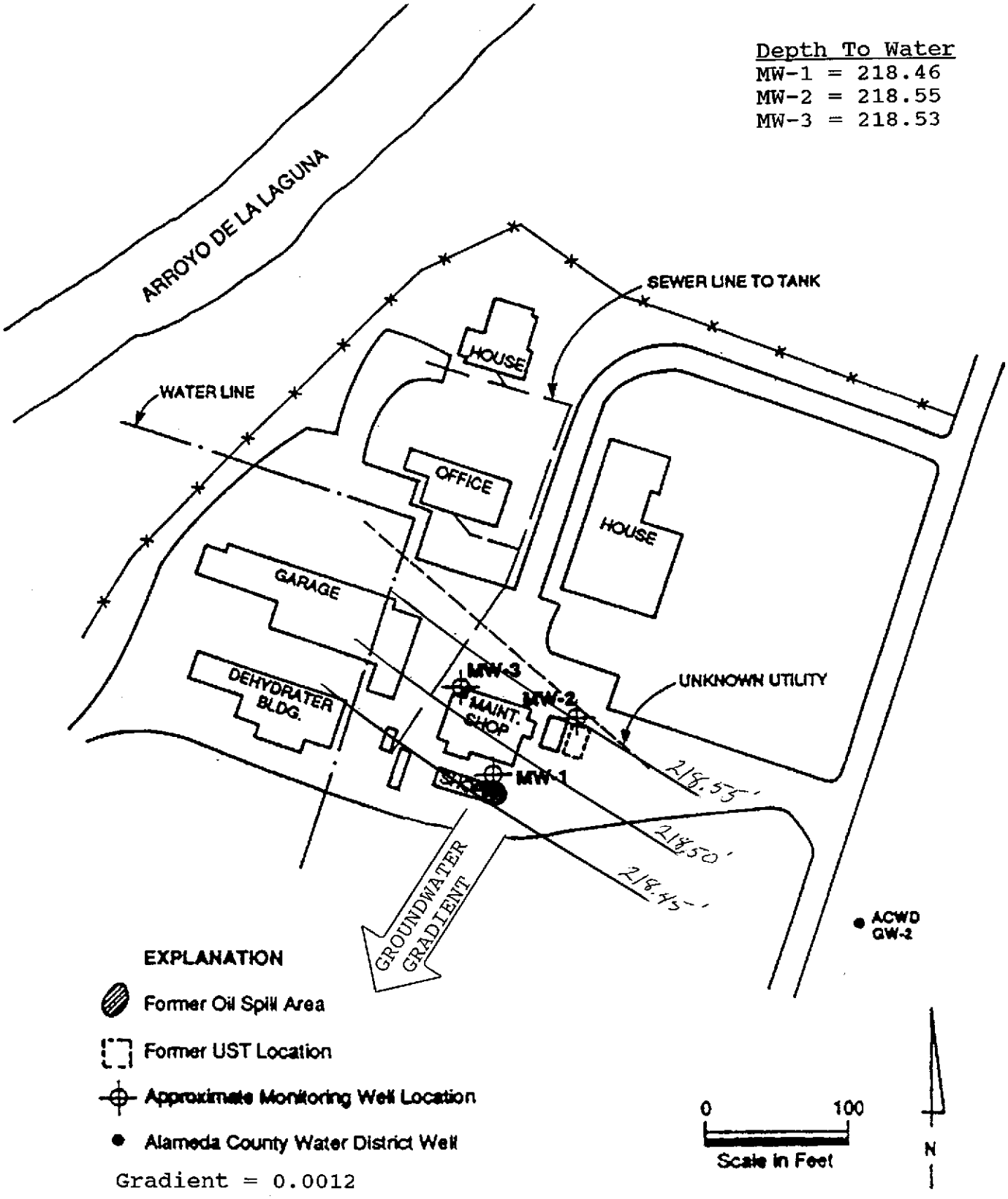
DATE: 4-29-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90



CROSBY & OVERTON, INC.

FIGURE 5
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

DATE: 5-27-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90



CROSBY & OVERTON, INC.

FIGURE 6
GROUNDWATER GRADIENT
AND POTENTIOMETRIC SURFACE

DATE: 8-3-92 JOB NUMBER: 9423-S DRAWN BY: after HLA 10/90

CROSBY & OVERTON, INC.
8430 AMELIA STREET • OAKLAND, CA 94621
(800) 821-0424 • (415) 633-0336
FAX (415) 633-0759

STANDARD OPERATING PROCEDURES

Monitoring Well Sampling

A minimum of three well volumes are pumped from each well, each well is permitted to recharge to ≥80% of original capacity and stabilize. Stabilization is determined by measuring the parameters of pH; temperature; and electrical conductivity. When two subsequent measurements of these three parameters are within 10% of each other, the well is considered stabilized and is sampled.

The samples are collected using a new polyethylene bailer with a bottom siphon and nylon cord. The bailers are disposable, and therefore, never reused. Duplicate water samples for volatile organic compounds are collected from the well and siphoned into three (3) clear 40 ml VOA vials with all headspace removed, and preserved with hydrochloric acid. For all other analyses, samples are collected in 950 ml amber glass bottles. All samples are labeled, chilled to 4°C (utilizing either crushed ice or Blue-Ice®) in an ice chest, and sent to a California State Certified hazardous materials testing laboratory under chain-of-custody documentation.

Groundwater sampling is performed in accordance with the California Regional Water Quality Control Board (RWQCB) procedures described in the *Leaking Underground Fuel Tank (LUFT) Field Manual, the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites*, and local regulatory guidelines.

Standard Environmental Protection Agency (EPA), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), and Department of Health Services (DHS) methodologies are routinely utilized.

Chain of Custody documentation accompanies all samples to the laboratory. A copy of the Chain of Custody documentation is attached to the Certificate of Analysis.

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

DATE RECEIVED: 08/03/92
DATE REPORTED: 08/13/92

LABORATORY NUMBER: 108145

CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH

PROJECT ID: 9423-S3

LOCATION: SUNOL

RESULTS: SEE ATTACHED

Reviewed By

Reviewed By

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH
PROJECT ID: 9423-S3
LOCATION: SUNOL

DATE SAMPLED: 08/03/92
DATE RECEIVED: 08/03/92
DATE ANALYZED: 08/08/92
DATE REPORTED: 08/13/92

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
108145-1	MW-1	ND	50
108145-3	MW-3	ND	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	4
RECOVERY, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH
PROJECT ID: 9423-S3
LOCATION: SUNOL

DATE SAMPLED: 08/03/92
DATE RECEIVED: 08/03/92
DATE ANALYZED: 08/08/92
DATE REPORTED: 08/13/92

Total Volatile Hydrocarbons with BTXE in Aqueous Solutions
TVH by California DOHS Method/LUFT Manual October 1989
BTXE by **EPA 5030/8020**

LAB ID	SAMPLE ID	TVH AS GASOLINE (ug/L)	BENZENE (ug/L)	TOLUENE (ug/L)	ETHYL BENZENE (ug/L)	TOTAL XYLENES (ug/L)
108145-2	MW-2	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	4
RECOVERY, %	98

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145-1
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH
PROJECT ID: 9423-S3
LOCATION: SUNOL
SAMPLE ID: **MW-1**

DATE SAMPLED: 08/03/92
DATE RECEIVED: 08/03/92
DATE ANALYZED: 08/06/92
DATE REPORTED: 08/13/92

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	93 %
Toluene-d8	89 %
Bromofluorobenzene	89 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145-3
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH
PROJECT ID: 9423-S3
LOCATION: SUNOL
SAMPLE ID: MW-3

DATE SAMPLED: 08/03/92
DATE RECEIVED: 08/03/92
DATE ANALYZED: 08/07/92
DATE REPORTED: 08/13/92

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	99 %
Toluene-d8	100 %
Bromofluorobenzene	115 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145 DATE ANALYZED: 08/06/92
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH DATE REPORTED: 08/13/92
PROJECT ID: 9423-S3
LOCATION: SUNOL
SAMPLE ID: METHOD BLANK

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	106 %
Toluene-d8	99 %
Bromofluorobenzene	95 %

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145 DATE ANALYZED: 08/07/92
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH DATE REPORTED: 08/13/92
PROJECT ID: 9423-S3
LOCATION: SUNOL
SAMPLE ID: METHOD BLANK

EPA METHOD 8240: VOLATILE ORGANICS IN WATER

COMPOUND	Result ug/L	Reporting Limit (ug/L)
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Acetone	ND	20
Carbon disulfide	ND	5
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
2-Butanone	ND	10
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Vinyl acetate	ND	10
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Dibromochloromethane	ND	5
1,1,2-Trichloroethane	ND	5
Benzene	ND	5
trans-1,3-Dichloropropene	ND	5
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	5
2-Hexanone	ND	10
4-Methyl-2-pentanone	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Tetrachloroethene	ND	5
Toluene	ND	5
Chlorobenzene	ND	5
Ethyl benzene	ND	5
Styrene	ND	5
Total xylenes	ND	5

ND = Not detected at or above reporting limit

QA/QC SUMMARY: SURROGATE RECOVERIES

1,2-Dichloroethane-d4	96 %
Toluene-d8	99 %
Bromofluorobenzene	116 %

Curtis & Tompkins, Ltd

8240 Laboratory Control Sample Report

Lab No: QC32061
Date Analyzed: 06-AUG-92
Matrix: WATER
Batch No: 6153 926098

LCS Datafile: >CH605
Operator: CW

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	57.27	50	115 %	43-129%
Trichloroethene	55.28	50	111 %	64-139%
Benzene	58.54	50	117 %	65-139%
Toluene	57.78	50	116 %	70-134%
Chlorobenzene	58	50	116 %	72-134%
Surrogate Recoveries				
1,2-Dichloroethane-d4	50.89	50	102 %	76-114%
Toluene-d8	46.9	50	94 %	88-110%
Bromofluorobenzene	45.98	50	92 %	86-115%

Results within Specifications - PASS

Curtis & Tompkins, Ltd

8240 Laboratory Control Sample Report

Lab No: QC32128 LCS Datafile: >BH710
Date Analyzed: 07-AUG-92
Matrix: WATER Operator: AV
Batch No: 6167 926139

Compound	Instrdg	SpikeAmt	% Rec	Limits
1,1-Dichloroethene	54.97	50	110 %	61-145%
Trichloroethene	53.51	50	107 %	71-120%
Benzene	53.63	50	107 %	76-127%
Toluene	52.78	50	106 %	76-125%
Chlorobenzene	52.66	50	105 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	45.17	50	90 %	76-114%
Toluene-d8	50.48	50	101 %	88-110%
Bromofluorobenzene	56.32	50	113 %	86-115%

Results within Specifications - PASS

Curtis & Tompkins, Ltd

MS/MSD Report

Matrix Sample Number: 108183-001
Lab No: QC32065 QC32066
Matrix: WATER
Batch No: 6153 926124 926125 926123

Date Analyzed: 07-AUG-92
Spike File: >CH620
Spike Dup File: >CH621
Analyst: CW

	Instrdg	SpikeAmt	% Rec	Limits
MS RESULTS				
1,1-Dichloroethene	48.79	50	98 %	61-145%
Trichloroethene	48.68	50	97 %	71-120%
Benzene	58.76	50	118 %	76-127%
Toluene	58.13	50	116 %	76-125%
Chlorobenzene	58.74	50	118 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	55.79	50	112 %	76-114%
Toluene-d8	54.53	50	109 %	88-110%
Bromofluorobenzene	50.93	50	102 %	86-115%
MSD RESULTS				
1,1-Dichloroethene	48.75	50	98 %	61-145%
Trichloroethene	47.64	50	95 %	71-120%
Benzene	56.62	50	113 %	76-127%
Toluene	56.69	50	113 %	76-125%
Chlorobenzene	56.5	50	113 %	75-130%
Surrogate Recoveries				
1,2-Dichloroethane-d4	55.22	50	110 %	76-114%
Toluene-d8	52.69	50	105 %	88-110%
Bromofluorobenzene	50.34	50	101 %	86-115%
MATRIX RESULTS				
1,1-Dichloroethene	0			
Trichloroethene	0			
Benzene	0			
Toluene	0			
Chlorobenzene	0			

RPD DATA		
1,1-Dichloroethene	0 %	< 24%
Trichloroethene	2 %	< 25%
Benzene	4 %	< 23%
Toluene	3 %	< 27%
Chlorobenzene	4 %	< 37%

Results within Specifications - PASS

Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 108145
CLIENT: SAN FRANCISCO DEPARTMENT OF HEALTH
PROJECT ID: 9423-S3
LOCATION: SUNOL

DATE SAMPLED: 08/03/92
DATE RECEIVED: 08/03/92
DATE EXTRACTED: 08/04/92
DATE ANALYZED: 08/05/92
DATE REPORTED: 08/13/92

Extractable Petroleum Hydrocarbons in Aqueous Solutions
California DOHS Method
LUFT Manual October 1989

LAB ID	CLIENT ID	KEROSENE RANGE (ug/L)	DIESEL RANGE (ug/L)	REPORTING LIMIT* (ug/L)
108145-1	MW-1	ND	ND	50
108145-2	MW-2	ND	ND	50
108145-3	MW-3	ND	ND	50

ND = Not detected at or above reporting limit.

*Reporting limit applies to all analytes.

QA/QC SUMMARY

RPD, %	1
RECOVERY, %	100

Curtis & Tompkins, Ltd.

Client: San Francisco Department of Health **Laboratory Login Number: 108145**

Project Name: Sunol
Project Number: 9423-S3

Report Date: 13 August 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **METHOD: SMWW 17:5520BF**

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
108145-001	MW-1	Water	03-AUG-92	03-AUG-92	06-AUG-92	ND	mg/L	5	TR	6155
108145-002	MW-2	Water	03-AUG-92	03-AUG-92	06-AUG-92	ND	mg/L	5	TR	6155
108145-003	MW-3	Water	03-AUG-92	03-AUG-92	06-AUG-92	ND	mg/L	5	TR	6155

ND = Not Detected at or above Reporting Limit (RL).

Curtis & Tompkins, Ltd.

QC Batch Report

Client: San Francisco Department of Health
Project Name: Sunol
Project Number: 9423-S3

Laboratory Login Number: 108145
Report Date: 13 August 92

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) **QC Batch Number: 6155**

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	5	mg/L	SMWW 17:5520BF	06-AUG-92

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	92%	SMWW 17:5520BF	06-AUG-92
BSD	86%	SMWW 17:5520BF	06-AUG-92

		Control Limits
Average Spike Recovery	89%	80% - 120%
Relative Percent Difference	6.0%	< 20%

[redacted] PROJECT NO. [redacted] PROJECT NAME [redacted] P.O. NO.

9423.53 | Sunol | Bill City/County of S.F. (Dave Wells)

SAMPLERS: Signature: Daniel Taylor | Send report attention to

STA NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH-g	TPH-g +BTEX	TPH-d	8240 VOC	TOG-B				REMARKS
MW-1	8/3/92	8:00		X	SUNOL MW-1 -1	4 VOA	X			X					HCl preserved
MW-2	8/3/92	11:00		X	SUNOL MW-2 -2	4 VOA		X							HCl preserved
MW-3	8/3/92	2:00		X	SUNOL MW-3 -3	4 VOA	X			X					HCl preserved
MW-1	8/3/92	8:00		X	SUNOL MW-1 -1	950 2 Amber			X		X				
MW-2	8/3/92	11:00		X	SUNOL MW-2 -2	950 2 Amber			X		X				
MW-3	8/3/92	2:00		X	SUNOL MW-3 -3	950 2 Amber			X		X				

Relinquished by:Signature	Date/Time	Received by:Signature	Date/Time
Daniel P. Taylor	8-3-92 3:38	Kristie Streets	8-3-92 3:58
Kristi L. Street	8-3-92 3:57	[signature]	8-3-92 1557
Relinquished by:Signature	Date/Time	Received by:Signature	Date/Time

REMARKS: BILL CITY + COUNTY S.F. (ATTN: DAVE WELLS)

NORMAL TAT

Company Name
Address
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BERKELEY, CA
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