

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



Alameda County CC4580
Environmental Health Services
1131 Harbor Bay Pkwy., #250
Alameda CA 94502-6577
(510)567-6700 FAX(510)337-9335

REMEDIAL ACTION COMPLETION CERTIFICATION

StID 4296 - ⁶³⁶~~526~~ Terminal Circle, Livermore, CA

May 31, 1996

Mr. Ken Ross
City of Livermore
3589 Pacific Ave
Livermore, CA 94550


Dear Mr. Ross:

This letter confirms the completion of site investigation and remedial action for the four former underground storage tanks (2-12,000 and 2-10,000 gallon aviation and jet fuel tanks) removed from the above site on August 1991 and August 1992. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Title 23, Division 3, Chapter 16, Section 2721(e) of the California Code of Regulations. Please contact Ms. Eva Chu at (510) 567-6700 if you have any questions regarding this matter.

Very truly yours,


Mee Ling Tung, Director

cc: Chief, Division of Environmental Protection
Kevin Graves, RWQCB
Lori Casias, SWRCB (with attachment)
Danielle Stefani, LFD
files (11va1r.6)

61-0918

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION

Date: April 17, 1996

Agency name: Alameda County-HazMat Address: 1131 Harbor Bay Pkwy
City/State/Zip: Alameda, CA 94502 Phone: (510) 567-6700
Responsible staff person: Eva Chu Title: Hazardous Materials Spec.

II. CASE INFORMATION

Site facility name: Livermore Municipal Airport
Site facility address: 626 Terminal Circle, Livermore, CA 94550
RB LUSTIS Case No: N/A Local Case No./LOP Case No.: 4296
URF filing date: 11/20/91 SWEEPS No: N/A

<u>Responsible Parties:</u>	<u>Addresses:</u>	<u>Phone Numbers:</u>
City of Livermore Attn. Ken Ross	3589 Pacific Ave Livermore, CA 94550	510/373-5254

<u>Tank No:</u>	<u>Size in gal.:</u>	<u>Contents:</u>	<u>Closed in-place or removed?:</u>	<u>Date:</u>
1	10,000	Aviation Fuel	Removed	8/1/91
2	10,000	Aviation Fuel	Removed	8/1/91
3	12,000	Jet Fuel	Removed	8/18/92
4	12,000	Aviation Fuel	Removed	8/18/92

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: Piping leak
Site characterization complete? YES
Date approved by oversight agency: 2/27/96
Monitoring Wells installed? No Number:
Proper screened interval? NA
Highest GW depth below ground surface: Unknown, however, groundwater was encountered in boreholes at approximately 28' bg.
Flow direction: Regional GW flow is to west, northwest.
Most sensitive current use: Airport
Are drinking water wells affected? No Aquifer name: Amador Subbasin
Is surface water affected? No Nearest affected SW name: NA
Off-site beneficial use impacts (addresses/locations): None

Report(s) on file? YES Where is report(s) filed? Alameda County
1131 Harbor Bay Pkwy
Alameda, CA 94502

IRONMENTAL
PROTECTION
MAY 28 PM 3:03

Treatment and Disposal of Affected Material:

<u>Material</u>	<u>Amount (include units)</u>	<u>Action (Treatment or Disposal w/destination)</u>	<u>Date</u>
Tank	2 USTs (10K)	Disposed at LMC Metals, Richmond	8/1/91
	2 USTs (12K)	Disposed at Schniter Steel, Oakland	8/21/92
Piping	630 feet	Disposed at LMC Metals, Richmond	8/1-7/91
Rinseate	1075 gallons	Gibson Pilot, in Redwood City	7/31/91
Soil	100 cy	Lonestar, in Pleasanton	unknown
	40 cy	Mountain View L.F., in Mountain View	12/5/91
	50 cy	Vasco Rd L.F. in Livermore	8/2/91
	740 cy	Re-used onsite for landscaping	1996

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

<u>Contaminant</u>	<u>Soil (ppm)</u>		<u>Water (ppb)</u>	
	<u>Before¹</u>	<u>After</u>	<u>Before</u>	<u>After</u>
TPH (Gas)	3,400	14	NA	ND
TPH (Diesel)	ND ²		NA	NA
Benzene	1.4	0.011	NA	ND
Toluene	370	0.049	NA	ND
Ethylbenzene	15	0.067	NA	ND
Xylenes	29	0.079	NA	ND

NOTE: 1 From product pipeline trench sample PL517-3
2 From jet fuel tank excavation

Comments (Depth of Remediation, etc.):

See Section VII, Additional Comments, etc...

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
 Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
 Does corrective action protect public health for current land use? **YES**
 Site management requirements: **None**
 Should corrective action be reviewed if land use changes? **YES**
 Monitoring wells Decommissioned: **NA**
 Number Decommissioned: Number Retained: **NA**
 List enforcement actions taken: **None**
 List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Eva Chu Title: Haz Mat Specialist

Signature:  Date: 5/9/96

Reviewed by

Name: Scott Seery Title: Sr. Haz Mat Specialist

Signature:  Date: 4-17-96

Name: Tom Peacock Title: Supervisor

Signature:  Date: 5-9-96

VI. RWQCB NOTIFICATION

Date Submitted to RB: 5/10/96

RB Response: 

RWQCB Staff Name: Kevin Graves

Title: AWRCE

Signature:

Date: 5/23/96

VII. ADDITIONAL COMMENTS, DATA, ETC.

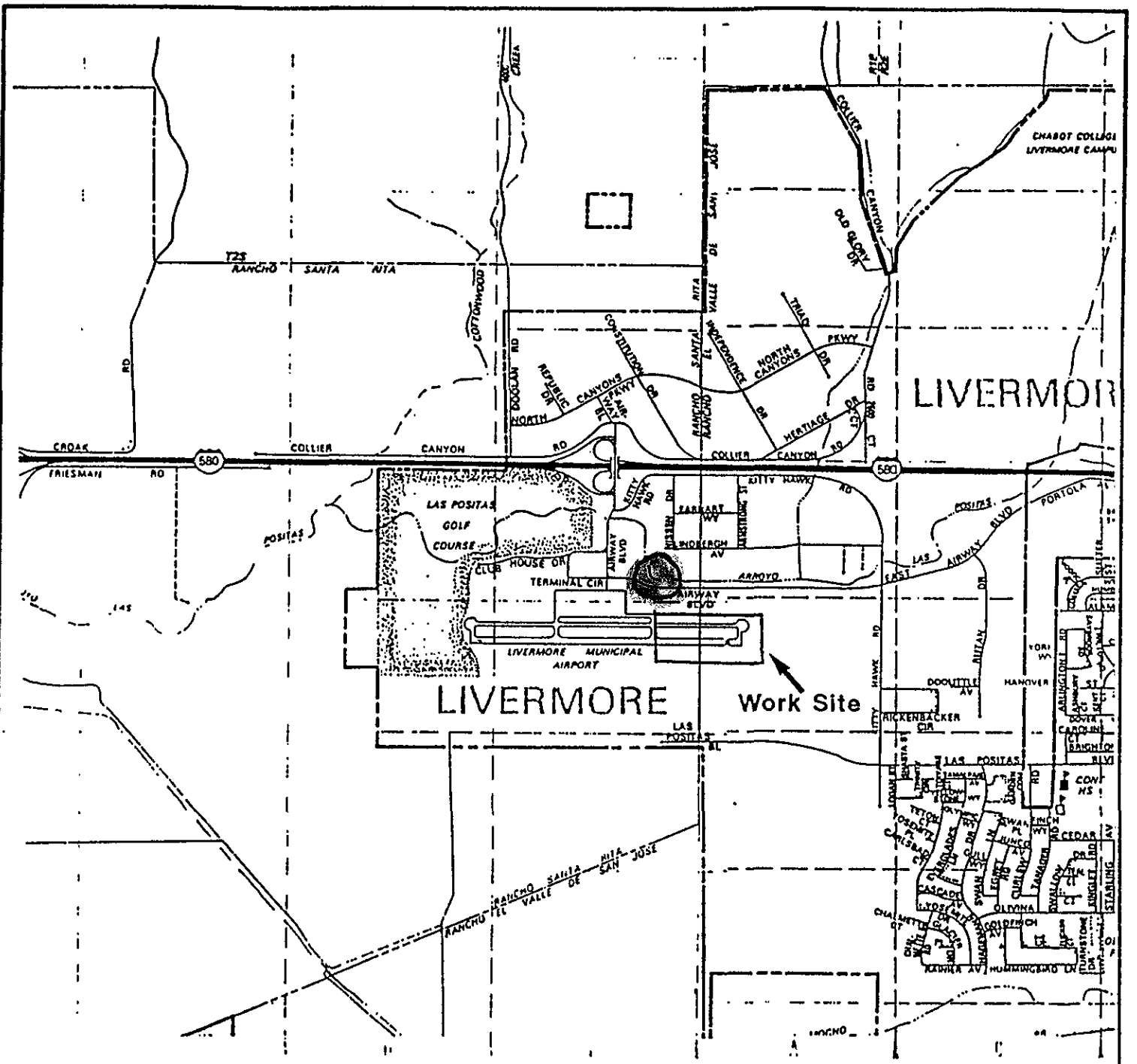
Two 10K aviation fuel USTs were removed from a common pit located at the east end of the main airport tarmac, south of Airport Blvd, on August 1, 1991. Soil samples collected beneath either end of the USTs did not reveal elevated levels of TPH-G or BTEX. (See Fig 1 and 2, Table 1). Approximately 250' of product piping were removed. Soil samples were collected from 3 to 4' depth for every 20 linear feet of piping and from obvious "hot" spots noted. Samples PL270-3 and PL517-3 exhibited elevated levels of TPH-G and BTEX. (See Fig 3, Table 2).


The area around samples PL270 and PL 517 was overexcavated to approximately 7.5' and 10' depth, respectively. Confirmatory samples did not contain detectable levels of TPH-G or BTEX. (See Fig 3, Table 3).



On October 27, 1995 two soil borings were advanced approximately 10' west of sample area PL270 and PL517. Borings were advanced to 30' bgs (encountering groundwater at approximately 28' bgs). Select soil samples collected from 10, 20, and 30' depths did not exhibit TPH-G or BTEX. (See Fig 4 and boring logs.) "Grab" groundwater samples from each boring did not contain TPH-G or BTEX. It appears overexcavation to remove hydrocarbon-impacted soils at these two areas were successful. Groundwater does not appear to be impacted by the fuel release. Permanent groundwater monitoring wells are not warranted.

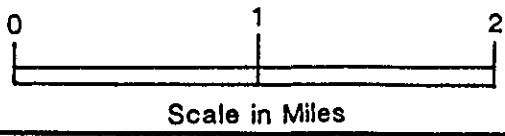
On August 18, 1992 one 12K jet fuel UST and one 12K aviation fuel UST were removed from an old fuel farm north of Airport Blvd. Soil samples collected from native soil beneath either end of each tank did not contain TPH-G, TPH-D, or BTEX. However, fill material had an obvious hydrocarbon odor and was removed and stockpiled onsite for further characterization. The pit was backfilled with clean material. (See Fig 5, Table 4.)

Approximately 90 cy of fuel contaminated soil were taken to Vasco Road L.F. and Mountain View L.F. for disposal. Another 100 cy of "clean" soil were taken to RMC Lonestar, in Pleasanton, for re-use. Approximately 740 cubic yards of overburden remain onsite. It has been sampled and diesel levels ranging from 1.8 to 7.0 ppm remain. No BTEX compounds were detected. The City of Livermore intends to re-use this soil for landscaping.



 USTs + Piping removed in Aug 1991

  Old tank farm - UST removed in Aug 1992



Site Location Map Livermore Airport		PLATE 1
Balch Petroleum		
JOB NUMBER 929367	DATE 7/92	

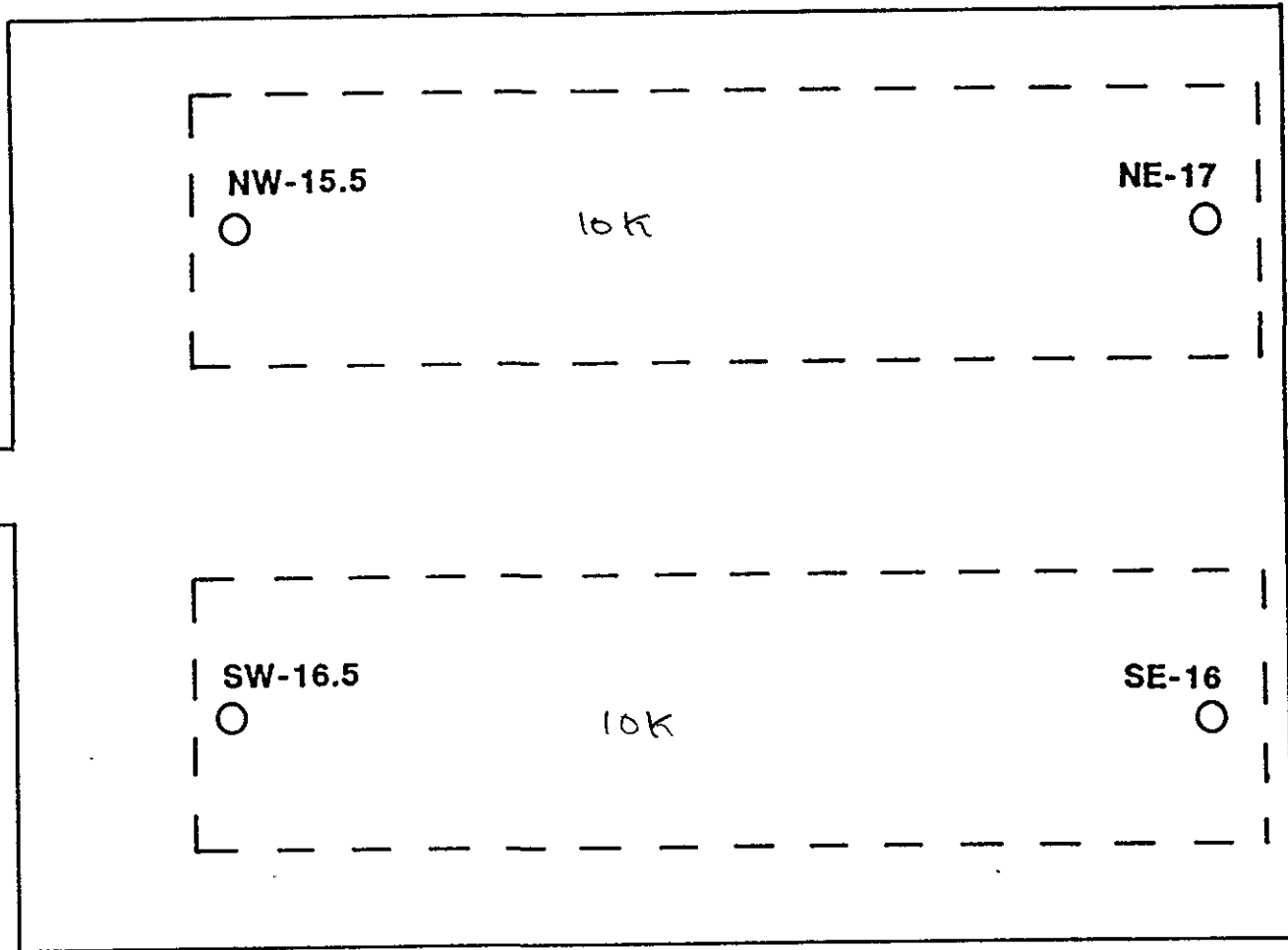
ATT Aqua Terra Technologies
Consulting Engineers
& Scientists



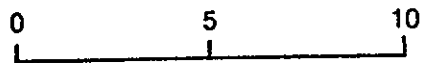
— Pipeline Trench

○ Soil Sample Collection Locations
(Samples Collected on August 1, 1991)

--- Former Location of UST



Tank Excavation Boundary



Scale in Feet

PLATE

2

ATT

Aqua Terra Technologies
Consulting Engineers
& Scientists

Sampling Locations
Tank Excavation
Livermore Airport

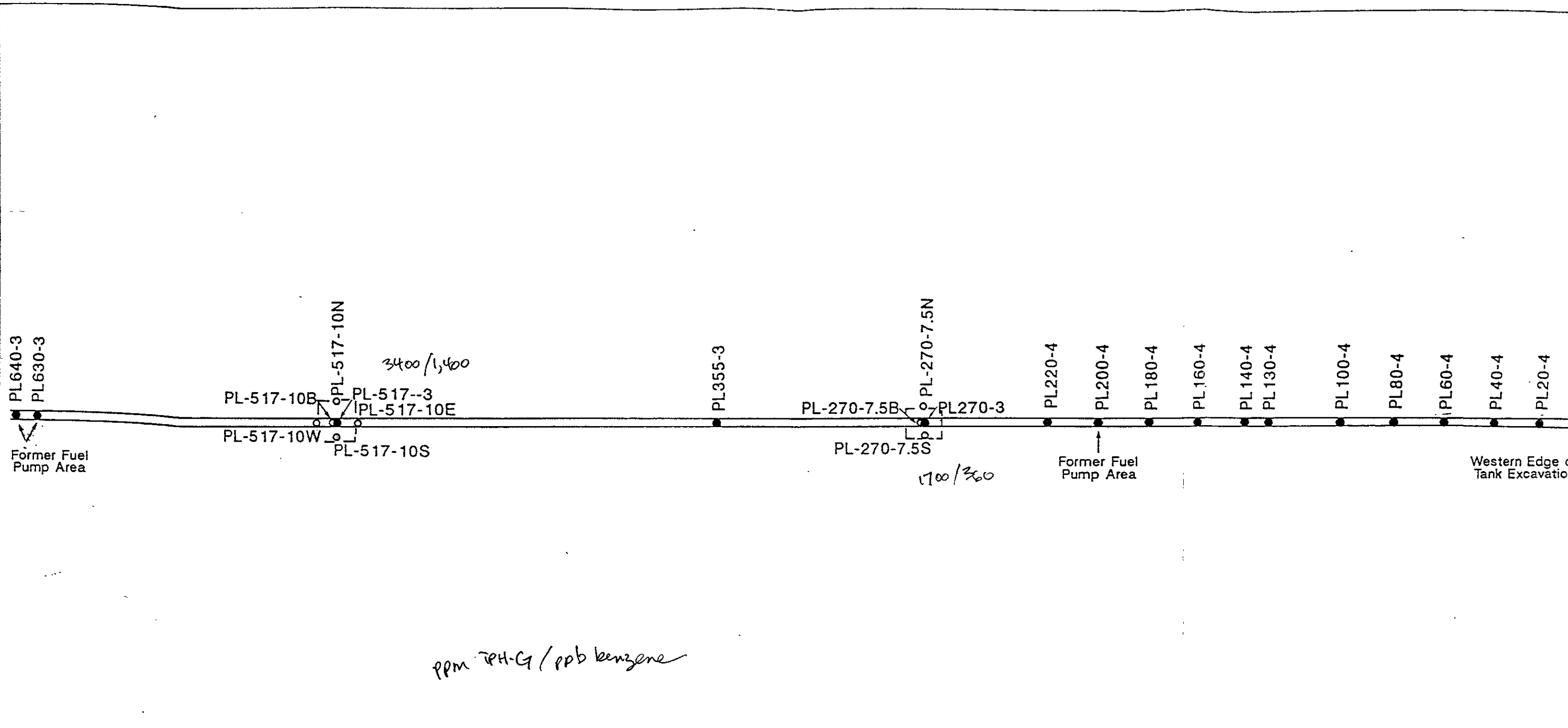
Balch Petroleum

JOB NUMBER

929367

DATE

7/92



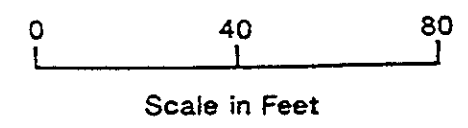
Former Fuel Pump Area

Former Fuel Pump Area

Western Edge Tank Excavation

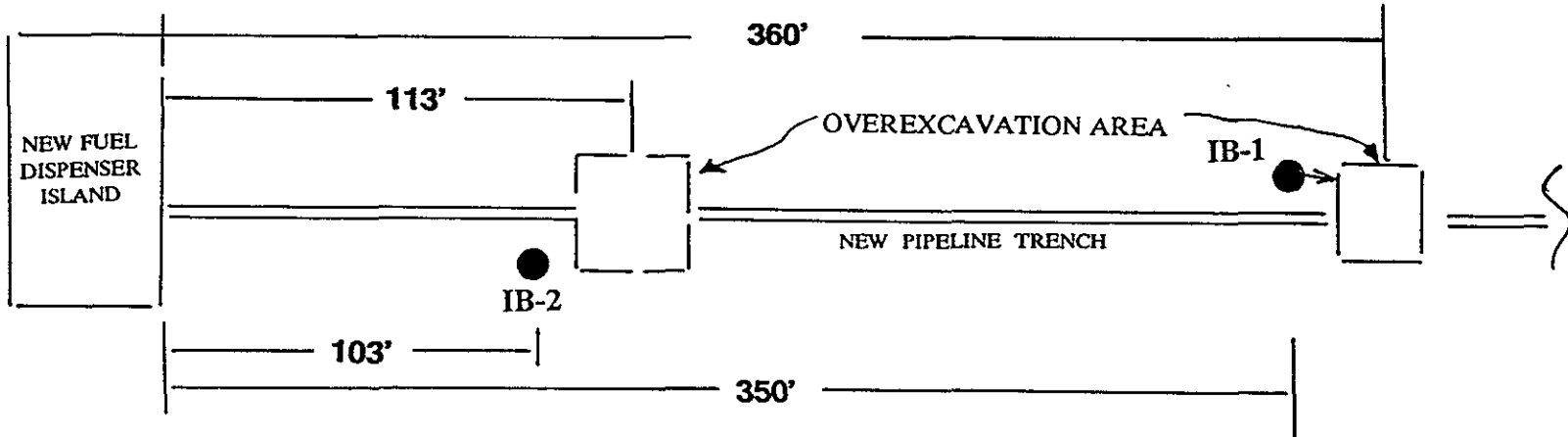
ppm TPH-G / ppb benzene

- Soil Samples Collected on August 7, 1991 (Pipeline Trench)
- Soil Samples Collected on August 20, 1991 (Hot Spots)
- - Area of Hot Spot, Over Excavation



ATT Aqua Terra Technologies
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& Scientists

Soil Sampling Locations Pipeline Trench & Hot Spots Livermore Airport		
Balch Petroleum		PLATE
JOB NUMBER 929367	DATE 7/92.	3



BORING LOCATION ●

NOT TO SCALE

DESIGNED BY :	DATE :
DRAWN BY :	SCALE :
CHECKED BY :	SEC. :
DRAWING NO. :	

CENTURY WEST  ENGINEERING

FIGURE 4
SITE PLAN
CWEC: 20549-005-01

DRAWING NO.
SHEET NO.

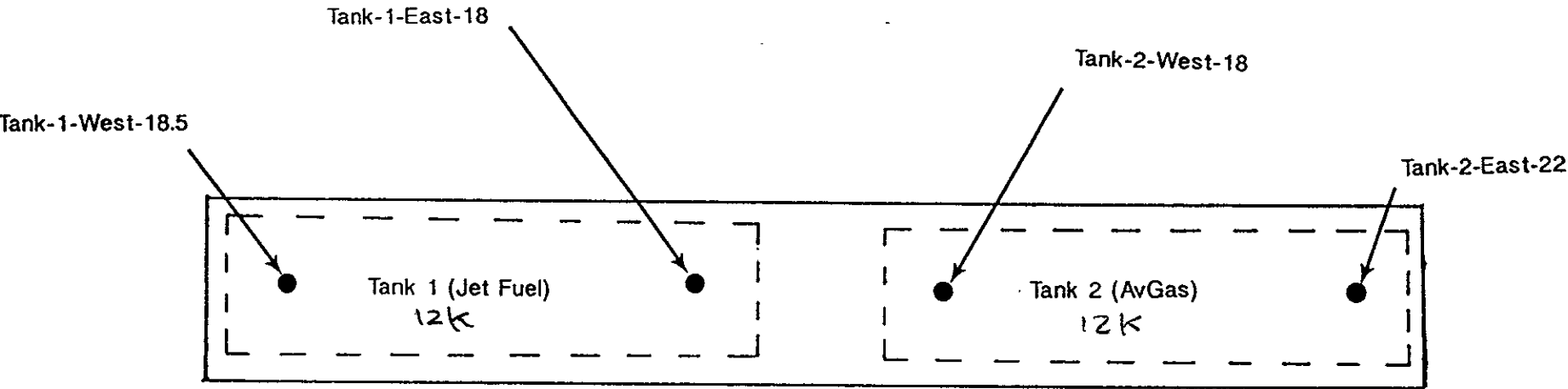
SOIL BORING LOG IB-1		CENTURY WEST ENGINEERING	
Drilling Date: October 27, 1995		Boring IB: IB-1	
Site Location: 636 Terminal Circle		Boring Location: 350 feet from dispenser island	
Purpose: Soil and ground water investigation		Consulting Firm: Century West Engineering	
Project Number: 20549-005-01		Drilling Contractor: Kvillhaug Well Drilling	
Drilling Method: Hollow Stem Auger		Total Depth: 30.0 ft	
Initial GW Depth: 28.0 ft		Remarks	
Depth	Sample Interval	Sample ID	Blow Counts
01			
02			
03			
04			
05			
06	T	IB-1.1	8 8 9
07	T		
08			
09			
10			
11	T	IB-1.2	8 8 5
12			
13			
14			
15			
16			
17			
18			
19			
20			
21	T	IB-1.3	8 10 12
22			
23			
24			
25			
26			
27			
28			
29			
30	T	IB-1.4	8 18 12
-A-			
0 - 0.5 ft		Asphalt	
0.5 - 7.0 ft		Brown sandy gravelly SILT, dry, soft; no hydrocarbon odor or discoloration.	
7.0 - 15.0 ft		Dark brown clayey SILT; moist, medium firm; no hydrocarbon odor or discoloration.	
15.0 - 22.0 ft		Brown silty SAND; medium grained, moist, medium firm; no hydrocarbon odor or discoloration.	
22.0 - 27.0 ft		Brown sandy SILT; moist, firm; no hydrocarbon odor or discoloration.	
27.0 - 30.0 ft		Brown sandy SILT; saturated, firm; no hydrocarbon odor or discoloration.	
Final Auger Depth - 30 ft		Ground Water - 28 ft	

SOIL BORING LOG IB-2

CENTURY WEST ENGINEERING

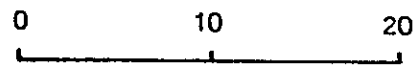
Drilling Date:	October 27, 1995
Boring IB:	IB-2
Logged by:	Bob Bogar
Site Location:	636 Terminal Circle
Boring Location:	103 feet from dispenser island
Purpose:	Soil and ground water investigation
Consulting Firm:	Century West Engineering
Drilling Contractor:	Kvilhaug Well Drilling
Project Number:	20549-005-01
Drilling Method:	Hollow Stem Auger
Total Depth:	30.0 ft
Initial GW Depth:	28.0 ft

Depth	Sample Interval	Sample ID	Bow Counts	Profile	Soil Description	Remarks
01					0 - 0.5 ft	Asphalt
02					0.5 - 7.0 ft	Brown gravelly SILT; minor sand, dry, soft; no hydrocarbon odor or discoloration.
03						
04						
05						
06					7.0 - 15.0 ft	Dark brown clayey SILT; moist, soft, minor fine sand; no hydrocarbon odor or discoloration.
07						
08						
09						
10						
11		IB-2.1	754			
12						
13						
14						
15						
16					15.0 - 25.0 ft	Brown SILT; minor clay and fine sand, slightly moist, soft; no hydrocarbon odor or discoloration.
17						
18						
19						
20						
21		IB-2.2	105			
22						
23						
24						
25						
26					25.0 - 27.0 ft	Brown silty SAND; medium to fine grained, moist to wet; no hydrocarbon odor or discoloration.
27						
28					27.0 - 30.0 ft	Brown silty SAND; medium to fine grained, saturated; no hydrocarbon odor or discoloration.
29						
30		IB-2.3	107			
Final Auger Depth - 30 ft						
Ground Water - 28 ft						



Legend

- Former Tank Excavation
- - - Former Tank Location
- Soil Sample Collection Location (samples collected on 9-18-92)
(last no. of sample ID is sample depth in feet below grade)



Scale in Feet

PLATE
25

ATT Aqua Terra Technologies
Consulting Engineers
& Scientists

Tank/Sample Locations
Livermore Airport
Phase II Tank Closure



Balch Petroleum	
JOB NUMBER 929396	DATE 10/92

Table 1. Summary of Soil Sample Analytical Results
 Samples Collected on August 1, 1991
 UST Excavation *from Removal of 10-K USTs*
 Livermore Airport
 Livermore, CA

Sample I.D.	Concentration (mg/Kg)				
	TPH-G ^a	B ^a	T ^a	E ^a	X ^a
NE-17	<1.0	<0.005	<0.005	<0.005	<0.005
NW-15.5	3.2	0.011	0.018	<0.005	0.006
SE-16	<1.0	<0.005	<0.005	<0.005	<0.005
SW-16.5	<1.0	<0.005	<0.005	<0.005	<0.005

a. TPH-G = total petroleum hydrocarbons as gasoline
 B = benzene, T = toluene, E = ethylbenzene, X = xylenes, total

Table 2. Summary of Soil Sample Analytical Results
 Samples Collected on August 7, 1991
 Pipeline Trench Excavation
 Livermore Airport
 Livermore, CA

Sample I.D.	Concentration (mg/Kg)				
	TPH-G ^a	B ^a	T ^a	E ^a	X ^a
PL20-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL40-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL60-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL80-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL100-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL130-4	1.2	<0.005	0.0067	<0.005	0.029
PL140-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL160-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL180-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL200-4	<1.0	<0.005	<0.005	<0.005	<0.005
PL220-4	<1.0	<0.005	<0.005	<0.005	<0.005
 PL220-3	1700	0.36	100	5.3	8.0
PL355-3	3.8	<0.005	<0.0056	0.012	0.011
 PL355-4	3400	1.4	370	15	29
PL630-3	14	<0.005	0.049	0.067	0.07
PL640-3	4.7	<0.005	0.0059	<0.005	<0.005

a. TPH-G = total petroleum hydrocarbons as gasoline
 B = benzene, T = toluene, E = ethylbenzene, X = xylenes, total

Table 3. Summary of Soil Sample Analytical Results
 Samples Collected on August 20, 1991
 Pipeline Trench Excavation ("hot spots") *after over-excavation*
 Livermore Airport
 Livermore, CA

Sample I.D.	Concentration (mg/Kg)				
	TPH-G ^a	B ^a	T ^a	E ^a	X ^a
<i>over-ex samples</i> { PL270-7.5N	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
PL270-7.5B	<1.0	<0.0025	<0.0025	<0.0025	0.0025
PL270-7.5S	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
<i>over-ex samples</i> { PL517-10B	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
PL517-10N	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
PL517-10W	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
PL517-10S	<1.0	<0.0025	<0.0025	<0.0025	<0.0025
PL517-10E	<1.0	<0.0025	<0.0025	<0.0025	<0.0025

a. TPH-G = total petroleum hydrocarbons as gasoline
 B = benzene, T = toluene, E = ethylbenzene, X = xylenes, total

CHROMALAB, INC.

Environmental Laboratory (1094)

TABLE 4

5 DAYS TURNAROUND

August 25, 1992

ChromaLab File No.: 0892152

AQUA TERRA TECHNOLOGIES, INC.

Attn: Benjamin Berman

RE: Four soil samples for Gas/BTEX and Diesel analyses

from 120 USTS removed in Aug 1992

Project Number: 929382

Date Sampled: Aug. 18, 1992

Date Submitted: Aug. 18, 1992

Date Extracted: Aug. 24, 1992

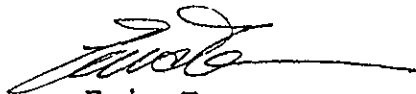
Date Analyzed: Aug. 24, 1992

RESULTS:

Sample I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
Tank-1- East 18	----	N.D.	N.D.	N.D.	N.D.	N.D.
Tank-1- West 18.5	----	N.D.	N.D.	N.D.	N.D.	N.D.
Tank-2- East 22	N.D.	----	N.D.	N.D.	N.D.	N.D.
Tank-2- West 18	N.D.	----	N.D.	N.D.	N.D.	N.D.
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE REC	85%	86%	108%	108%	106%	106%
DUP SPIKE REC	----	94%	106%	103%	102%	102%
DET LIMIT	1.0	1.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	5030/ 8015	3550/ 8015	8020	8020	8020	8020

ChromaLab, Inc.


Billy Trach
Analytical Chemist


Eric Tam
Laboratory Director