

1400  
1507

# RECORD OF WATER SAMPLING

11/01/95

PROJECT NO.: 354 DATE: 11-1-95

WELL NO.: mw1

PROJECT NAME: Grath Bros Chev

WELL DIAMETER: 2"

PROJECT LOCATION: 59 South L Street

TOC ELEV: \_\_\_\_\_

SAMPLER: LNH

LOCK NO.: none

ANALYSES: TPHC, BTEX, D, CAG 8240

WELL DEPTH (from construction detail): \_\_\_\_\_

WELL DEPTH (measured): 43.32 SOFT BOTTOM?: NO

DEPTH TO WATER: 30.24 TIME: 1412

PRESSURE (circle one): YES OR NO

IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

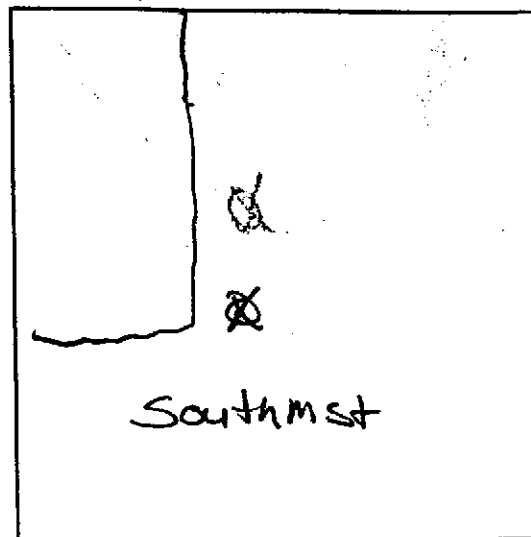
WATER VOLUME IN WELL: 2.09

[2-INCH CASING = 0.16 GAL/FT]

[4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT]

[1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 6.27 (L): 23.76 ACTUAL PURGE VOL. (GAL): \_\_\_\_\_ (L): 24

PURGE METHOD: Poly

SAMPLE METHOD: Poly

## FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
1423		4	70.0	7.95	1090		clear	no odor
1427		8	68.1	7.37	915		turb 2	"
1430		12	67.4	7.10	913		"	"
1435		16	67.2	6.95	733		"	"
1438		20	67.2	6.91	935		slight	"
1442		24	66.6	6.90	954			
1445	well sampled						59.4	

WATER VOL. IN DRUM: 40

NEED NEW DRUM?: no

SIGNATURE: \_\_\_\_\_

## SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- . Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.
- . Samples will be secured in coolers to maintain custody, control temperature and prevent breakage during transportation to the laboratory.
- . A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.
- . Ice, blue ice or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.
- . Water samples will be cooled with crushed ice. In the Alameda County Water District, water samples will be buried in the crushed ice with a thermometer, and the laboratory will be requested to record thermometer temperature at the time of receipt.
- . Each sample will be identified by affixing a pressure sensitive, gummed label or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection and the collector's initials.
- . Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capping with plastic end-caps. The tubes will be labeled, sealed in quart size bags and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples will be identified with labels; all sample bottles will be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample: site identification, sampling location, station number, date, time, sampler's name, designation of the sample as a grab or composite, notation of the type of sample (e.g., groundwater, soil boring, etc.), preservatives used, onsite measurement data and other observations or remarks.

## GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using a bladder pump, clear Teflon bailer or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% or more of its initial water level.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface probe or clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples will be handled and preserved according to the latest United States Environmental Protection Agency methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table II) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

<u>Parameter</u>	<u>Units of Measurement</u>
pH	None
Electrical Conductivity	Micromhos
Temperature	Degrees F or C
Depth to Water	Feet/Hundredths
Volume of Water Discharged	Gallons
Turbidity	NTU

Documentation: All parameter measurements will be documented in writing on TPE development logs.

## QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a quality assurance and quality control (QA/QC) program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip blanks, field blanks and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will be numbered, packaged and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water

sample is poured into appropriate containers to simulate actual sampling conditions. Contamination due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels. Full documentation of these collection and decoy procedures will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC tests designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and the United States Environmental Protection Agency-certified standards), duplicates, replicates and sample spikes. Internal QC also requires adherence to written methods, procedural documentation and the observance of good laboratory practices.

**Trace Analysis Laboratory, Inc.**

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LOG NUMBER: 5959  
DATE SAMPLED: 11/01/95  
DATE RECEIVED: 11/02/95  
DATE EXTRACTED: 11/28/95  
DATE ANALYZED: 11/28/95  
DATE REPORTED: 11/29/95

CUSTOMER: Tank Protect Engineering  
REQUESTER: Jeff Farhoomand  
PROJECT: No. 354-110195, Groth Bros., 59 South "L" Street, Livermore

Sample Type: Water

Method and Constituent:	Units	MW-1		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
Standard Method 5520BF:					
Hydrocarbon Oil and Grease	ug/l	ND	5,000	ND	5,000

QC Summary:

% Recovery: 106  
% RPD: 5.4

Concentrations reported as ND were not detected at or above the reporting limit.





LOG NUMBER: 5959  
 DATE SAMPLED: 11/01/95  
 DATE RECEIVED: 11/02/95  
 DATE EXTRACTED: 11/08/95  
 DATE ANALYZED: 11/23/95  
 DATE REPORTED: 11/29/95  
 PAGE: Two

Sample Type: Water

Method and Constituent:	Units	MW-1		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
DHS Method:					
Total Petroleum Hydro- carbons as Diesel	ug/l	ND	50	ND	50

QC Summary:

% Recovery: 104  
 % RPD: 9.6

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 5959  
 DATE SAMPLED: 11/01/95  
 DATE RECEIVED: 11/02/95  
 DATE ANALYZED: 11/03/95 and 11/04/95  
 DATE REPORTED: 11/29/95  
 PAGE: Three

Sample Type: Water

Method and Constituent:	Units	MW-1		MW-2		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
DHS Method:							
Total Petroleum Hydro- carbons as Gasoline	ug/l	110	50	ND	50	ND	50
EPA Method 8020 for:							
Methyl t-Butyl Ether	ug/l	ND	5.0	ND	5.0	ND	5.0
Benzene	ug/l	ND	0.50	ND	0.50	ND	0.50
Toluene	ug/l	ND	0.50	ND	0.50	ND	0.50
Ethylbenzene	ug/l	ND	0.50	ND	0.50	ND	0.50
Xylenes	ug/l	ND	1.5	ND	1.5	ND	1.5

QC Summary:

% Recovery: 97  
 % RPD: 0.9

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 5959  
DATE SAMPLED: 11/01/95  
DATE RECEIVED: 11/02/95  
DATE ANALYZED: 11/08/95  
DATE REPORTED: 11/29/95  
PAGE: Four

Sample Type: Water

Method and Constituent:	Units	MW-1		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 8240:					
Chloromethane	ug/l	ND	5.0	ND	5.0
Bromomethane	ug/l	ND	5.0	ND	5.0
Dichlorodifluoromethane	ug/l	ND	5.0	ND	5.0
Vinyl Chloride	ug/l	ND	10	ND	10
Chloroethane	ug/l	ND	10	ND	10
Iodomethane	ug/l	ND	100	ND	100
Methylene Chloride	ug/l	ND	140	ND	140
Acetone	ug/l	ND	100	ND	100
Carbon Disulfide	ug/l	ND	100	ND	100
Trichlorofluoromethane	ug/l	ND	10	ND	10
1,1-Dichloroethene	ug/l	ND	5.0	ND	5.0
Allyl Chloride	ug/l	ND	5.0	ND	5.0
1,1-Dichloroethane	ug/l	ND	5.0	ND	5.0
Trans-1,2-Dichloroethene	ug/l	ND	5.0	ND	5.0
Chloroform	ug/l	ND	5.0	ND	5.0
2-Butanone (MEK)	ug/l	ND	100	ND	100
1,2-Dichloroethane	ug/l	ND	5.0	ND	5.0
Dibromomethane	ug/l	ND	5.0	ND	5.0
1,1,1-Trichloroethane	ug/l	ND	5.0	ND	5.0
Carbon Tetrachloride	ug/l	ND	5.0	ND	5.0

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 5959  
 DATE SAMPLED: 11/01/95  
 DATE RECEIVED: 11/02/95  
 DATE ANALYZED: 11/08/95  
 DATE REPORTED: 11/29/95  
 PAGE: Five

Sample Type: Water

Method and Constituent	Units	MW-1		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 8240 (Continued):					
Vinyl Acetate	ug/l	ND	50	ND	50
Bromodichloromethane	ug/l	ND	5.0	ND	5.0
1,2-Dichloropropane	ug/l	ND	5.0	ND	5.0
Cis-1 3-Dichloropropene	ug/l	ND	5.0	ND	5.0
Bromoacetone	ug/l	ND	100	ND	100
Trichloroethene	ug/l	ND	5.0	ND	5.0
Benzene	ug/l	ND	5.0	ND	5.0
Chlorodibromomethane	ug/l	ND	5.0	ND	5.0
1,1,2-Trichloroethane	ug/l	ND	5.0	ND	5.0
Trans-1 3-Dichloropropene	ug/l	ND	5.0	ND	5.0
1 2-Dibromoethane (EDB)	ug/l	ND	5.0	ND	5.0
2-Chloroethylvinyl Ether	ug/l	ND	10	ND	10
Bromoform	ug/l	ND	5.0	ND	5.0
1,1,1,2-Tetrachloroethane	ug/l	ND	5.0	ND	5.0
4-Methyl-2-Pentanone (MIBK)	ug/l	ND	50	ND	50
2-Hexanone	ug/l	ND	50	ND	50
1,2,3-Trichloropropane	ug/l	ND	5.0	ND	5.0
1,1,2,2-Tetrachloroethane	ug/l	ND	5.0	ND	5.0
Tetrachloroethene	ug/l	300	5.0	ND	5.0
Toluene	ug/l	ND	5.0	ND	5.0
Chlorobenzene	ug/l	ND	5.0	ND	5.0
EthylBenzene	ug/l	ND	5.0	ND	5.0

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 5959  
DATE SAMPLED: 11/01/95  
DATE RECEIVED: 11/02/95  
DATE ANALYZED: 11/08/95  
DATE REPORTED: 11/29/95  
PAGE: Six

Sample Type: Water

Method and Constituent	Units	MW-1		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit
EPA Method 8240 (Continued):					
1,2-Dibromo 3-Chloropropane	ug/l	ND	100	ND	100
Benzyl Chloride	ug/l	ND	100	ND	100
Styrene	ug/l	ND	5.0	ND	5.0
Xylenes	ug/l	ND	15	ND	15
1,3-Dichlorobenzene	ug/l	ND	5.0	ND	5.0
1,2-Dichlorobenzene	ug/l	ND	5.0	ND	5.0
1,4-Dichlorobenzene	ug/l	ND	5.0	ND	5.0

Surrogate % Recovery

1,2-Dichloroethane-d4	129	134
Toluene-d8	109	111
4-Bromofluorobenzene	103	107

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis  
Quality Assurance/Quality Control Manager



TANK PROTECT ENGINEERING  
of Northern California, Inc.

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5959

LAB: TAL

TURNAROUND: 15 Day

P.O. #: 1145

PAGE 1 OF 1

### CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CON- TAINER	ANALYTES REQUESTED						REMARKS		
354110195		Groth Boos 5A So L Street					TOTAL LIGHT HC	AROMATIC HC	TOTAL HEAVY HC	OIL & GREASE	PC SOLV	OTHER			
SAMPLER MAKE, ADDRESS AND TELEPHONE NUMBER															
Lee Hutchins 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088															
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION										
MW-1	11/1	1445		X		2g/KCS 4-40ml	X	X	X	X	X		ORG method 5526F - 1-1.2er w/HCL		
MW-2	11/1	1450		X		2+ml	X	X							
Relinquished by: (Signature)						Date / Time	Received by: (Signature)						Date / Time	Received by: (Signature)	
Lee Hutchins						11/2/95 11:00am									
Relinquished by: (Signature)						Date / Time	Received by: (Signature)						Date / Time	Received by: (Signature)	
Relinquished by: (Signature)						Date / Time	Received for Laboratory by: (Signature) For TAL						Date / Time	Remarks	
							Lee Hutchins						11/2/95 11:00am		

picked up, unles, mw1 = 2 liter, 4-40ml w/HCL mw2 = 2-40ml w/HCL, white ref, 15 day TAT, 20  
DATE: 11-1-95