Tanks #6, 7, 9, 10

CERTIFIED ENVIRONMENTAL CONSULTING INC.

October 26, 1990

Mr. Gil Wistar
Hazardous Materials Specialist
Division of Hazardous Materials
County of Alameda
80 Swan Way, Room 200
Oakland, California 94621

Re: Tank Removal
County of Alameda, Santa Rita Property

Dear Mr. Wistar:

Enclosed is The Underground Tank Closure Plan for four tanks at the Old Jail site on the County's Santa Rita property. The County Building Maintenance Department contact will be Jim deVos. He can be reached on County extension 36248 or by county mail at QIC 21303.

If you have any questions, please call me at (707) 745-0171.

Sincerely,

Paul LeCheminant
Environmental Engineer

Enclosures

cc: Jim deVos, Buildings Manager, GSA-BMD, County of Alameda

PL/la

90 OCT 29 PM 12:49

140 West Industrial Way
Benicia, California 94510

Ofc (707) 745-0171
Fax (707) 745-0163
(800) 447-0171

CERTIFIED
ENVIRONMENTAL
CONSULTING, INC.

December 11, 1990

Mr. Jim deVos
County of Alameda
4400 MacArthur Blvd.
Oakland, CA 94619

Subject: Santa Rita Tank Removals

Dear Jim,

Certified Environmental Consulting, Inc. is pleased to present the following report on the removal of four tanks from the old jail on your Santa Rita property. As we have discussed, only Tank #9 should require additional work. The other three tanks show either non-detectable or insignificant contamination.

We look forward to continuing working with you on the Santa Rita Property and other County sites. If you have any questions, please call me at (800) 447-0171.

Sincerely,

Paul LeCheminant
Environmental Engineer

PL/sm

cc: Ravi Arulananthum, Alameda County Department of Environmental Health

140 West Industrial Way
Benicia, California 94510

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Fax (707) 745-0163
(800) 447-0171

EXECUTIVE SUMMARY

Four underground fuel tanks were removed from the County of Alameda old Santa Rita Jail site on November 20, 1990. The tanks were removed and disposed of by Erickson, Inc. of Richmond, California. The tanks had been excavated by personnel and equipment from the PG&E backhoe school which is located on the Santa Rita property.

Soil samples were taken from beneath each tank. The samples were analyzed for total petroleum hydrocarbons (TPH) and for benzene, toluene, ethylbenzene, and total xylenes (BTEX). Samples from two of the tanks showed insignificant or nondetachable levels of hydrocarbon contamination. One tank showed signs of contamination, but at a level that should not require further action.

Only Tank #9, near the Mess Hall, showed any significant contamination. It is recommended that an initial attempt be made to excavate to the limits of contamination using PG&E personnel. A groundwater monitoring well should also be completed after the Mess Hall has been demolished.

A summary of the project is given in Table E-1.

Table E - 1
Project Summary

Tank #	Contamination (1)	Recommendation
6	TPHG - ND TPHD - 54 ppm Benzene - ND Toluene - 12 ppb Ethylbenzene - 4 ppb Xylenes - 22 ppb	No further action
7	TPHG - ND TPHD - 2 ppm Benzene - ND Toluene - 4 ppb Ethylbenzene - ND Xylenes - 5 ppb	No further action
9	TPHG - 14 ppm TPHD - 310 ppm Benzene - ND Toluene - ND Ethylbenzene - 12 ppb Xylenes - 46 ppb	Attempt to excavate contaminated soil. Install groundwater monitoring well.
10	ND	No further action

(1) Undisturbed soil samples were collected under each tank or from the side wall
TPHG = Total Petroleum Hydrocarbons - Gasoline
TPHD = Total Petroleum Hydrocarbons - Diesel
ND = Not Detected
ppm = Parts per million (mg/kg)
ppb = Parts per billion (ug/kg)

Introduction

On November 20, 1990, four underground fuel tanks were removed from the County of Alameda's old Santa Rita Jail site in Dublin, California. The tanks were removed by Erickson, Inc. of Richmond, California. They had been previously excavated by personnel and equipment from the PG & E backhoe school which is located on the county's property. The tanks had been emptied on November 2, 1990.

Mr. Ravi Arulananthum of the Alameda County Department of Environmental Health was on site during the tank removals. Mr. Paul LeCheminant of Certified Environmental Consulting, Inc. supervised the tank removals on behalf of the County Building Maintenance Department.

Site Description

The County of Alameda's Santa Rita property is located in Dublin, California. It is bounded on the south by Interstate 580 and on the east by Tassajara Road (see Figure 1). The tanks were removed from the old jail compound (see Figure 2). The jail was vacated in September, 1989 and is scheduled for demolition. The site was operated by the military prior to the county.

The four tanks which were removed are designated as #6, 7, 9, and 10 on Figure 2. The tanks are estimated to be over 40 years old. Tank #9 was a 1,500 gallon, steel, diesel tank. It was located next to the abandoned mess hall (see Figure 3). It was approximately half full of water before this project was started. Tank #7 was a 500 gallon, steel, diesel tank next to an emergency electric generator near the Administration Building (see Figure 4). It was approximately half full when this project was started. Tank #6 was a 250 gallon, steel, diesel tank. It was located next to the abandoned Women's quarters (see Figure 5). It was empty when this project was started. The facility maintenance staff indicated that it had not been used for at least ten years. Tank #10 was a 100 gallon, steel, gasoline tank. It was located next to the abandoned Greystone compound (see Figure 6). It was approximately half full when this project was started.

The Zone 7 Alameda County Flood Control and Water Conservation District's Spring 1990 Groundwater Level Report gives groundwater depth at the site as approximately 20 feet.

Procedures

Fifty pounds of dry ice (solid carbon dioxide) were added to each tank prior to removal to displace any combustible gases. The percent of the lower explosive limit (%LEL) and the oxygen percent (% O_2) inside the tanks were measured using a combustible gas indicator. The tanks were not removed until the % LEL and % O_2 were both below 10%.

After the tanks were removed soil samples were taken. The samples were collected into clean brass tubes using an undisturbed soil sampler. Sample locations were chosen under the direction of Mr. Arulananthum. The brass tubes were sealed using aluminum foil, plastic caps and duct tape. They were immediately placed in an ice chest and taken to Superior Analytical Laboratory, Inc. in Martinez, California the same day. The samples were analyzed for total petroleum hydrocarbons in both the gasoline and diesel ranges (TPHG and TPHD) using EPA method 8015. They were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA method 8020. Superior Analytical is a state certified lab.

No water samples were taken. Water was not present in any of the excavations.

Results

There were no noticeable petroleum odors or visible discoloration in any of the excavations or samples. There were visible holes in Tank #6 due to corrosion. No holes were noted in the other tanks. Two samples were taken under Tank #9, one from each end. One sample was taken under each other tank. Tank #9 and Tank #6 had been on top of concrete pads. Because the limits of the pads were not found soil samples were taken at the edge of the excavation, immediately above the concrete. Samples for Tank #7 and Tank #10 were taken directly beneath the tanks. Sample locations, depths and results shown on Figures 3 through 6.

Soil sample results are summarized in Table 1. Sample PL-1120-2, taken from the western end of Tank #9 is of the most concern. The TPHD concentration was 310 ppm (parts per million). This is above acceptable limits for hydrocarbon contamination in soil. Sample PL-1120-1 taken from the eastern end of tank #9 showed no significant contamination.

Sample PL-1120-4, taken from the western end of Tank #6 showed a TPHD concentration 54 ppm. This concentration is low enough that it should not effect ground water.

Sample PL-1120-3 showed no significant contamination. Sample PL-1120-5 showed no detectable contamination.

Table 1
Soil Sample Results

Tank	Sample	TPHG*	TPHD*	Benzene**	Toluene**	Ethyl Benzene**	Xylene**
6	PL-1120-4	ND	54	ND	12	4	22
7	PL-1120-3	ND	2	ND	4	ND	5
9	PL-1120-1	ND	5	ND	ND	ND	ND
9	PL-1120-2	14	310	ND	ND	12	46
10	PL-1120-5	ND	ND	ND	ND	ND	ND

* ppm or mg/kg
** ppb or ug/kg
ND = not detected

Recommendations

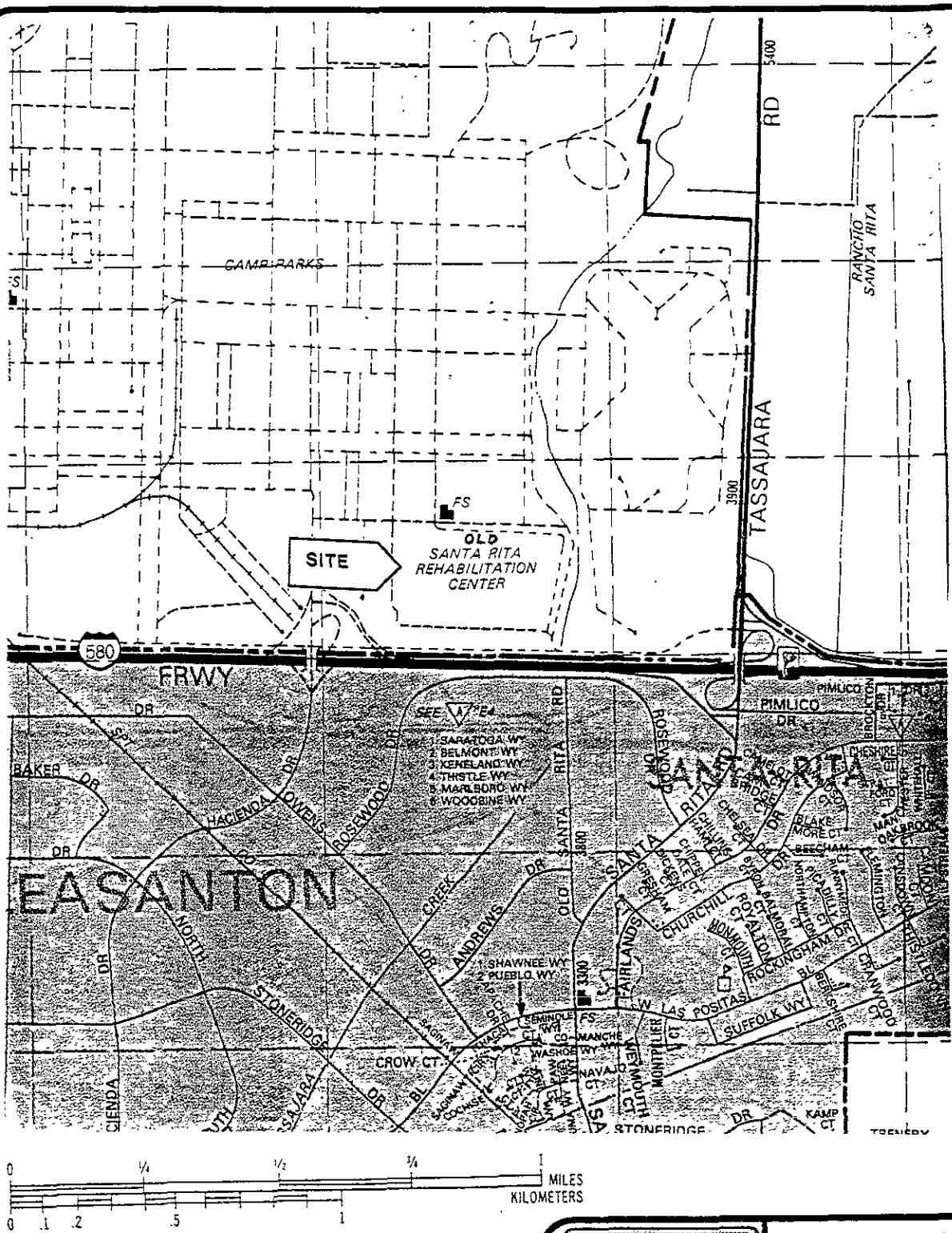
No further actions are recommended for Tanks #6, 7, and 10.

The only significant contamination in this project was found under Tank #9. We recommend that an attempt be made to excavate to the limits of the contaminated soil using PG&E personnel and equipment. The soil should be stock piled on plastic and bermed. If the limits of contamination are not easily found by excavation, a more thorough investigation might be necessary.

Several contaminated soil treatment options are available. They include bioremediation, removal to a landfill and incineration. The treatment option chosen will depend on the amount of soil excavated and the level of contamination. Because the contamination is diesel, aeration might not be a practical option.

A groundwater monitoring well should be installed in the downgradient direction of the tank. The Zone 7 Alameda County Flood Control and Water Conservation District's Spring 1990 Groundwater Level Report established the downgradient direction at this site as southeast. The proposed monitoring well location is shown on Figure 3.

We recommend that none of the above actions be taken until after the Mess Hall has been demolished. It is CEC's understanding that demolition will be scheduled within the next 60 days. It is likely that if the contamination has spread that it has gone under the building. The tank removal excavation has already somewhat weakened the the building foundation.



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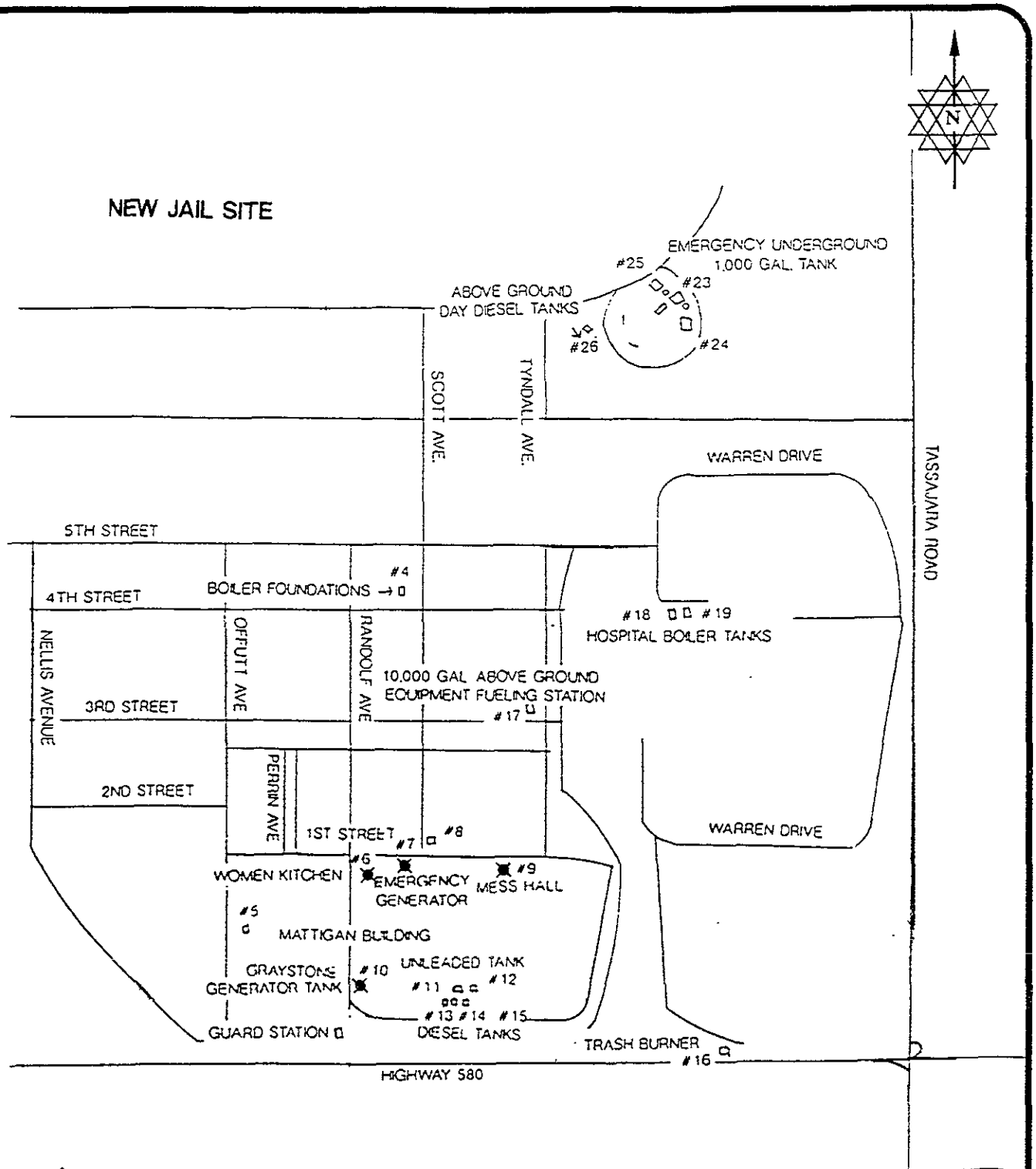
OLD SANTA RITA JAIL

FIGURE 1
SITE LOCATION



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NOTES: NUMBERS ARE NOT SEQUENTIAL.
SOME TANKS HAVE BEEN REMOVED.

ABOVE GROUND TANKS ARE ALSO SHOWN

✖ TANK TO BE REMOVED (#6,7,9 & 10)

FIGURE 2
SITE PLAN

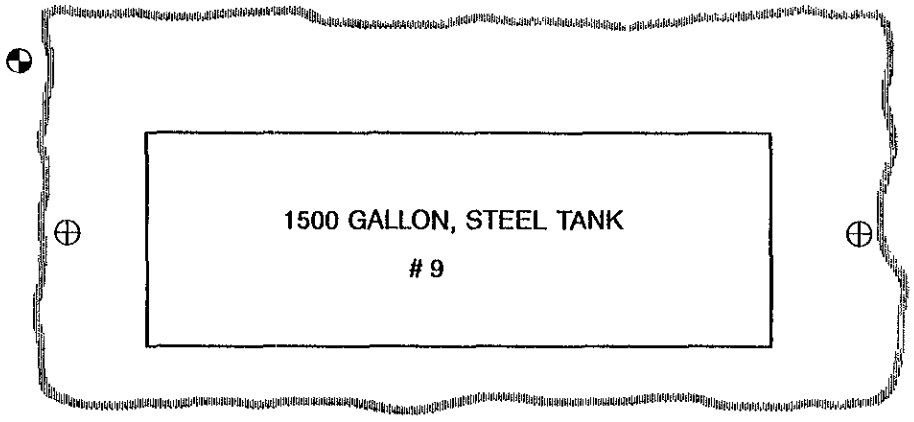
GROUNDWATER GRADIENT

MESS HALL (ABANDONED)

N

SAMPLE PL-1120-1

DEPTH: 7-1/2 FT
TPHG - ND
TPHD - 5 PPM
B - ND
T - ND
E - ND
X - ND



SAMPLE PL-1120-2

DEPTH: 7-1/2 FT
TPHG - 14 PPM
TPHD - 310 PPM
B - ND
T - ND
E - 12 PPB
X - 46 PPB

APPROXIMATE LIMITS OF EXCAVATION

SOIL SAMPLE POINTS

PROPOSED MONITORING WELL LOCATION

TPHG = TOTAL PETROLEUM HYDROCARBONS, GASOLINE
TPHD = TOTAL PETROLEUM HYDROCARBONS, DIESEL
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
PPB = PARTS PER BILLION (or ug/kg)
PPM = PARTS PER MILLION (or mg/kg)
ND = NOT DETECTED

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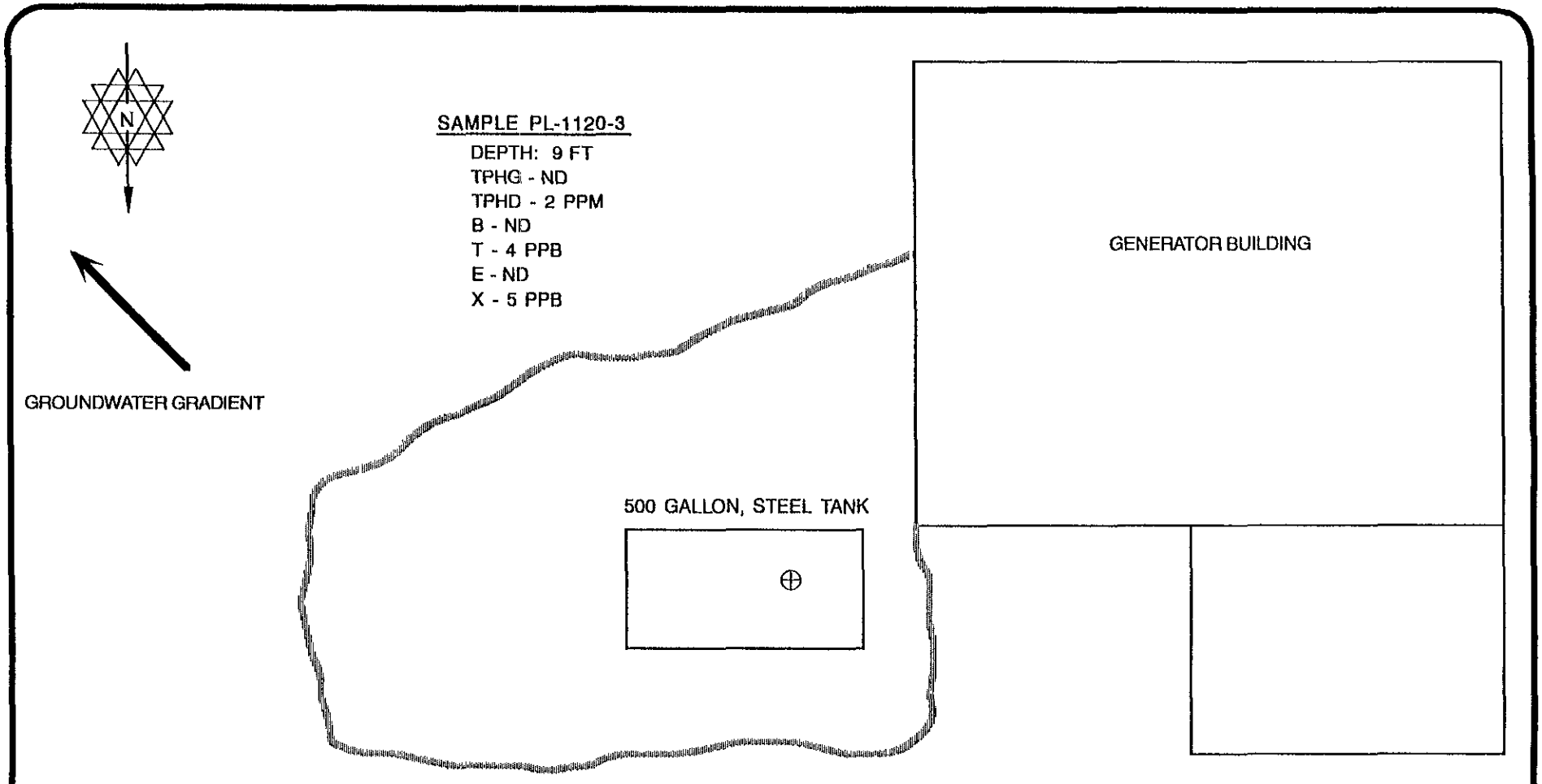
OLD SANTA RITA JAIL

FIGURE 3
TANK #9
MESS HALL

11/30/90 PTL SCALE: 1/4" = 1' 0"



APPROXIMATE LIMITS OF EXCAVATION

⊕ SOIL SAMPLE POINT

TPHG = TOTAL PETROLEUM HYDROCARBONS, GASOLINE
TPHD = TOTAL PETROLEUM HYDROCARBONS, DIESEL
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
PPB = PARTS PER BILLION (or ug/kg)
PPM = PARTS PER MILLION (or mg/kg)
ND = NOT DETECTED

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FIGURE 4
TANK #7
EMERGENCY GENERATOR FUEL

11/30/90 PTL SCALE: 1/4" = 1' 0"

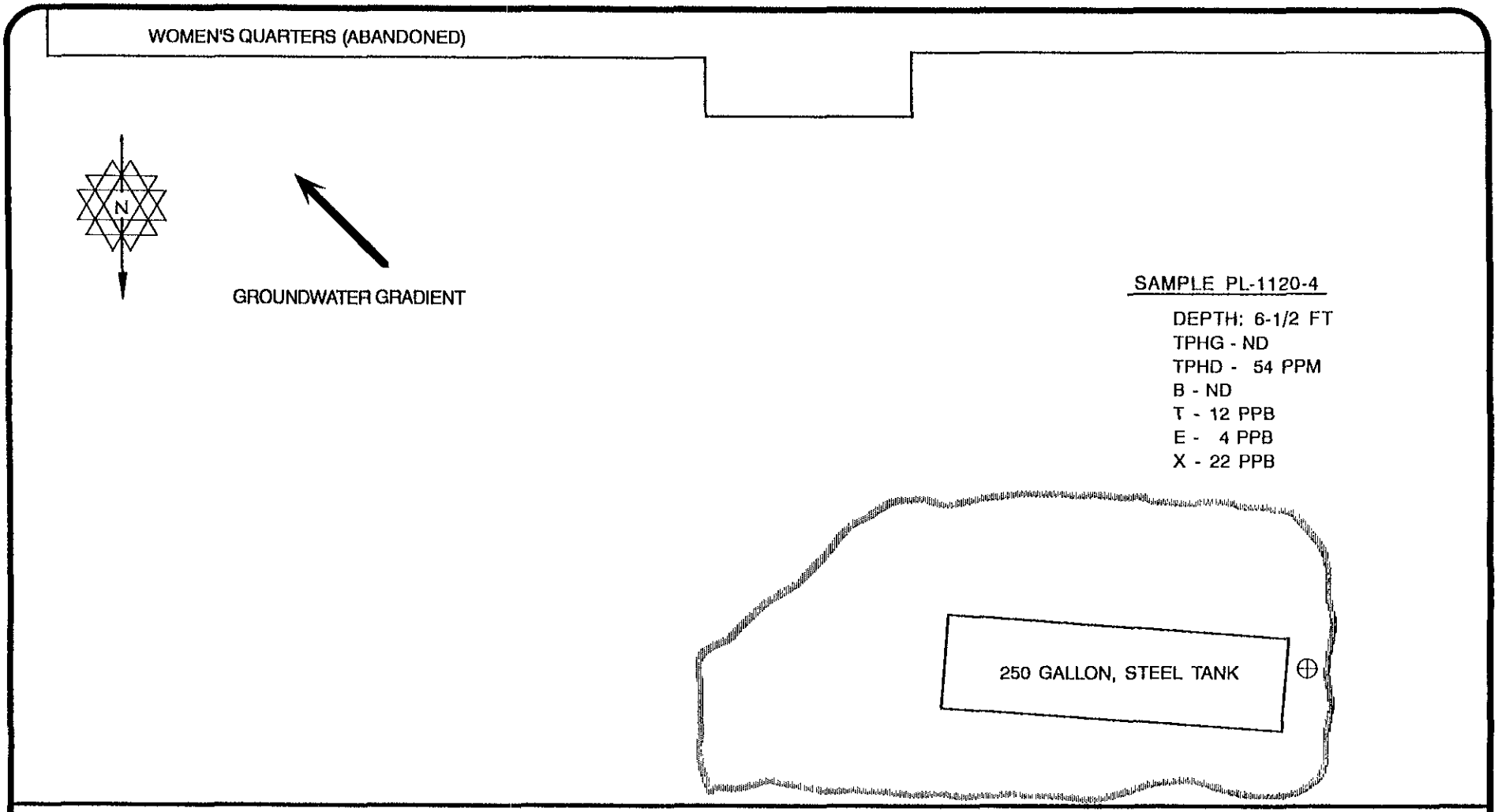
WOMEN'S QUARTERS (ABANDONED)
N
GROUNDWATER GRADIENT
SAMPLE PL-1120-4
DEPTH: 6-1/2 FT
TPHG - ND
TPHD - 54 PPM
B - ND
T - 12 PPB
E - 4 PPB
X - 22 PPB
250 GALLON, STEEL TANK
APPROXIMATE LIMITS OF EXCAVATION
SOIL SAMPLE POINT
FENCE
TPHG = TOTAL PETOLEUM HYDROCARBONS, GASOLINE
TPHD = TOTAL PETROLEUM HYDROCARBONS, DIESEL
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
PPB = PARTS PER BILLION (or ug/kg)
PPM = PARTS PER MILLION (or mg/kg)
ND = NOT DETECTED
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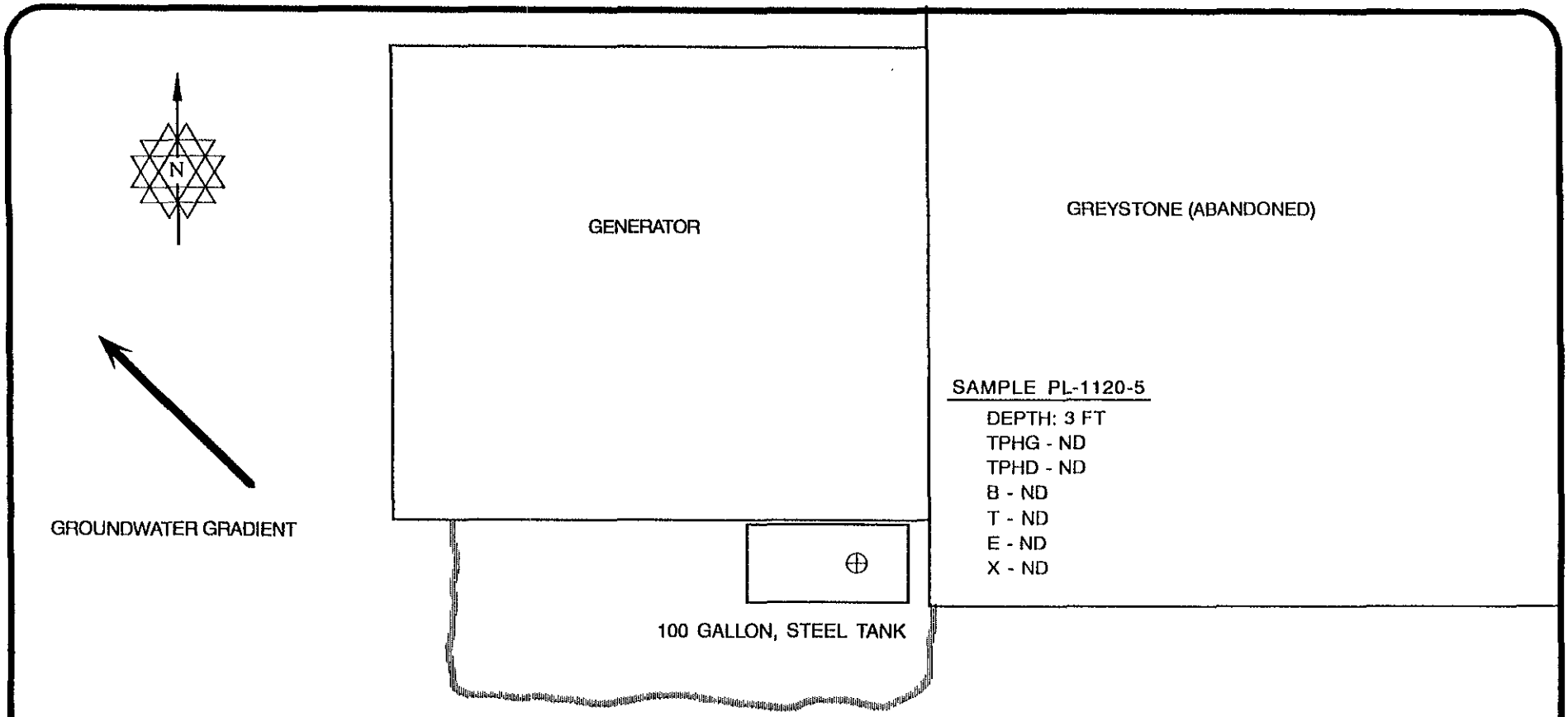
FIGURE 5
TANK #6
WOMEN'S QUARTERS
11/30/90
PTL
SCALE: 1/4" = 1' 0"



APPROXIMATE LIMITS OF EXCAVATION

⊕ SOIL SAMPLE POINT

TPHG = TOTAL PETROLEUM HYDROCARBONS, GASOLINE
TPHD = TOTAL PETROLEUM HYDROCARBONS, DIESEL
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
ND = NOT DETECTED

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FIGURE 6
TANK #10
GREYSTONE GENERATOR FUEL

11/30/90 PTL SCALE: 1/4" = 1' 0"

APPENDIX

A. Laboratory Results

FORM CECF10A

CERTIFIED Environmental Consulting, Inc.

140 West Industrial Way, Benicia, California, 94510-1016
Ofc. (707) 745-0171 Fax. (707) 745-0163

Chain of Custody Record

Date 11/20/90 Sheet 1 of 1

Project Number: 890-02-109
Project Name: Santa Rita
Client: County of Alameda
Contact: Jim deVos
Address:

Sampler's Name: Paul LeCheminant
Sampler's Signature: [signature]

Lab Name: Superior
Address: Martinez
Phone Number:

Turnaround Time

Rush ☐ 24 Hour ☐ 48 Hour ☐ Normal ☒

Report to: Paul LeCheminant

Sample Number	Date	Time	Location	B,T,E,X	Total Petroleum Hydrocarbons (Gas)	Oil and Grease	CAM Metals (18)	General Minerals	Pr. Pollutant Metals (13)	Base/Neu/Acids (Organic)	Pesticides	Volitile Organics (601/602)	Volitile Organics (624)	Asbestos	PCB	Other	Comments
PL-1120-1	11/20/90		Mess Hall - E	X	X												
PL-1120-2	"		Mess Hall - W	X	X												
PL-1120-3	"		Generator	X	X												
PL-1120-4	"		Women's Quarters	X	X												
PL-1120-5	"		Greystone Gen.	X	X												

Please initial: PLP
Samples Stored in ice. NO, received cold
Appropriate containers. yes
Samples preserved. yes
VOA's without headspace. N/A
Comments:

Relinquished By	Date	Time	Received By	Date	Time
1. [signature]	11/20	1935	1.		
2.			2.		
3.			3.		

Dispatched By	Date	Time	Received in Lab By	Date	Time
			[signature]	11/20	1935

Total Number of Containers This Sheet: 5

Method of Shipment

Special Shipment / Handling or Storage Requirements:

SUPERIOR ANALYTICAL LABORATORIES, INC.

825 ARNOLD, STE. 114 • MARTINEZ, CALIFORNIA 94553 • (415) 229-1512

DOHS #319
DOHS #220

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 81951 DATE RECEIVED: 11/20/90
CLIENT: Certified Environmental Consulting, DATE REPORTED: 11/29/90
CLIENT JOB NO.: 891-02-109

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/Kg) Diesel Range
1	PL-1120-1	5
2	PL-1120-2	310
3	PL-1120-3	2
4	PL-1120-4	54
5	PL-1120-5	ND<1

Method Detection Limit for Diesel in Soil: 1 mg/Kg

QAQC Summary:

Daily Standard run at 200mg/L: RPD Gasoline = NA
RPD Diesel = 8
MS/MSD Average Recovery = 100%: Duplicate RPD = 4

Richard Srna, Ph.D.

Robert Watson for
Laboratory Manager

SUPERIOR ANALYTICAL LABORATORIES, INC.
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DOHS #319
DOHS #220

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 81951
CLIENT: Certified Environmental Consulting,
CLIENT JOB NO.: 891-02-109

DATE RECEIVED: 11/20/90
DATE REPORTED: 11/29/90

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS
by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/Kg) Gasoline Range
1	PL-1120-1	ND<1
2	PL-1120-2	14
3	PL-1120-3	ND<1
4	PL-1120-4	ND<1
5	PL-1120-5	ND<1

mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/Kg

QAQC Summary:

Daily Standard run at 2mg/L: RPD Gasoline = 11
MS/MSD Average Recovery = 90%: Duplicate RPD = 3

Richard Srna, Ph.D.

Robert Watson for
Laboratory Manager

OUTSTANDING QUALITY AND SERVICE

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DOHS #319
DOHS #220

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 81951 DATE RECEIVED: 11/20/90
CLIENT: Certified Environmental Consulting, DATE REPORTED: 11/29/90
CLIENT JOB NO.: 891-02-109

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/Kg) Benzene	Toluene	Ethyl Benzene	Xylenes
1	PL-1120-1	ND<3	ND<3	ND<3	ND<3
2	PL-1120-2	ND<5	ND<5	12	46
3	PL-1120-3	ND<3	4	ND<3	5
4	PL-1120-4	ND<3	12	4	22
5	PL-1120-5	ND<3	ND<3	ND<3	ND<3

ug/Kg - parts per billion (ppb)

Method Detection Limit in Soil: 3 ug/Kg

QAQC Summary:

Daily Standard run at 20ug/L: RPD = <15%
MS/MSD Average Recovery = 96 %: Duplicate RPD = <5

Richard Srna, Ph.D.

Laboratory Manager