ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

July 2, 2008

Ms. Stefanie Yurus
Children's Hospital Medical Foundation
2201 Broadway, Suite 600
Oakland, CA 94612-3017

Subject: SLIC Case No. RO0002484 and Geotracker Global ID T0600143091, Freisman Ranch, 1600 Freisman Road, Livermore, CA 94550 – Case Closure

Dear Ms. Sagramoso:

This letter confirms the completion of site investigation and remedial actions for the soil and groundwater investigation at the above referenced site. We are also transmitting the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported releases at the subject site with the provision that the information provided to this agency was accurate and representative of existing conditions. The subject Spills, Leaks, Investigation, and Cleanup (SLIC) case is closed. This case closure letter and the case closure summary can also be viewed on the State Water Resources Control Board's Geotracker website (http://geotracker.swrcb.ca.gov) and the Alameda County Environmental Health website (http://www.acgov.org/aceh/index.htm).

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- A *Site Management Plan* dated March 28, 2008, which is included in the Case Closure Summary, outlines use restrictions to limit the potential for exposure to residual petroleum hydrocarbons in soil and groundwater beneath the southwestern portion of the site and future use restrictions for the on-site water supply well.
- Residual total petroleum hydrocarbons as gasoline remain in soil at concentrations up to 4,000 ppm.
- Residual total petroleum hydrocarbons as gasoline remain in groundwater at concentrations up to 2,700 ppb.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:

1. Case Closure Summary

cc: Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Danielle Stefani (w/enc)
Livermore-Pleasanton Fire Department
3560 Nevada Street
Pleasanton, CA 94566

Cheryl Dizon, QIC 80201 (w/enc)
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

City of Livermore Planning Department (w/enc)
1052 South Livermore Avenue
Livermore, CA 94550

Tom Terril (w/enc)
The Terrrill Company
1111 Civic Drive, Suite 395
Walnut Creek, CA 94596

Steve Clements (w/enc)
SCS Engineers
6601 Koll Center Parkway, Suite 140
Pleasanton, CA 94566

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

CASE CLOSURE SUMMARY
SPILLS, LEAKS, INVESTIGATION, AND CLEANUP PROGRAM

I. AGENCY INFORMATION

Date: April 1, 2008

Agency Name: Alameda County Environmental Health	Address: 1131 Harbor Bay Parkway
City/State/Zip: Alameda, CA 94502-6577	Phone: (510) 567-6791
Responsible Staff Person: Jerry Wickham	Title: Senior Hazardous Materials Specialist

II. CASE INFORMATION

Site Facility Name: Freisman Ranch		
Site Facility Address: 1600 Freisman Road, Livermore, CA 94550		
RB Case No.: --	Local Case No.: --	SLIC Case No.: RO0002484
URF Filing Date: 05/19/1998	Geotracker ID: T0600143091	APN: 904-1-1-10

Responsible Parties	Addresses	Phone Numbers
Lynn Sagramoso, Oakland Children's Hospital & Research Center Foundation	2201 Broadway Avenue, Suite 600, Oakland, CA 94612	510-428-3814

Tank I.D. No	Size in Gallons	Contents	Closed In Place/Removed?	Date
Boiler AST	Unknown	Heating oil	Removed	Unknown
Fuel UST	Approximately 300 gallons	Gasoline	Suspected Removed	Suspected in 1970s
Barn No. 3 AST	Approximately 1,000 gallons	Diesel	Removed	February 18, 2004
Piping			Removed	August and September 1997

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and Type of Release: Unknown. No reports from AST or UST removals.	
Site characterization complete? Yes	Date Approved By Oversight Agency: -----

Monitoring wells installed? Yes	Number: 8	Proper screened interval? Yes
Highest GW Depth Below Ground Surface: 11 feet bgs	Lowest Depth: 16 feet bgs	Flow Direction: West northwest
Most Sensitive Current Use: Drinking water source.		

Summary of Production Wells in Vicinity:
A domestic water supply well (3S/1E 2P3) is located on the Freisman Ranch property east of Arroyo De Las Positas. The well is located approximately 325 feet east southeast (upgradient) of the petroleum hydrocarbon plume that is located west of Arroyo De Las Positas. The on-site well is 10 inches in diameter and was drilled in 1975 to a depth of 380 feet bgs. Based on the upgradient location of the well and distance from the plume, the water supply well is not expected to be a receptor for the site. A water supply well (3S/1E 2P7) is located on the golf course property approximately 750 feet southwest of the site. Based on the distance of the well from the site and crossgradient location, the water supply well at the golf course is not expected to be a receptor for the site. A well described as an "Other Designated Well," (3S/1E 2N2) is located approximately 950 feet west of the site. Based on the distance of the well from the site, the well is not expected to be a receptor for the site. Four water supply wells are located north of I-580 and more than 1,000 feet north of the site. Based on the distances of the four wells from the site and crossgradient locations from the site, the water supply wells north of I-580 are not expected to be receptors for the site.

Are drinking water wells affected? No	Aquifer Name: Livermore-Amador Groundwater Basin
Is surface water affected? No	Nearest SW Name: Arroyo De Las Positas is immediately east of the site.
Off-Site Beneficial Use Impacts (Addresses/Locations): None	
Reports on file? Yes	Where are reports filed? Alameda County Environmental Health and Livermore-Pleasanton Fire Department

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Tanks	1- Heating Oil AST 1- Gasoline UST 1- Diesel AST	Heating oil AST removed from site; destination not reported. Gasoline UST suspected removed from site in 1970's; destination not reported. Diesel UST disposed off-site at Ecological Control Industries in Richmond, CA	Date of heating oil AST removal not reported. Gasoline UST suspected in 1970s. Diesel AST removed on February 18, 2004.
Piping	Not reported	Not reported	October 2003
Free Product	---	---	---
Soil	34 tons 12 cubic yards	Soil from heating oil excavation transported off-site for disposal to Republic Vasco Road Landfill in Livermore. Soil from diesel AST excavation in Barn No. 3 transported off-site for disposal to Republic Vasco Road Landfill in Livermore.	October 29, 2003 February and March 2004
Groundwater	---	---	---

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS BEFORE AND AFTER CLEANUP
(Please see Attachments 1 through 6 for additional information on contaminant locations and concentrations)

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	4,000	4,000	38,000(1)	2,700(1)
TPH (Diesel)	360	360	160,000(2)	1,100(2)
Oil & Grease	NA	NA	NA	NA
Benzene	0.056	0.056	390(3)	35(3)
Toluene	0.52	0.52	120(4)	<0.5(4)
Ethylbenzene	4.9	4.9	890(5)	52(5)
Xylenes	1.2	1.2	4,200(6)	33(6)
Heavy Metals	760(7)	17(8)	38(9)	<0.5(9)
MTBE	0.065(10)	0.065(10)	33(11)	<0.5(11)
Other (8240/8270)	12(12)	12(12)	140(13)	38(14)

1) TPH as gasoline was detected at a maximum concentration of 38,000 ppb in a grab groundwater sample collected in August 1997 and was detected at a maximum concentration of 2,700 ppb in groundwater samples collected from monitoring wells in 2007.
2) TPH as gasoline was detected at a maximum concentration of 38,000 ppb in a grab groundwater sample collected in August 1997 and was detected at a maximum concentration of 2,700 ppb in groundwater samples collected from monitoring wells in 2007.
3) Benzene was detected at a maximum concentration of 250 ppb in a groundwater sample collected from well KMW-6 in September 1997 and was detected at a maximum concentration of 35 ppb in groundwater samples collected from monitoring wells in 2007.
4) Toluene was detected at a maximum concentration of 250 ppb in a groundwater sample collected from well KMW-6 in August 1997 and was not detected in groundwater samples collected from monitoring wells in 2007.
5) Ethylbenzene was detected at a maximum concentration of 890 ppb in a grab groundwater collected in August 1997 and was detected at a maximum concentration of 52 ppb in groundwater samples collected from monitoring wells in 2007.
6) Xylenes were detected at a maximum concentration of 4,200 ppb in a grab groundwater collected in August 1997 and were detected at a maximum concentration of 33 ppb in groundwater samples collected from monitoring wells in 2007.
7) Lead = 760 ppm; arsenic = 10 ppm; cadmium = 0.38 ppm; chromium = 79 ppm; mercury = 0.072 ppm; nickel = 86 ppm' and zinc = 510 ppm.
8) Lead = 17 ppm; no other metals analyzed in confirmation soil samples.
9) Dissolved lead was detected at a maximum concentration of 38 ppb in a groundwater sample collected from well KMW-7 in December 1998 and was not detected in groundwater samples collected from monitoring wells in 2007.
10) MTBE = 0.065 ppm; TAME, DIPE, ETBE, TBA, EDB, and 1,2-DCA <0.081 ppm.
11) MTBE was detected at a maximum concentration of 33 ppb in a grab groundwater sample collected in August 1997 and was not detected in groundwater samples collected from monitoring wells in 2007; TAME, DIPE, ETBE, TBA, and EDC <0.5 ppb; 1,2-DCA = 0.72 ppb.
12) 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene = 12 ppm; naphthalene = 3.5 ppm; and methyl ethyl ketone = 0.67 ppm.
13) Napthalene = 140 ppb in groundwater sample collected on 9/08/97; 1,2,4-trimethylbenzene = 110 ppb; and 1,35-trimethylbenzene = 30 ppb in groundwater sample collected on 8/21/07.
14) Napthalene = 38 ppb in groundwater sample collected on 8/21/2007; 1,2,4-trimethylbenzene = 110 ppb and 1,35-trimethylbenzene = 30 ppb in groundwater sample collected on 8/21/07.

Site History and Description of Corrective Actions:

The property is a ranch that was used for dairy operations from the 1910s until dairy operations ceased in 1971. Since 1971, the property has been used for residential housing, miscellaneous storage, and animal boarding and grazing. Freisman ranch is bordered by Interstate 580 to the north and golf courses to the east and west. South of the ranch are scattered residential buildings, Las Positas Golf Course, and grazing land. Future land use is likely to be commercial.

A Phase I Environmental Assessment that included limited soil and groundwater sampling was conducted at the site in 1997. Petroleum hydrocarbons were detected in soil in the area of the dairy barn and a metal shed that formerly contained a heating oil AST. The heating oil AST provided fuel for two boilers formerly located inside the dairy barn. The two boilers, a metal shed that formerly housed the heating oil AST, underground piping from the heating oil AST to the boilers, and associated contaminated soil were removed in August and September 2003. Approximately 34 tons of soil were excavated and disposed off-site at the Vasco Road Landfill in Livermore.

A Remedial Investigation that included surface soil sampling, wipe sampling, soil borings, and monitoring well installation was conducted at the site in 1997. Total petroleum hydrocarbons as gasoline (TPHg) were detected in grab groundwater samples at concentrations up to 38,000 ppb. TPHg, TPHd, and BTEX were detected in the groundwater sample collected from one (MW-6) of the six monitoring wells but were not detected in the remaining five monitoring wells. The source of petroleum hydrocarbons in soil and groundwater is within the area of the former heating oil AST and a former gasoline UST that was removed in the 1970s.

Two additional monitoring wells, one in the source area (KMW-7) and one downgradient (KMW-8), were installed at the site on December 23, 1998. Groundwater monitoring of the eight wells was conducted from September 1997 until the end of 2003. The wells were sampled again on January 12, 2006 and January 21, 2006 by two different consulting firms. During the January 12, 2006 sampling event, TPHg, TPHd, and BTEX were detected at relatively low concentrations in downgradient wells KMW-5 and KMW-8. Petroleum hydrocarbons have not been detected in groundwater samples from wells KMW-5 and KMW-8 during any of the other 12 sampling events. Cross contamination and/or the use of different purging methods were considered possible explanations for the inconsistency between the January 12, 2006 results and other groundwater sampling data.

Miscellaneous wastes (empty drums, oil cans, diesel fuel, hydraulic oil, etc.) and a former diesel AST in Barn No. 3 were removed in February and March 2004. Approximately 12 cubic yards of soil was excavated in the vicinity of the diesel AST and was transported off-site to Vasco Landfill for disposal. Soil samples collected at depths of 5 and 10 feet bgs in the vicinity of the former diesel AST contained 10 and 1.2 milligrams per kilogram of TPHd, respectively, confirming that the soil excavation effectively removed contamination beneath the former diesel AST.

An incinerator was formerly located approximately 80 feet east of the main dairy building adjacent to Arroyo De Las Positas. The incinerator, which was relatively small and constructed of brick, was used to burn trash from the ranch. The incinerator was demolished in August 2003 and the surrounding area was excavated to a depth of approximately 1.5 feet below ground surface. The excavated soil was disposed of at the Vasco Road Landfill in Livermore, CA in October 2003. In January 2007, 14 additional soil samples were collected in the vicinity and downwind of the former incinerator. Lead was detected in one of the soil samples (SS-14) at a concentration of 760 ppm. On April 24, 2007, a 6-foot by 8-foot area around former sampling location SS-14 was excavated to a depth of two feet bgs. Lead was detected at a concentration of 620 ppm in one of the confirmation soil samples collected from the western sidewall of the excavation. During a second phase of excavation conducted on May 11, 2007, a 2-foot by 5-foot area was excavated west of previous confirmation soil sampling location CSSW-4. The excavation could not be extended further to the south due to the presence of a small building. One confirmation soil sample from the western sidewall (CSSW-4 RE) contained 440 ppm of lead. In order to continue the excavation, the building was demolished on September 12 and 13, 2007. A third phase of excavation was conducted on September 12, 2007. Soil was excavated over an approximately 12-foot by 12-foot area west of previous confirmation soil sample CSSW-4 RE. Lead was detected at concentrations ranging from 5.7 to 17 ppm in the five confirmation soil samples collected following completion of excavation.

Soil vapor samples were collected from 12 soil vapor probes on July 22, 2003. TPHg, BTEX, and MTBE were not detected in any of the soil vapor samples. Due to an elevated reporting limit for benzene and lack of VOC analysis other than BTEX, ACEH requested additional soil vapor sampling. In January 2007, soil vapor samples were collected from 22 locations. VOCs were not detected at concentrations exceeding Environmental Screening Levels for residential land use in any of the 22 soil vapor samples.

Site History and Description of Corrective Actions (Continued):

Three soil borings were advanced at the site on January 11, 2007 to investigate soil and groundwater quality at Barns No. 1 and No.3 and east of Arroyo De Las Positas. Petroleum hydrocarbons and VOCs were not detected in soil or groundwater from the three borings.

In order to characterize the vertical extent of groundwater contamination, three cone penetrometer borings were advanced along a transect in August 2007. Grab groundwater samples were collected from first-encountered groundwater at depths of 23 to 29 feet bgs in each of the three borings. TPHg was detected in the shallow groundwater sample from the boring within the center of the plume (PH-1) at a concentration of 2,200 ppb. TPHg, TPHd, TPHss, and benzene were not detected in any of the deeper grab groundwater samples, which were collected at depths of 51 to 85 feet bgs. Ethylbenzene was detected in the deeper groundwater sample from boring PH-3 at a concentration of 0.61 ppb, which is below the California Primary MCL of 700 ppb.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes		
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes		
Does corrective action protect public health for current land use? Alameda County Environmental Health staff does not make specific determinations concerning public health risk. However, based upon the information available in our files to date, it does not appear that the release would present a risk to human health based upon current land use and conditions.		
Site Management Requirements: Groundwater beneath a portion of the site has been impacted by petroleum hydrocarbons. If future excavation or development of the site will encounter or remove groundwater, Alameda County Environmental Health must be notified. Alameda County Environmental Health staff must also be notified if additional water supply wells are to be installed on the property or if the usage of existing well 3S/1E/2P3 is to be increased beyond estimated current usage of approximately 3,000 gallons per day. Site management requirements are further described in the attached, "*Site Management Plan, Freisman Ranch Property, 1600 Freisman Road, Livermore, CA (APN 904-0001-001-10)*," dated March 28, 2008.		
Should corrective action be reviewed if land use changes? No		
Was a deed restriction or deed notification filed? No		Date Recorded: --
Monitoring Wells Decommissioned: No	Number Decommissioned: 0	Number Retained: 8
List Enforcement Actions Taken: None		
List Enforcement Actions Rescinded: --		

V. ADDITIONAL COMMENTS, DATA, ETC.

Considerations and/or Variances:

Residual petroleum hydrocarbons are present in shallow soil and groundwater in the vicinity of a former heating oil AST and approximately 300-gallon former gasoline UST. Based on groundwater monitoring data from 1997 to 2007, the plume of petroleum hydrocarbons appears to be decreasing in size and concentration. Residual soil and groundwater contamination is limited in extent and is not expected to affect existing water supply wells in the area or present a threat to future groundwater quality in the area. Soil and groundwater concentrations are expected to decrease over time due to biodegradation and other natural attenuation processes.

Conclusion:

Alameda County Environmental Health staff believe that the levels of residual contamination do not pose a significant threat to water resources, public health and safety, and the environment based upon the information available in our files to date. No further investigation or cleanup is necessary. ACEH staff recommend case closure for this site.

VI. LOCAL AGENCY REPRESENTATIVE DATA

Prepared by: Jerry Wickham	Title: Senior Hazardous Materials Specialist
Signature: Jerry Wickham	Date: 04/16/08
Approved by: Donna L. Drogos, P.E.	Title: Supervising Hazardous Materials Specialist
Signature:	Date: 04/16/08

This closure approval is based upon the available information and with the provision that the information provided to this agency was accurate and representative of site conditions.

VII. REGIONAL BOARD NOTIFICATION

Regional Board Staff Name: Cherie McCaulou	Title: Engineering Geologist
RB Response: Concur, based solely upon information contained in this case closure summary.	Date Submitted to RB:
Signature: Cherie McCaulou	Date: 5/13/08

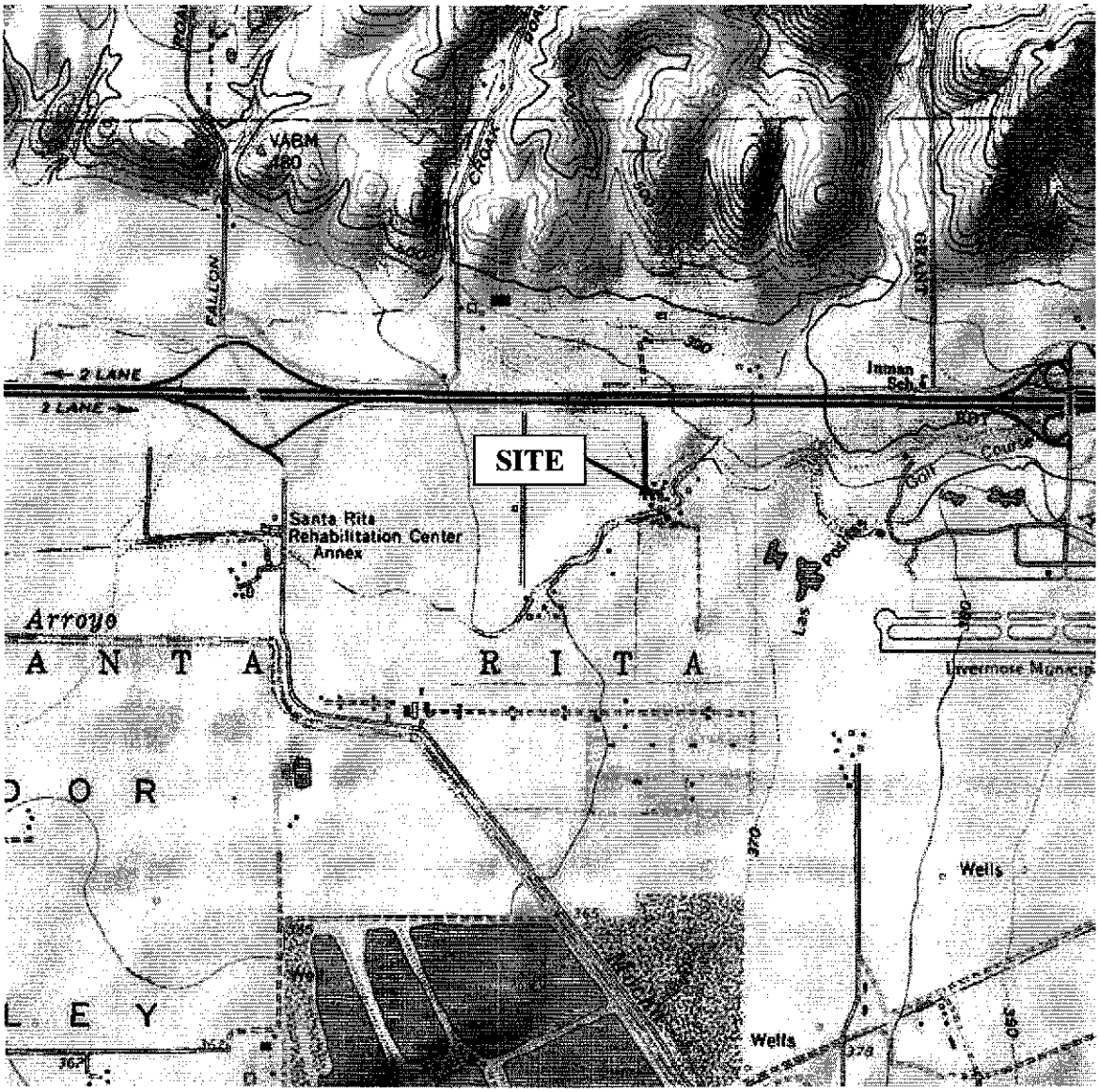
VIII. MONITORING WELL DECOMMISSIONING

Date Requested by ACEH: 01/03/08	Date of Well Decommissioning Report: 06/27/08	
All Monitoring Wells Decommissioned: (Yes) No	Number Decommissioned: 8	Number Retained: 0
Reason Wells Retained: NA		
Additional requirements for submittal of groundwater data from retained wells: NA		
ACEH Concurrence - Signature: Jerry Wickham		Date: 07/02/08

Attachments:

1. Site Location Map and Site Plans (4 pages)
2. Surface Soil Sample Locations; Final Confirmation Soil Sample Results; 2003 Soil Vapor Survey Results, 2007 Soil Vapor, Soil and Groundwater Sample Locations; and Incinerator Excavation Area (5 pages)
3. Groundwater Elevations: September 8, 1997: Groundwater Elevation Contours 4/18/07; Reconnaissance Groundwater Sample Analytical Results: TPHg, August 1997; Reconnaissance Groundwater Sample Analytical Results: TPHd, August 1997; and Reconnaissance Groundwater Sample Analytical Results: BTEX, August 1997 (5 pages)
4. Summary of 2007 Soil Vapor Survey Analytical and Summary of 2003 Soil Vapor Analytical Results (2 pages)
5. Summary of Soil Analytical Data (7 pages)
6. Summary of Groundwater Analytical Data (6 pages)
7. Boring Logs and Well Construction Diagrams (38 pages)
8. Site Management Plan (19 pages)

This document and the related CASE CLOSURE LETTER & REMEDIAL ACTION COMPLETION CERTIFICATE shall be retained by the lead agency as part of the official site file.



Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

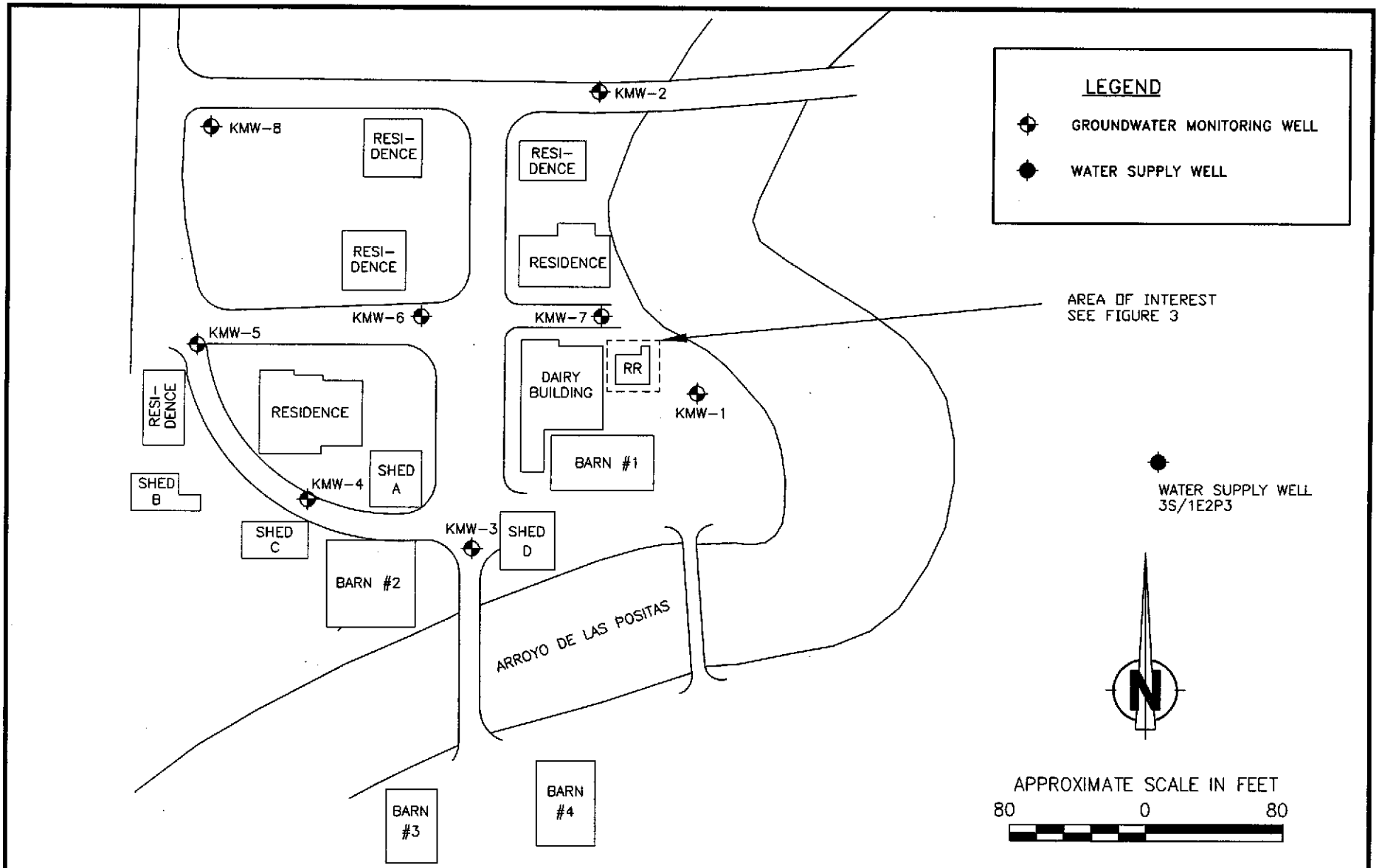
SOURCE: UNITED STATES GEOLOGICAL SURVEY *LIVERMORE QUADRANGLE, CALIFORNIA 7.5 MINUTE SERIES (TOPOGRAPHIC)* MAP. OBTAINED FROM THE 2000 NATIONAL GEOGRAPHIC TOPO SOFTWARE..

SCS ENGINEERS	6601 Koll Center Pkwy, Ste. 140 Pleasanton, CA 94566 (925) 426-0080	
PROJECT NO: 01203087.04		
DESIGNED BY: TMS	SCALE: AS SHOWN	REVIEWED BY: SJC
DRAWN BY: TMS	DATE: 10/07	

FIGURE 1

SITE LOCATION MAP

FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA



BASE:
ATC ASSOCIATES INC. MARCH 28, 2003. QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003, FREISMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 KOLL CENTER PKWY, SUITE 140
PLEASANTON, CALIFORNIA 94566
PH. (925) 426-0080 FAX. (925) 426-0707

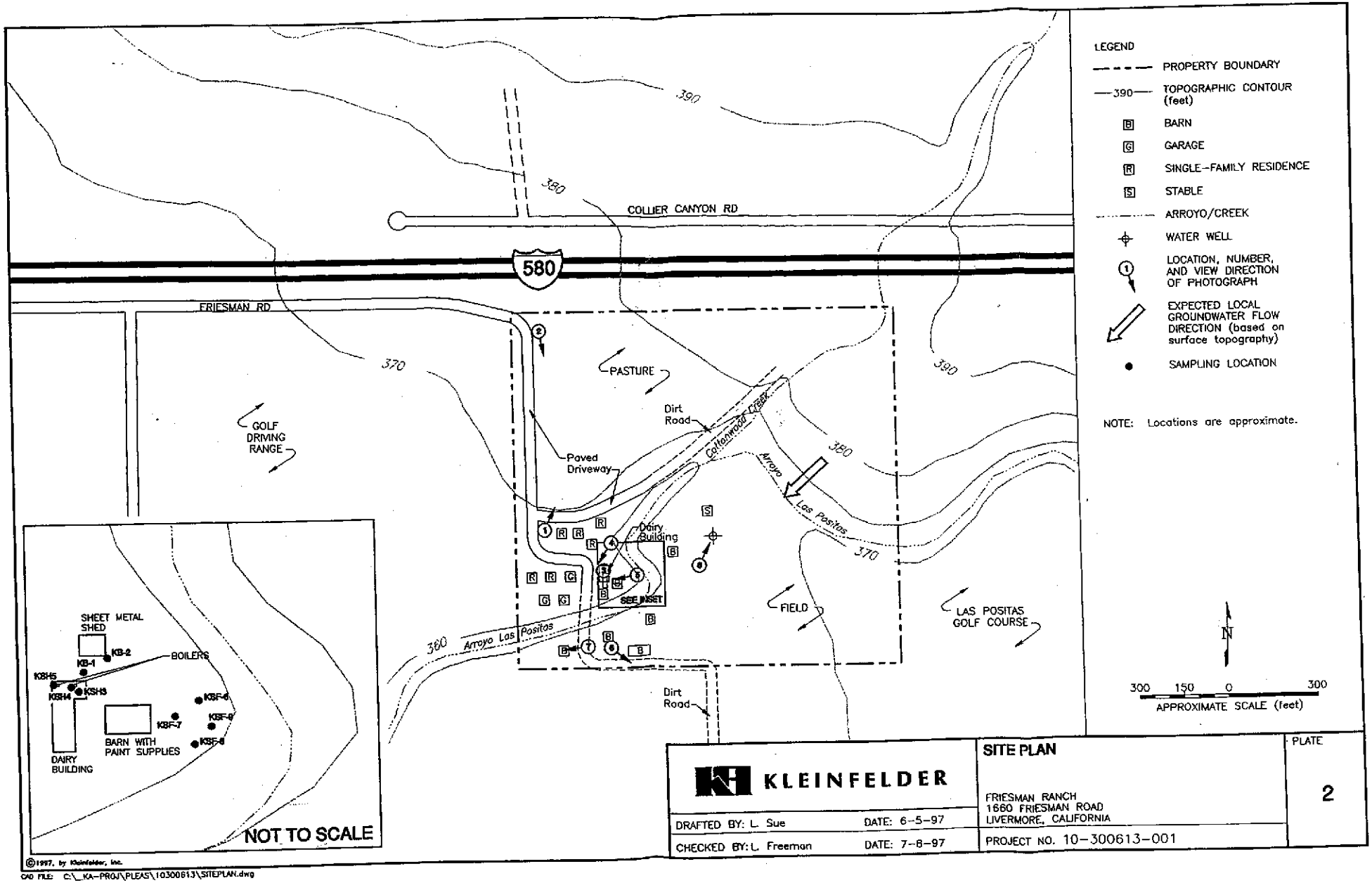
PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.03	HLC	Figure 2.dwg
DATE	CHK. BY:	APP. BY:
8-23-07	SJC	S. Clements

SHEET TITLE: SITE PLAN

PROJECT TITLE:
FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: AS SHOWN

FIGURE: 2



CAD FILE: C:_KA-PROJ\PLEAS\10300613\SITEPLAN.dwg

KLEINFELDER

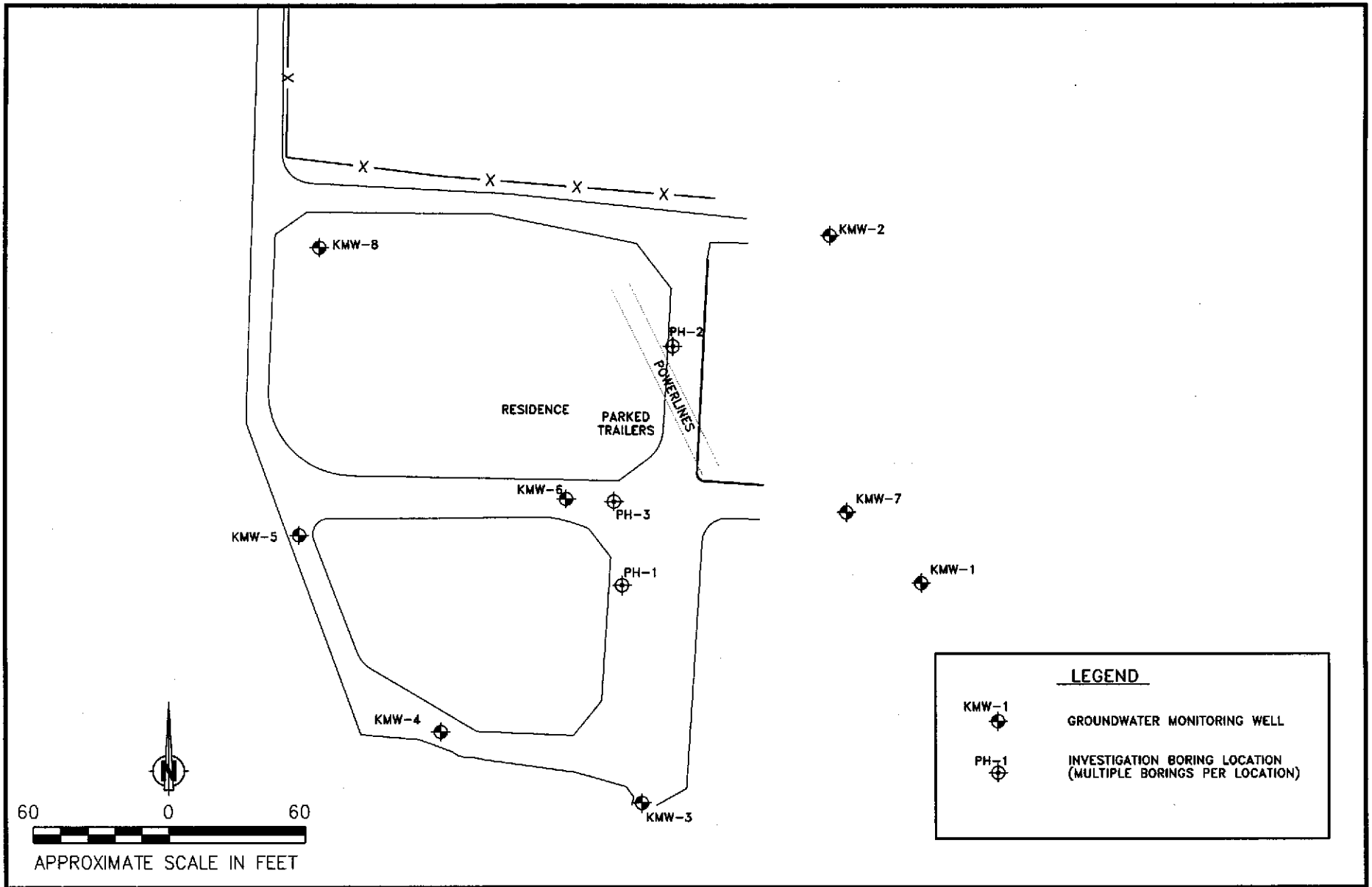
DRAFTED BY: L. Sue	DATE: 6-5-97
CHECKED BY: L. Freeman	DATE: 7-8-97

SITE PLAN

FRIESMAN RANCH
1660 FRIESMAN ROAD
LIVERMORE, CALIFORNIA

PROJECT NO. 10-300613-001

PLATE 2



BASE:
SITE SURVEY CONDUCTED BY MORROW SURVEYING, INC. 3-26-2007

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 Koll Center Parkway, Suite 140
Pleasanton, California 94566
PH. (925) 426-0080 FAX. (925) 426-0707

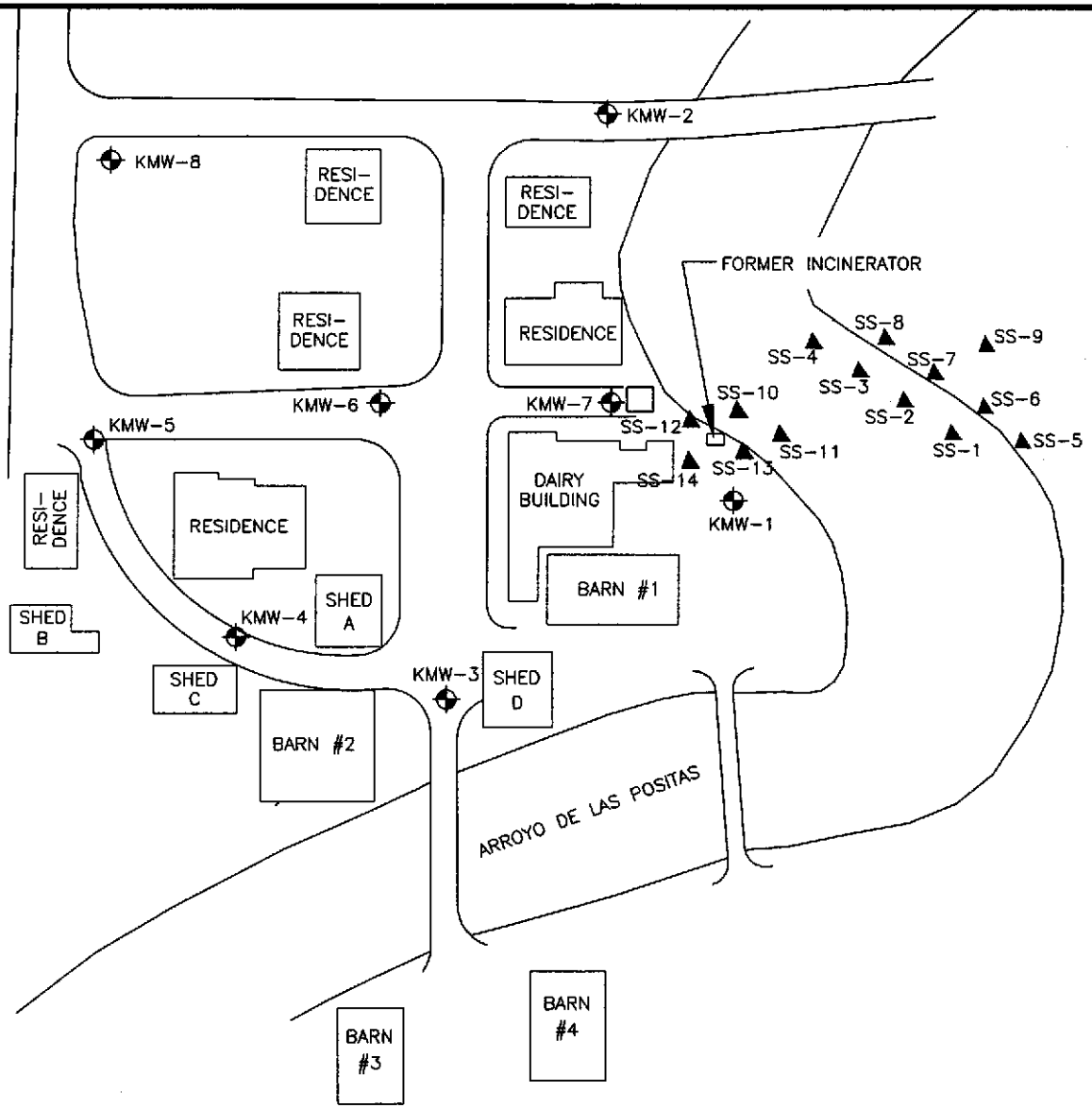
PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.04	TMS	Figure 4.dwg
DATE	CHK. BY:	APP. BY:
10/2/07	TMS	S. Clements

SHEET TITLE: SITE MAP SHOWING SAMPLE LOCATIONS

PROJECT TITLE:
FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: AS SHOWN

FIGURE: 4



BASE:
ATC ASSOCIATES INC. MARCH 28, 2003. QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003, FRIESMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 KOLL CENTER PKWY, SUITE 140
PLEASANTON, CALIFORNIA 94566
PH. (925) 426-0080 FAX. (925) 426-0707

PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.02	TMS	Figure 5.dwg
DATE	CHK. BY:	APP. BY:
1/12/07	SJC	S. Clements

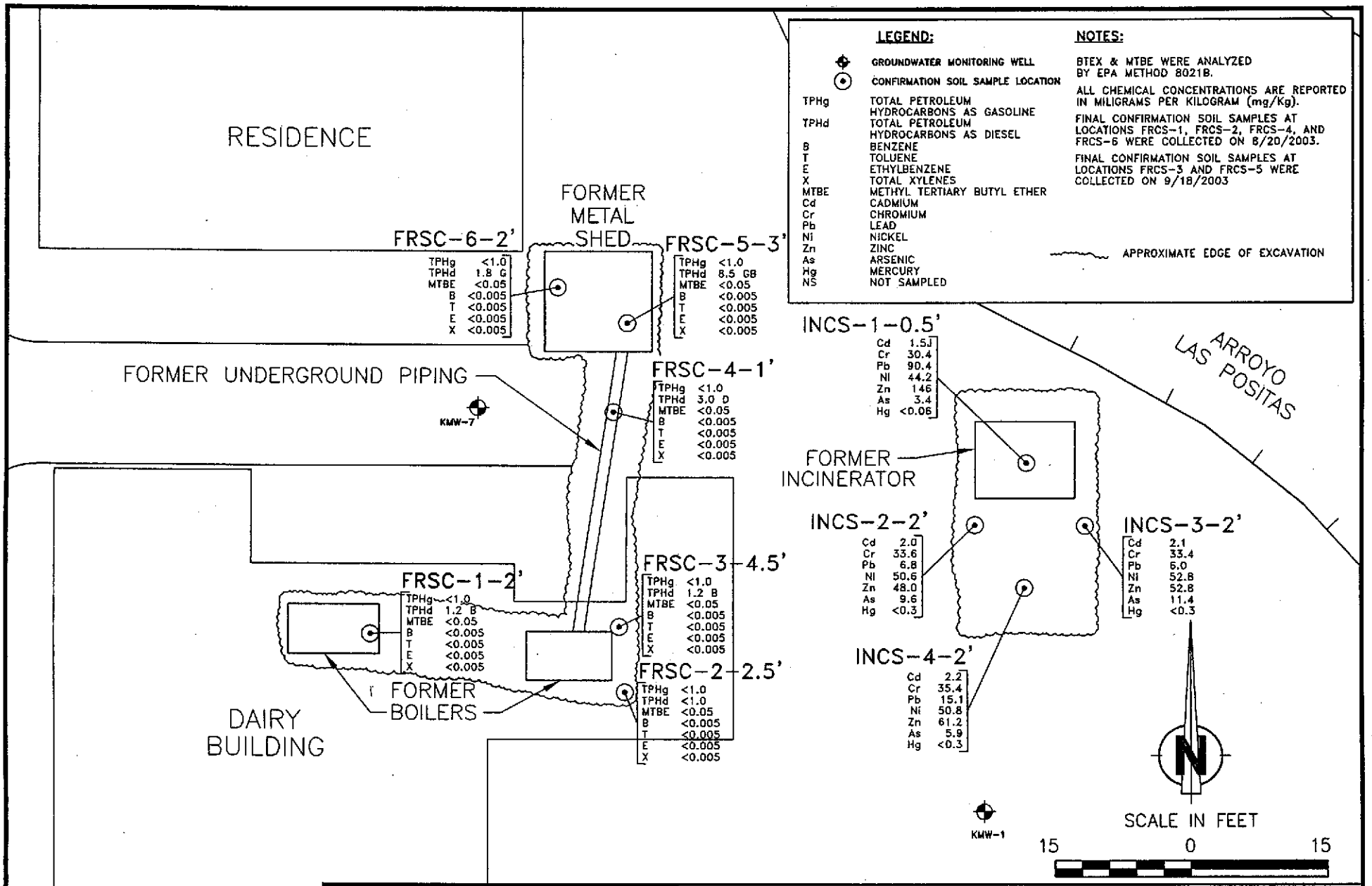
SHEET TITLE:
SURFACE SOIL SAMPLE LOCATIONS (FORMER INCINERATOR AREA)

PROJECT TITLE:
FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE:
AS SHOWN

FIGURE:
5

[redacted]



BASE:
ATC ASSOCIATES INC. MARCH 28, 2003. QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003, FRIESMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6850 REGIONAL STREET, SUITE 240
DUBLIN, CALIFORNIA 94568-2611
PH. (925) 829-0661 FAX. (925) 829-5493

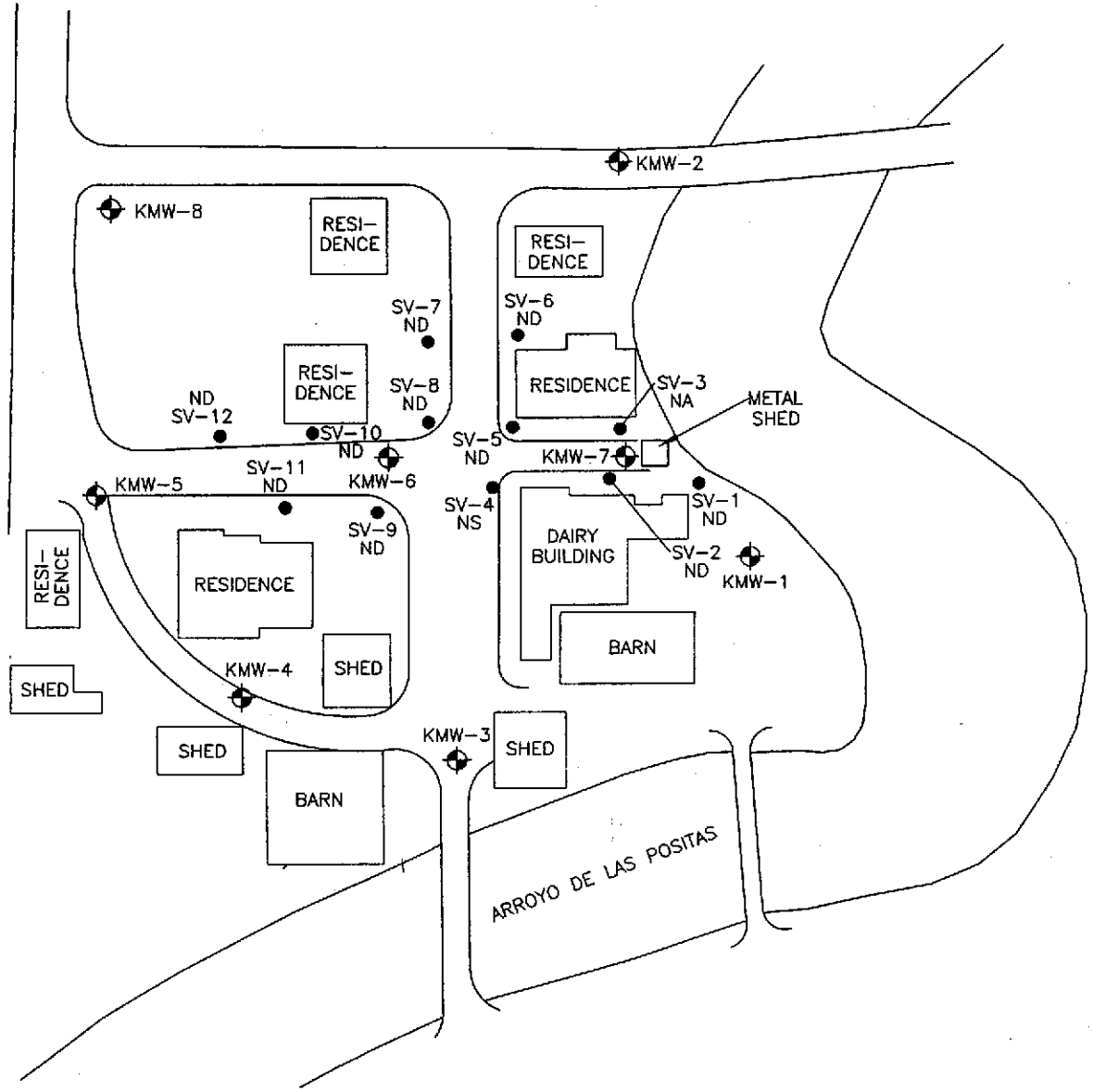
PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.00	CRD	Fig-06 Soil Sample.dwg
DATE	CHK. BY:	APP. BY:
09/22/03	EH	JAL

SHEET TITLE:
FINAL CONFIRMATION SOIL SAMPLE RESULTS

PROJECT TITLE:
FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: 1" = 15'

FIGURE: 6



LEGEND

- GROUNDWATER MONITORING WELL
- SOIL VAPOR PROBE LOCATION
- ND — TPH-g, MTBE, BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES WERE NOT DETECTED. CONSTITUENTS ANALYZED BY EPA METHOD 8021B.
- NS — NOT SAMPLED DUE TO DENSE SOIL CONDITIONS
- NA — NOT ANALYZED DUE TO INSUFFICIENT SAMPLE VOLUME

N

SCALE IN FEET

80 0 80

BASE:
AEC ASSOCIATES INC. MARCH 28, 2003. QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003. FRIESMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6850 REGIONAL STREET, SUITE 240
DUBLIN, CALIFORNIA 94568-2611
PH. (925) 829-0681 FAX. (925) 829-5493

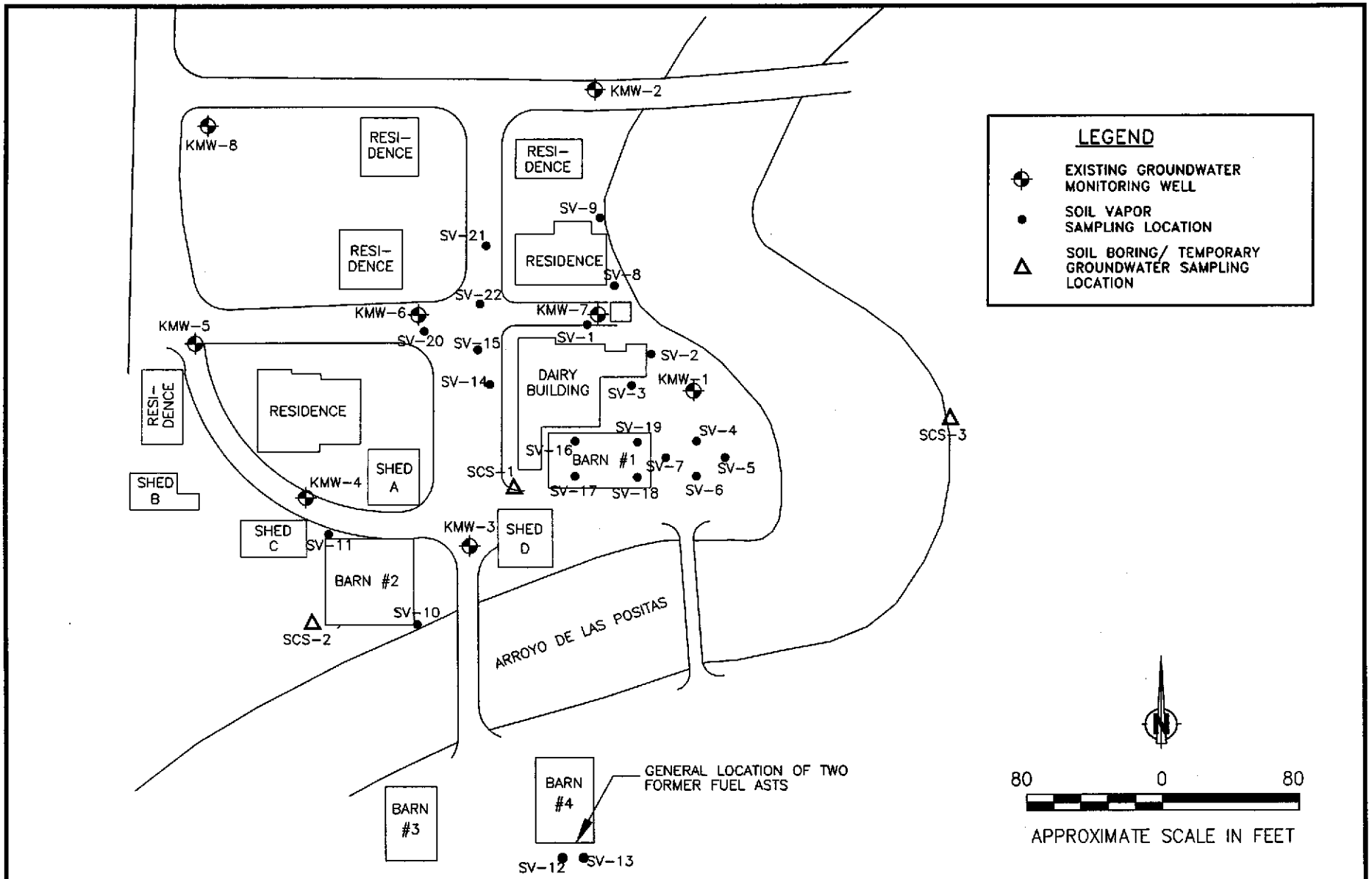
PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.00	CRD	Fig-05 Soil Vapor.dwg
DATE	CHK. BY:	APP. BY:
9/22/03	EH	JAL

SHEET TITLE: **SOIL VAPOR SURVEY RESULTS**

PROJECT TITLE:
FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: 1" = 80'

FIGURE: 5



NOTES:
INVESTIGATION CONDUCTED ON JANUARY 9-11, 2007.

BASE:
ATC ASSOCIATES INC. MARCH 28, 2003, QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003, FREISMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 KOLL CENTER PKWY, SUITE 140
PLEASANTON, CALIFORNIA 94566
PH. (925) 426-0080 FAX. (925) 426-0707

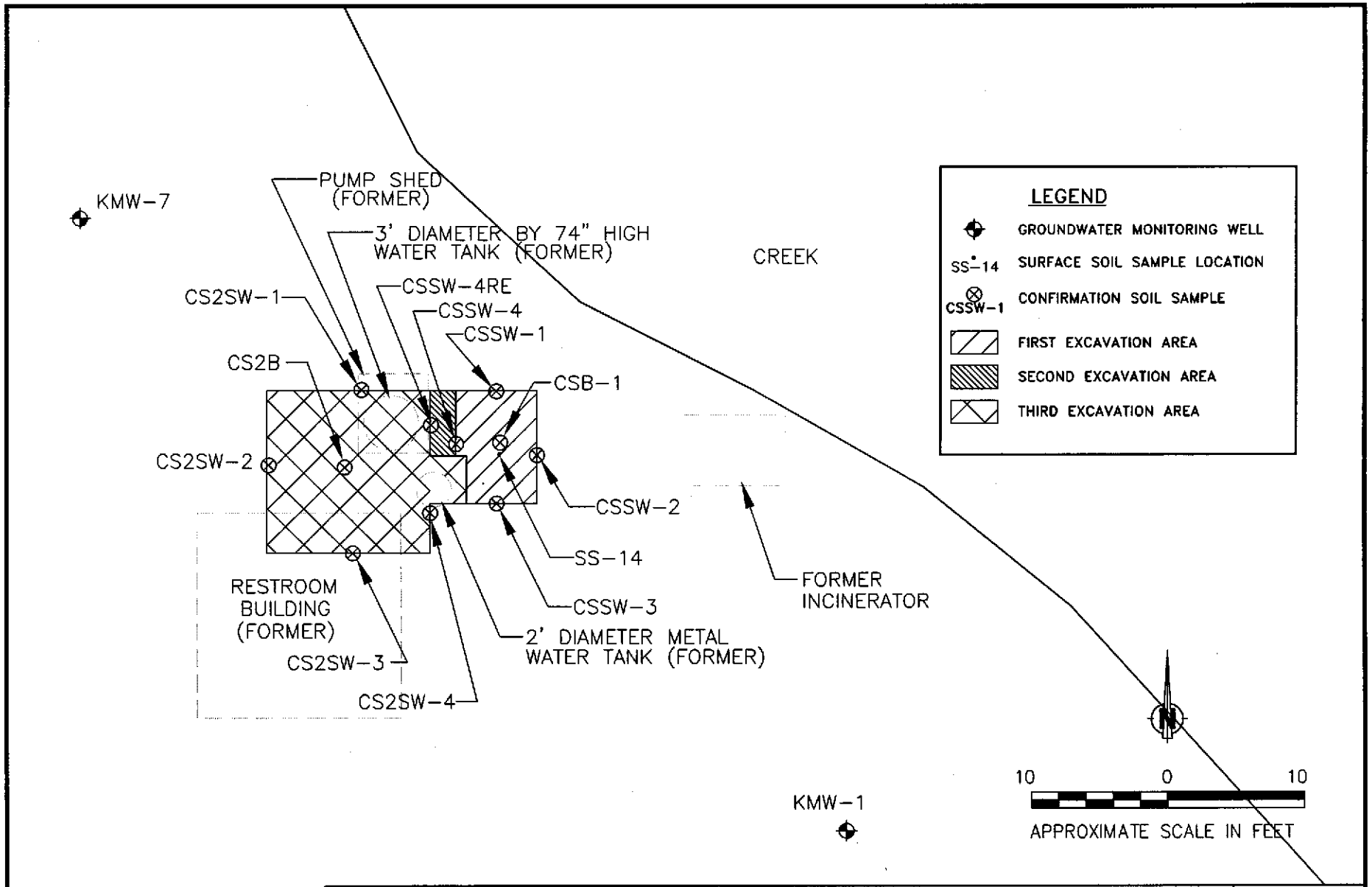
PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.02	TMS	Figure 4.dwg
DATE	CHK. BY:	APP. BY:
1/12/07	SJC	S. Clements

SHEET TITLE: SOIL VAPOR, SOIL, AND GROUNDWATER SAMPLE LOCATIONS

PROJECT TITLE:
FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: AS SHOWN

FIGURE: 4



BASE:
ATC ASSOCIATES INC. MARCH 28, 2003. QUARTERLY GROUNDWATER MONITORING REPORT, FIRST QUARTER 2003, FREISMAN RANCH PROPERTY, LIVERMORE, CALIFORNIA

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 KOLL CENTER PARKWAY, SUITE 140
PLEASANTON, CALIFORNIA 94566
PH. (925) 426-0080 FAX. (925) 426-0707

PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.03	TMS	FIGURE 3
DATE	CHK. BY:	APP. BY:
10-2-2007	SJC	SJC

SHEET TITLE: EXCAVATION AREA

PROJECT TITLE: FREISMAN RANCH
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: AS SHOWN

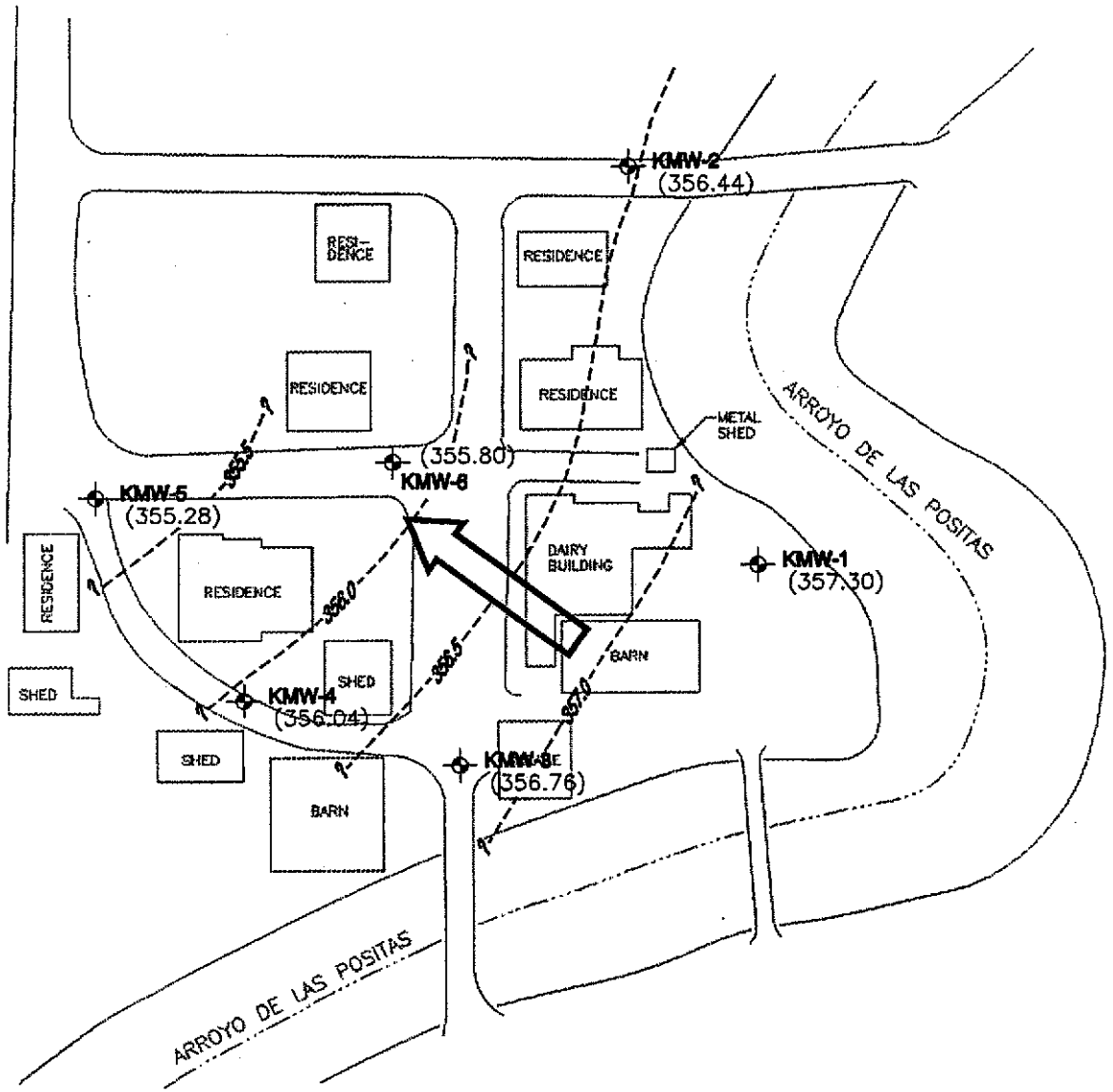
FIGURE NO. 3

LEGEND

- GROUNDWATER MONITORING WELL
- (356.04) GROUNDWATER ELEVATION, feet above mean sea level
- GROUNDWATER ELEVATION CONTOUR, queried where approximate
- GROUNDWATER FLOW DIRECTION

NOTES:

1. Locations are approximate.



N

80 0 80

APPROXIMATE SCALE (feet)

KLEINFELDER

DRAFTED BY: L. Sue DATE: 10-16-97

CHECKED BY: N. Siler DATE: 10-16-97

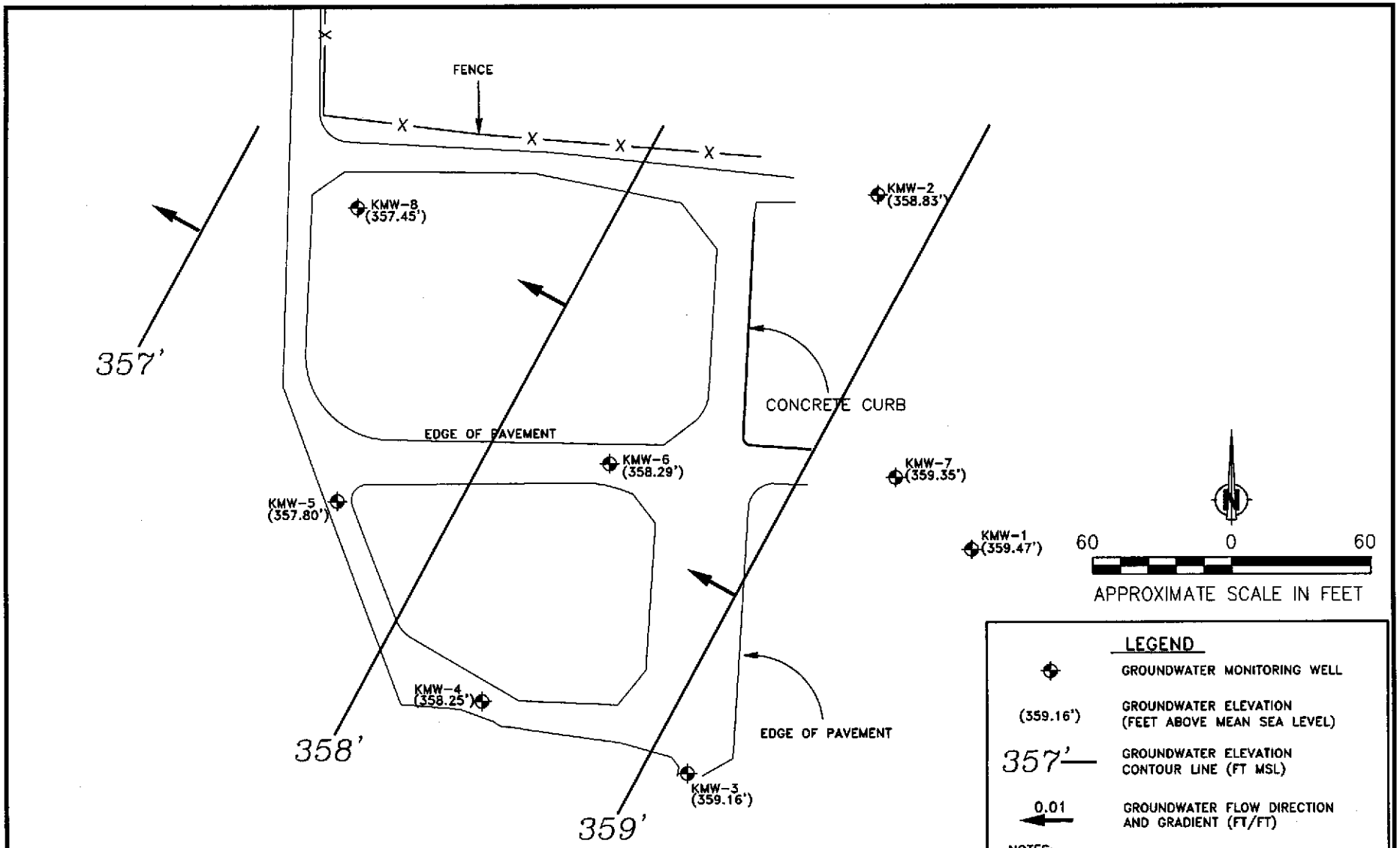
GROUNDWATER ELEVATIONS: SEPTEMBER 8, 1997

FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

PROJECT NO. 10-[redacted]

PLATE 6

CAD FILE: C:_KA-PROJ\PLEAS\10300613\006\P3-10.dwg



BASE:
SITE SURVEY CONDUCTED BY MORROW SURVEYING, INC. 3-26-2007

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6801 Koll Center Parkway, Suite 140
Pleasanton, California 94566
PH. (925) 426-0080 FAX (925) 426-0707

PROJ. NO.	DWN. BY:	ACAD FILE:
01203087.02	TMS	Figure 3.dwg
DATE	CHK. BY:	APP. BY:
4/18/07	TMS	S. Clements

SHEET TITLE: GROUNDWATER ELEVATION CONTOURS 4/18/07)

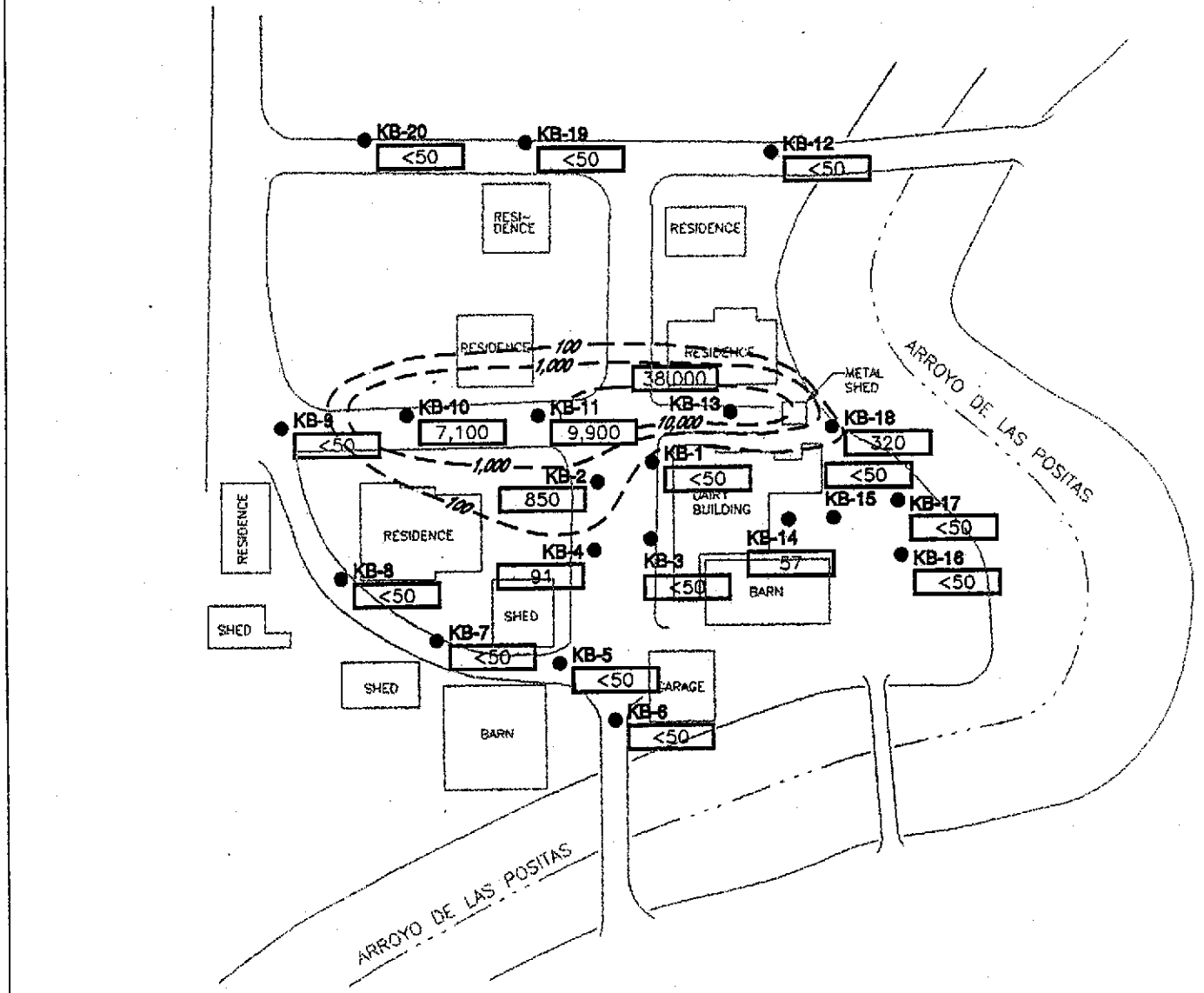
PROJECT TITLE:
FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

SCALE: AS SHOWN

FIGURE: 3

LEGEND

- ● SOILBORING/SAMPLING AND RECONNAISSANCE GROUNDWATER SAMPLE
- 91 TPH-g DETECTED Concentration in µg/L.
- <50 TPH-g NOT DETECTED above laboratory reporting limit
- NA TPH-g NOT ANALYZED
- 100 ISOCONCENTRATION CONTOUR (µg/L) Queried where approximate.



NOTES:

1. Locations are approximate.
2. All concentrations are reported in micrograms per liter (µg/L), approximately equivalent to parts per billion (ppb).

N

80 0 80

APPROXIMATE SCALE (feet)

KLEINFELDER

DRAFTED BY: L. Sue	DATE: 9-16-97
CHECKED BY: N. Siler	DATE: 9-17-97

RECONNAISSANCE GROUNDWATER SAMPLE ANALYTICAL RESULTS: TPH-g, AUGUST 1997

FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

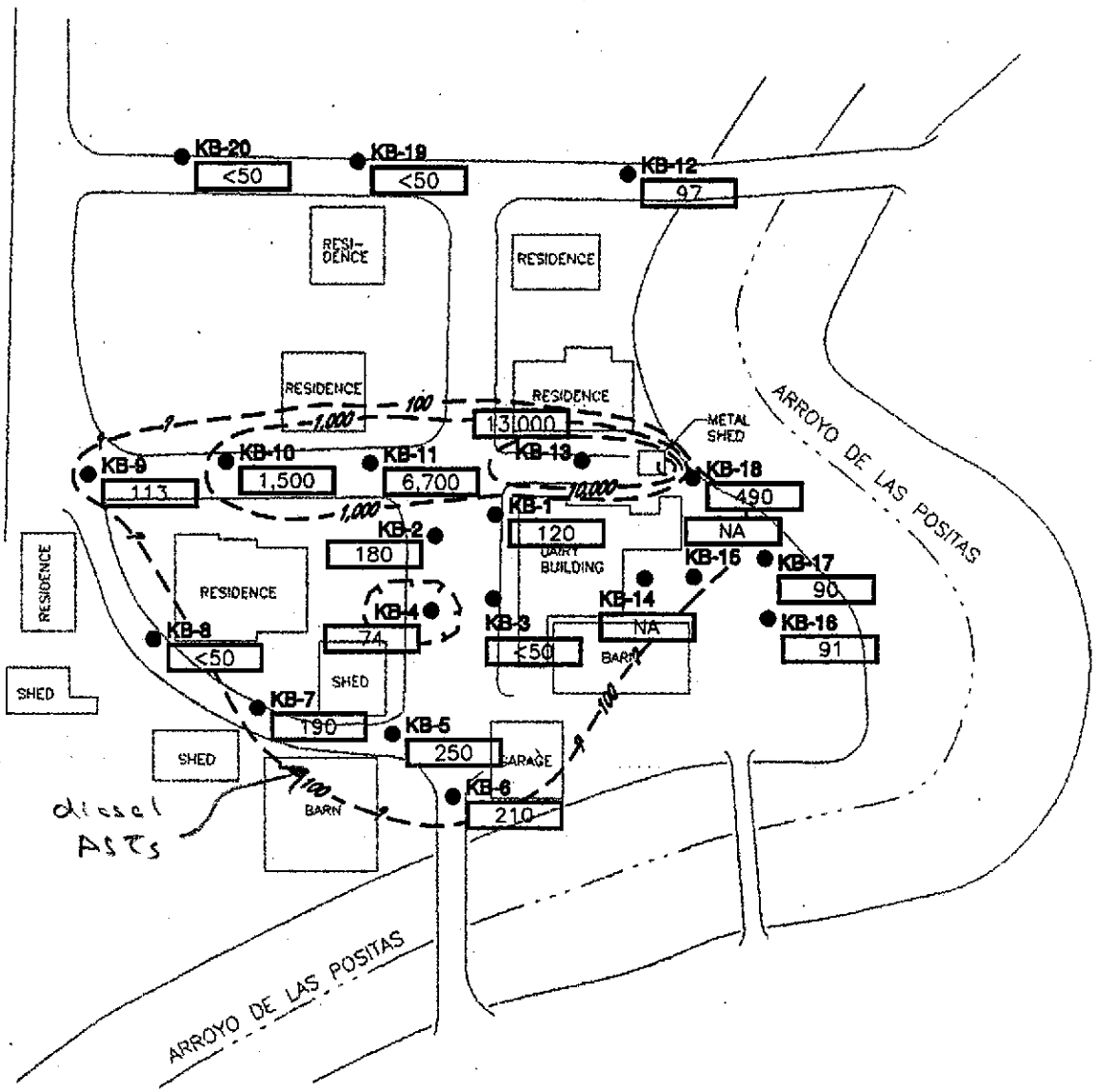
PROJECT NO.. 10-300613-006

PLATE 7

CAD FILE: C:_KA-PROJ\PLEAS\10300613\006\P3-10.dwg

LEGEND

- ● SOIL BORING/SAMPLING AND RECONNAISSANCE GROUNDWATER SAMPLE
- 90 TPH–d DETECTED Concentration in µg/L.
- <50 TPH–d NOT DETECTED above laboratory reporting limit
- NA TPH–d NOT ANALYZED
- 100 ISOCONCENTRATION CONTOUR (µg/L) Queried where approximate.



NOTES:

1. Locations are approximate.
2. All concentrations are reported in micrograms per liter (µg/L), approximately equivalent to parts per billion (ppb).

N

80 0 80

APPROXIMATE SCALE (feet)

KLEINFELDER

DRAFTED BY: L. Sue DATE: 9–16–97

CHECKED BY: N. Siler DATE: 9–23–97

RECONNAISSANCE GROUNDWATER SAMPLE ANALYTICAL RESULTS: TPH-d, AUGUST 1997

FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

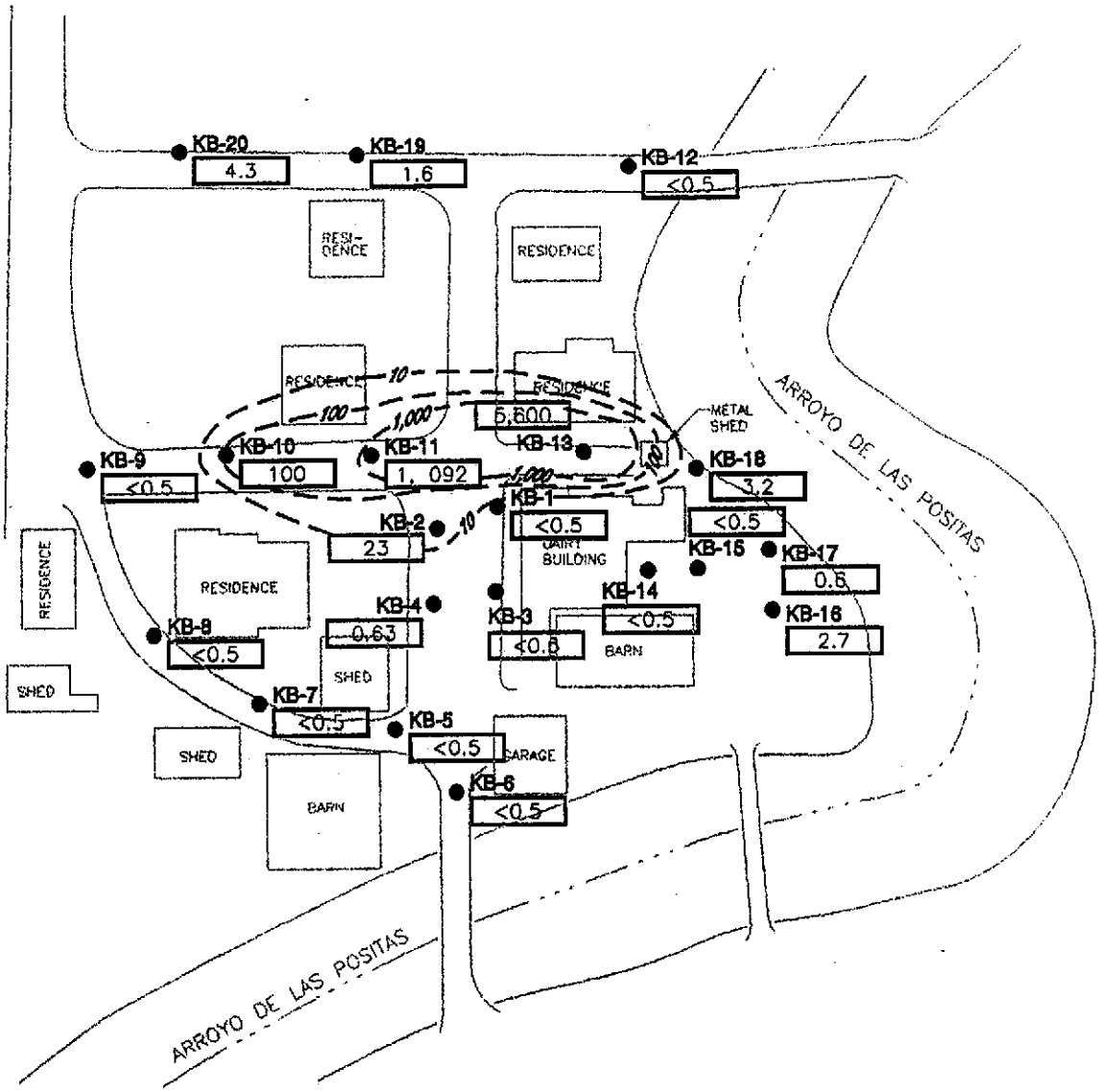
PROJECT NO. 10–300613–006

PLATE 8

CAD FILE: C:_KA-PROJ\PLEAS\10300613\006\P3-10.dwg

LEGEND

- ● SOILBORING/SAMPLING AND RECONNAISSANCE GROUNDWATER SAMPLE
- 1.5 BTEX DETECTED Concentration in µg/L.
- <0.5 BTEX NOT DETECTED above laboratory reporting limit
- NA BTEX NOT ANALYZED
- 100 ISOCONCENTRATION CONTOUR (µg/L) Queried where approximate.



NOTES:

1. Locations are approximate.
2. All concentrations are reported in micrograms per liter (µg/L), approximately equivalent to parts per billion (ppb).

N

80 0 80

APPROXIMATE SCALE (feet)

KLEINFELDER

DRAFTED BY: L. Sue DATE: 9-16-97

CHECKED BY: N. Siler DATE: 9-17-97

RECONNAISSANCE GROUNDWATER SAMPLE ANALYTICAL RESULTS: BTEX, AUGUST 1997

FRIESMAN RANCH PROPERTY
1600 FRIESMAN ROAD
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

PROJECT NO. 10-300613-006

PLATE 9

CAD FILE: C:_KA-PROJ\PLEAS\10300613\006\P3-10.dwg

TABLE 4
SUMMARY OF SOIL VAPOR SURVEY ANALYTICAL
FREISMAN RANCH PROPERTY
LIVERMORE, CALIFORNIA

Sample	Analyte		
	Benzene	Toluene	Xylenes (total)
	VOCs by EPA Method 8260B		
	ug/L		
SV-1	<0.08	<0.2	<0.2
SV-2	<0.08	<0.2	<0.2
SV-3	<0.08	0.52	0.58
SV-4	<0.08	<0.2	<0.2
SV-5	<0.08	0.2	0.25
SV-6	<0.08	<0.2	0.24
SV-7	<0.08	<0.2	<0.2
SV-8	<0.08	<0.2	0.21
SV-9	<0.08	0.25	0.28
SV-10	<0.08	<0.2	0.25
SV-11	<0.08	0.23	0.27
SV-12	<0.08	0.22	0.22
SV-13	<0.08	<0.2	0.21
SV-14	<0.08	<0.2	<0.2
SV-15	<0.08	<0.2	<0.2
SV-16	<0.08	<0.2	<0.2
SV-17	<0.08	<0.2	<0.2
SV-18	<0.08	<0.2	<0.2
SV-19	<0.08	<0.2	<0.2
SV-20	<0.08	<0.2	<0.2
SV-21	<0.08	<0.2	<0.2
SV-22	<0.08	<0.2	<0.2
ESL	0.085	63	150

Notes:

soil vapor survey conducted on January 10 and 11, 2007

ug/L = micrograms per liter of vapor

VOCs = Volatile Organic Compounds. EPA Method 8260B analytes not listed were not detected (see analytical report)

ESL = Environmental Screening Level for shallow soil vapor in residential areas. San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

[redacted]

TABLE 5
SUMMARY OF SOIL VAPOR SAMPLE ANALYTICAL RESULTS
FRIESMAN RANCH PROPERTY
SAMPLES COLLECTED JULY 22, 2003

SAMPLE ID	ANALYTE					
	TPH-g	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
	ug/m3					
SCS SV-1	<25,000	<2,500	<125	<250	<250	<250
DUP*	<25,000	<2,500	<125	<250	<250	<250
SCS SV-2	<25,000	<2,500	<125	<250	<250	<250
SCS SV-3	NA	NA	NA	NA	NA	NA
SCS SV-4	NS	NS	NS	NS	NS	NS
SCS SV-5	<25,000	<2,500	<125	<250	<250	<250
SCS SV-6	<25,000	<2,500	<125	<250	<250	<250
SCS SV-7	<25,000	<2,500	<125	<250	<250	<250
SCS SV-8	<25,000	<2,500	<125	<250	<250	<250
SCS SV-9	<25,000	<2,500	<125	<250	<250	<250
SCS SV-10	<25,000	<2,500	<125	<250	<250	<250
SCS SV-11	<25,000	<2,500	<125	<250	<250	<250
SCS SV-12	<25,000	<2,500	<125	<250	<250	<250

Notes: TPH-g = Total Petroleum Hydrocarbons as gasoline
MTBE = Methyl tert-Butyl Ether
E-benzene = Ethylbenzene
ug/m3 = micrograms per cubic meter
DUP* = Duplicate sample. Two vapor samples were obtained from location SV-1.
One of the samples was submitted as a blind duplicate as labled Sample SV-13.
NS = Not Sampled
NA = Not Analyzed
Sample SV-3 was not analyzed due to insufficient sample volume upon arrival at the laboratory. Leakage occured during transport.
Sample SV-4 was not collected because soil conditions at the proposed sample location were too dense to yield a vapor sample.

TABLE 7
SUMMARY OF SURFACE SOIL SAMPLE ANALYTICAL RESULTS (INCINERATOR AREA)
FREISMAN RANCH PROPERTY
LIVERMORE, CALIFORNIA

Sample Number	Sample Date	Arsenic	Cadmium	Chromium	Lead	Mercury	Nickel	Zinc
		EPA Method 6020A						
		mg/kg						
SS-1	1/9/2007	2.6	<0.25	41	7.6	<0.05	41	53
SS-2	1/9/2007	2.6	<0.25	26	7.5	0.053	30	51
SS-3	1/9/2007	2.5	<0.25	29	7.7	<0.05	30	58
SS-4	1/9/2007	2.5	<0.25	26	9.2	0.074	30	51
SS-5	1/9/2007	2.7	<0.25	25	7	<0.05	28	37
SS-6	1/9/2007	3.4	<0.25	32	7.3	<0.05	33	44
SS-7	1/9/2007	3	<0.25	35	12	0.053	35	51
SS-8	1/9/2007	3.1	<0.25	31	14	0.054	32	48
SS-9	1/9/2007	3.6	<0.25	34	8.2	0.082	35	48
SS-10	1/10/2007	2.5	<0.25	28	8.2	<0.05	30	54
SS-11	1/10/2007	**9.6**	0.3	51	49.7	<0.05	62	120
SS-12	1/10/2007	4.6	0.38	63	65	0.062	57	190
SS-13	1/10/2007	**5.7**	<0.25	59	15	0.06	86	83
SS-14	1/10/2007	**10**	0.73	79	**760**	0.072	41	510
Residential ESL		5.5	1.7	750	150	3.7	150	600
Commercial ESL		5.5	7.4	750	750	10	150	600

Notes:

mg/kg = milligrams per kilogram

The chromium ESL listed is for trivalent chromium

ESL = Environmental Screening Level for shallow soil where groundwater is a current or potential source of drinking water San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

[redacted]

TABLE 6.
SUMMARY OF CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS - FUEL SYSTEM
FRIESMAN RANCH PROPERTY
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

SAMPLE LOCATION	SAMPLE DATE	SAMPLE DEPTH (FEET BGS)	TPH(g)	TPH(d)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES
			mg/kg						
ESLs			100	100	0.023	0.044	2.9	3.3	1.5
FRCS-1	8/20/2003	2	<1.0	1.2 B	<0.05	<0.005	<0.005	<0.005	<0.005
FRCS-2	8/20/2003	2.5	<1.0	<1.0	<0.05	<0.005	<0.005	<0.005	<0.005
FRCS-3	8/20/2003	2	<1.0	**280 GB**	<0.05	<0.005	<0.005	<0.005	<0.005
	9/18/2003	4.5	<1.0	1.2 B	<0.05	<0.005	<0.005	<0.005	<0.005
FRCS-4	8/20/2003	1	<1.0	3.0 D	<0.05	<0.005	<0.005	<0.005	<0.005
FRCS-5	8/20/2003	2	3.4 G	**110 GB**	<0.05	<0.005	0.015	<0.005	0.049
	9/18/2003	3	<1.0	8.5 GB	<0.05	<0.005	<0.005	<0.005	<0.005
FRCS-6	8/20/2003	2	<1.0	1.8 G	<0.05	<0.005	<0.005	<0.005	<0.005
FRSP (Composite)	8/20/2003	NA	<1.0	88 G	<0.05	<0.005	<0.005	<0.005	<0.005

Notes: ESLs = Environmental Screening Levels for shallow soil, where groundwater is a current or potential drinking water resource

B flag denotes diesel range compounds are significant with no recognizable pattern.

D flag denotes gasoline range compounds are significant.

G flag denotes strongly aged gasoline or diesel range compounds are significant.

NA = Not Applicable

Bold values are concentrations greater than ESLs.

Table 1.
Summary of Confirmation Soil Sample Analytical Results
Freisman Ranch Property
1600 Freisman Road
Livermore, California

Excavation Phase	Sample ID	Sample Location Within Excavation	Depth	Sample Date	Total Lead
			feet bgs		mg/kg
First (Initial)	CSB-1	Bottom	2	04/24/07	**26**
	CSSW-1	North Sidewall	1	04/24/07	**22**
	CSSW-2	East Sidewall	1	04/24/07	**93**
	CSSW-3	South Sidewall	1	04/24/07	**15**
	CSSW-4	West Sidewall	1	04/24/07	620
Second	CSSW-4 RE	West Sidewall	1	05/11/07	440
Third	CS2B	Bottom	2.5	09/12/07	**12**
	CS2SW-1	North Sidewall	1.5	09/12/07	**5.7**
	CS2SW-2	West Sidewall	1.5	09/12/07	**6.7**
	CS2SW-3	South Sidewall	1.5	09/12/07	**15**
	CS2SW-4	East Sidewall	1.5	09/12/07	**17**
Cleanup Goal					150

Notes:

Total Lead analyzed using EPA Method 6010C

bgs = below ground surface

mg/kg = milligrams per kilogram (or parts per million; ppm)

Bold = Final Excavation Confirmation Sample

TABLE 9
SUMMARY OF ANALYTICAL RESULTS

Sample Number	Matrix	TPPH	TEPH	Benzene	Toluene	Ethyl-benzene	Xylenes	VOCs (µg/kg)	Total Lead	Soluble Lead (mg/L)
KB-1-19	soil	280,j	100,d,b	<0.01	0.52	1.6	1.2	NA	NA	NA
KB-2-19	soil	34,j,b	25,d	<0.005	0.036	0.083	0.13	NA	NA	NA
KB-2-W1	water	3,100, j,h,i	160,000, d,h,i	7.3	19	11	22	NA	NA	NA
KSH-3-1.5	soil	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
KSH-4-2	soil	<1.0	160,c	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
KSH-5-3	soil	<1.0	5.2,g	<0.005	0.016	<0.005	<0.005	NA	NA	NA
KSF6-9	soil	NA	NA	NA	NA	NA	NA	ND	73	<0.2
PRG	soil	NE	NE	0.63	790	230	320		130	--
TTLC	soil	--	--	--	--	--	--	--	1,000	--
MCL	water	--	--	1.0	1,000	680	1750	--	50	--
STLC	soil	--	--	--	--	--	--	--	--	5

Notes: Soil results in mg/kg = milligrams per kilogram
Groundwater results in µg/L = micrograms per liter
Soluble analysis results in mg/L = milligrams per liter
ND = Compound not detected above laboratory reporting limit
NA = Not analyzed
NE = Not established
PRG = US Region IX Preliminary Remediation Goal for Industrial Sites, August, 1996 for residential soils/Values in mg/kg
TTLC = Total Threshold Limit Concentrations/Values in mg/kg
MCL = Cal-EPA Maximum Contaminant Levels/Values in ug/L
STLC = Soluble Threshold Limit Concentrations/Values in mg/L
TPPH = Total Purgeable Petroleum Hydrocarbons (quantified as gasoline)
TEPH = Total Extractable Petroleum Hydrocarbons (quantified as diesel)
b = heavier gasoline range compounds are significant
c = aged diesel (?) is significant
d = gasoline range compounds are significant
j = no recognizable pattern
g = oil range compounds are significant
h = lighter than water immiscible sheen is present
i= liquid sample contains greater than ~ 5 vol. % sediment

KLEINFELDER

TABLE 2
SUBSURFACE SOIL SAMPLE ANALYTICAL RESULTS
FRIESMAN RANCH PROPERTY
LIVERMORE, CALIFORNIA

BOREHOLE NUMBER	SAMPLE COLLECTION DATE	TPH-D (mg/kg)	TPH-G (mg/kg)	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)	MTBE (mg/kg)	PAHs (mg/kg)
KB-1 at 10 ft.	8/28/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-1 at 15 ft.	8/28/97	<10	28	0.056	0.0025	0.043	0.071	0.065	<330
KB-3 at 10 ft.	8/28/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-3 at 15 ft.	8/28/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	<330
KB-9 at 15 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-9 at 20 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	<330
KB-14 at 10 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-14 at 15 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	<330
KB-15 at 10 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-15 at 15 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	<330
KB-17 at 5 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	NR	NR
KB-17 at 15 ft.	8/29/97	<10	<1.0	<0.005	<0.005	<0.005	<0.005	<0.005	<330
KB-18 at 15 ft.	8/29/97	<10	2,100	<0.005	<0.005	0.006	0.006	NR	NR
KB-18 at 20 ft.	8/29/97	<10	4,000	<0.005	<0.005	0.007	0.02	<0.005	<330

NOTES:

TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
MTBE	Methyl Tertiary-Butyl Ether
PAHs	Polynuclear Aromatic Hydrocarbons
mg/kg	Milligrams per Kilogram (approximately equal to parts per million)
NR	Not Requested
<0.005	Not detected at or above the laboratory method reporting limit

TABLE 5
SUMMARY OF SOIL BORING ANALYTICAL RESULTS (SOIL SAMPLES)
FREISMAN RANCH PROPERTY
LIVERMORE, CALIFORNIA

Sample Number	Sample Depth (feet)	Benzene	VOCs	TPH-d	TPH-g	TPH-ss
		EPA Method 8260B		Method SW8015Cm		
		mg/kg				
SCS-1	2.5	<0.005	ND	<50	<50	<50
	5	<0.005	ND	<50	<50	<50
	15	<0.005	ND	<50	<50	<50
SCS-2	6.5	<0.005	ND	<50	<50	<50
	10.5	<0.005	ND	<50	<50	<50
	15	<0.005	ND	<50	<50	<50
SCS-3	2.5	<0.005	ND	<50	<50	<50
	6.5	<0.005	ND	<50	<50	<50
	10	<0.005	ND	<50	<50	<50
	15	<0.005	ND	<50	<50	<50

Notes:

All soil samples collected on January 11, 2007

VOCs = Volatile Organic Compounds. EPA Method 8260B analytes not listed were not detected (see analytical report)

TPH-d = Total Petroleum Hydrocarbons as diesel (Analyzed with Silica Gel Clean-up)

TPH-g = Total Petroleum Hydrocarbons as gasoline

TPH-ss = Total Petroleum Hydrocarbons as stoddard solvent

mg/kg = milligrams per kilogram (or parts per million (ppm))

Table 5
Summary of Soil Sample Analytical Results - CPT Investigation
Freisman Ranch Property
1600 Freisman Road, Livermore, California

Boring	Sample Depth (feet)	MEK	n-Butyl benzene	sec-Butyl benzene	Ethyl-benzene	Isopropyl-benzene	Naphthalene	n-Propyl benzene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes	TPHg	TPHss	TPHd	Lead
		EPA Methods 5035B/ 8260B										EPA Method 8015C			EPA Method 6010C
		mg/kg													
PH-1	19	<4.1	**8.0**	**1.4**	**4.9**	**1.8**	**3.5**	**7.2**	**12**	**12**	<1.0	**990**	**420**	**360**	**8.1**
	57	<0.02	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<0.0051	<1.0	<1.0	<1.0	**5.9**
PH-2	25	<0.016	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<0.0039	<1.0	<1.0	<1.0	**6.3**
	48	<0.0017	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<0.0041	<1.0	<1.0	<1.0	**5.5**
PH-3	17	**0.67**	**0.65**	**0.12**	**0.75**	**0.16**	**0.30**	**0.66**	**2.3**	**0.87**	**0.88**	**120**	**44**	**20**	**7.6**
	78	<0.017	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042	<1	<1	<1	**7.7**
ESL (residential)		3.9	NE	NE	3.3	NE	0.46	NE	NE	NE	2.3	100	100	100	750

Notes:

Samples collected on August 21 through August 23, 2007

mg/kg = milligrams per kilogram (or parts per million; ppm)

NE = Not Established

TPHg = total petroleum hydrocarbons as gasoline

TPHss = TPH as stoddard solvent

TPHd = TPH as diesel fuel

MEK = methyl ethyl ketone

ESL = Environmental Screening Level for deep soil (greater than 3 meters) at sites located above groundwater that is a current or potential source of drinking water - San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

TABLE 3
RECONNAISSANCE GROUNDWATER SAMPLE ANALYTICAL RESULTS
FRIESMAN RANCH PROPERTY
LIVERMORE, ALAMEDA COUNTY, CALIFORNIA

BOREHOLE NUMBER	SAMPLE COLLECTION DATE	TPH-D (µg/L)	TPH-G (µg/L)	BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)	MTBE (µg/L)	PAHs (µg/L)
KB-1	8/28/97	120	<50	<0.5	<0.5	<0.5	<0.5	NR	<10
KB-2	8/28/97	180	850	7.9	1.7	10	3.4	NR	NR
KB-3	8/28/97	320	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-4	8/28/97	74	91	<0.5	<0.5	0.63	<0.5	NR	NR
KB-5	8/28/97	250	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-6	8/28/97	210	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-7	8/28/97	190	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-8	8/28/97	<50	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-9	8/29/97	113	<50	<0.5	<0.5	<0.5	<0.5	5.1	<10
KB-10	8/29/97	1,500	7,100	41	26	17	16	27	NR
KB-10D	8/29/97	2,700	10,000	53	38	21	29	33	NR
KB-11	8/29/97	6,700	9,900	160	22	380	530	NR	NR
KB-12	8/29/97	97	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-13	8/29/97	13,000	38,000	390	120	890	4,200	NR	NR
KB-14	8/29/97	NA	57	<0.5	<0.5	<0.5	<0.5	6.5	NR
KB-15	8/29/97	NA	<50	<0.5	<0.5	<0.5	<0.5	NR	NR
KB-16	8/29/97	91	<50	0.6	1.0	<0.5	1.1	NR	<10
KB-17	8/29/97	90	<50	<0.5	<0.5	<0.5	0.6	4.5	NR
KB-18	8/29/97	490	320	<0.5	<0.5	1.0	2.2	NR	NR
KB-19	8/29/97	<50	<50	<0.5	0.7	<0.5	0.9	NR	NR
KB-20	8/29/97	<50	<50	0.7	0.8	0.7	2.1	NR	NR
MCL	--	--	--	1.0	150	700	1,750	--	--

NOTES:

TPH-D	Total Petroleum Hydrocarbons as Diesel
TPH-G	Total Petroleum Hydrocarbons as Gasoline
MTBE	Methyl Tertiary-Butyl Ether
PAHs	Polynuclear Aromatic Hydrocarbons
µg/L	Micrograms per Liter (approx. equal to parts per billion)
NA	Not Analyzed
NR	Not Requested
<0.5	Not detected at or above the laboratory method reporting limit
MCL	Maximum Contaminant Level

[redacted]

TABLE 6
SUMMARY OF TEMPORARY WELL ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
FREISMAN RANCH PROPERTY
LIVERMORE, CALIFORNIA

Sample Number	Well Depth (feet)	Benzene	Bromo-methane	Remaining VOCs	TPH-d	TPH-g	TPH-ss	Dissolved Lead
		EPA Method 8260B			Method 8015C			Method E200.8
		ug/L						
SCS-1 GW	28	<0.5	1.1	ND	<50	<50	<50	<0.5
SCS-2 GW	16	<0.5	<0.5	ND	<50	<50	<50	<0.5
SCS-3 GW	18	<0.5	<0.5	ND	<50	<50	<50	<0.5

Notes:

All groundwater samples collected on January 11, 2007

VOCs = Volatile Organic Compounds. (See analytical report for detection limits)

TPH-d = Total Petroleum Hydrocarbons as diesel (Analyzed with Silica Gel Clean-up)

TPH-g = Total Petroleum Hydrocarbons as gasoline

TPH-ss = Total Petroleum Hydrocarbons as stoddard solvent

ug/L = micrograms per liter (or parts per billion (ppb))

ND = Analytes not detected above specified reporting limits (see laboratory report)

Table 4
Summary of Groundwater Sample Analytical Results - CPT Investigation
Freisman Ranch Property
1600 Freisman Road, Livermore, California

Boring	Sample Depth (feet)	Benzene	n-Butyl benzene	sec-Butyl benzene	1,2-DCA	Ethyl-benzene	Isopropyl-benzene	Naphthalene	n-Propyl-benzene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Xylenes	TPHg	TPHss	TPHd	Dissolved Lead
		EPA Method 8260B											EPA Method 8015C			E200.8
		µg/L														
PH-1	24	**5.1**	**13**	**6.1**	<5.0	**36**	**24**	**38**	**63**	**110**	**30**	**23**	**2,200**	**1,500**	**1,000**	**1.5**
	63	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<50	<0.5
PH-2	29	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<50	**2.2**
	51	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<50	<0.5
PH-3	23	<0.5	<0.5	<0.5	**0.50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<50	<50	<50	<0.5
	85	<0.5	<0.5	<0.5	<0.5	**0.61**	<0.5	<0.5	<0.5	**0.57**	<0.5	<0.5	<50	<50	<50	<0.5
ESL		1.0	NE	NE	0.5	30	NE	17	NE	NE	NE	20	100	100	100	2.5

Notes:

Samples collected on August 21 through August 23, 2007

µg/L = micrograms per liter (or parts per billion; ppb)

NE = Not Established

TPHg = total petroleum hydrocarbons as gasoline

TPHss = TPH as stoddard solvent

TPHd = TPH as diesel fuel

ESL = Environmental Screening Level for groundwater in deep soil (greater than 3 meters) that is a current or potential source of drinking water - San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.

Table 3

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-1	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	7.8
	12/28/1998 dup	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	5.9
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0		NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	0.99
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-2	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	<5.0
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	55	65	NA	<0.5	<0.5	<0.5	<1.0	1.6	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	5.0
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-3	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	<5.0
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 3

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-4	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	7.5
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-5	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	9/8/1997 dup	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	8.5
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	89	NA	<0.5	<0.5	**2**	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-6	9/8/1997	**3,200, d**	**13,000, a**	NA	**250**	14	**560**	**490**	<150	NA	NA	NA	**140**	NA	NA	NA
	12/28/1998	**1,800, d**	**3,200, a**	NA	**86**	3.6	**140**	**90**	<50	NA	NA	NA	**130**	NA	NA	**15**
	3/26/1999	**1,700, d,b**	**7,000, a**	NA	**160**	5.1	**270**	**200**	<100	NA	NA	NA	**100**	NA	NA	<5.0
	3/26/1999 dup	**1,700, d,b**	**6,700, a**	NA	**170**	6.5	**270**	**200**	<100	NA	NA	NA	**100**	NA	NA	NA
	6/21/1999	**1,500, d,b**	**3,800, a**	NA	**170**	<0.5	**260**	**160**	<10	NA	NA	NA	**200**	NA	NA	<5.0
	9/16/1999	**1,900, d**	**7,100, a**	NA	**230**	9.8	**300**	**210**	<120	NA	NA	NA	NA	NA	NA	<5.0
	10/16/2002	**1,600, d**	**4,600, a**	NA	**100**	8.4	**190**	**110**	<50	NA	NA	NA	NA	NA	NA	NA
	10/16/2002 dup	**1,900, d**	**5,100, a**	NA	**110**	10	**210**	**110**	<50	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	**2,100, d**	**5,700, a**	NA	**87**	4.3	**170**	**100**	<25	NA	NA	NA	NA	NA	NA	NA
	1/17/2003 dup	**1,900, d**	**5,800, a**	NA	**89**	6.4	**180**	**100**	<25	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	**110, d**	**390, a**	NA	**7.4**	0.58	8.5	6.1	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003 dup	**100, d**	**270, a**	NA	**4.2**	0.51	5.6	3.0	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	**1,600, d**	**4,300, a**	NA	**89**	3.0	**130**	**70**	<17	NA	NA	NA	NA	NA	NA	NA
	7/21/2003 dup	**1,500, d**	**4,600, a**	NA	**83**	5.2	**130**	**72**	<25	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	**310, d**	**700, a**	NA	**23**	1.1	8.0	8.3	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003 dup	**350, d**	**750, a**	NA	**24**	1.3	8.5	8.8	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	**630**	**2,200**	NA	**21**	33	<2.0	18	<2.0	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	**1500, d**	**4000, a**	NA	**38**	<5.0	**77**	**43**	<50	NA	NA	NA	**77**	NA	NA	2.0
	1/9/2007	53, d	**180, a**	70	**3.1**	<0.5	1.9	0.65	<0.5	0.6	1.1	**0.72**	3.2	1.8	<0.5	<0.5
	4/18/2007	<50	**86, m**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	<0.5	<0.5
	4/19/2007	**1,100, d**	**2,700, a**	**890**	**35**	<5.0	**52**	**23**	<5.0	21	25	<5.0	**110**	86	<5.0	<0.5

Table 3

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-7	12/28/1998	**1,000, d,h**	**9,100, a,h**	NA	**23**	17	**190**	**700**	<70	NA	NA	NA	**110**	NA	NA	**38**
	3/25/1999	**1,200 d,b**	**4,300, a,h**	NA	**19**	16	**56**	**270**	<70	NA	NA	NA	**23**	NA	NA	**22**
	6/21/1999	**1,300, d,b**	**1,300, a**	NA	**6.5**	<0.5	21	**62**	<5.0	NA	NA	NA	**27**	NA	NA	<5.0
	6/21/1999 dup	**1,200, d**	**2,000, a**	NA	**6.4**	6.7	24	**76**	<5.0	NA	NA	NA	**17**	NA	NA	NA
	9/16/1999	**1,100, d**	**950, a**	NA	**3.3**	2	19	**33**	<10	NA	NA	NA	NA	NA	NA	<10
	10/16/2002	**480, d**	**270, a**	NA	**1.3**	<0.5	4	15	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	**610, d**	**1,100, a**	NA	**7.8**	1.3	24	**84**	<10	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	**350, d**	**880, a**	NA	**7.1**	0.69	4.4	**52**	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	**830, n**	**1,500, e/g, a**	NA	**2.8**	<0.5	8.3	**28**	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	**100, d**	**150, a**	NA	0.54	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	61	**230**	NA	0.51	<0.5	<0.5	2.8	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	**320#**	**530**	NA	**2.5**	<0.5	8.1	**26**	<0.5	NA	NA	NA	6.1	NA	NA	2.9
	1/9/2007	84, d	**330, a**	**110**	<0.5	<0.5	0.57	3.2	<0.5	<0.5	<0.5	<0.5	0.72	<0.5	1.3	<0.5
	4/18/2007	<50	**170, m**	96	0.6	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5
	4/19/2007	**290, d**	**720, a**	**490**	**3.3**	<0.5	12	**33**	<0.5	1.8	3.6	<0.5	11	7.7	32	<0.5
KMW-8	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	**12**
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
	9/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	52	58	NA	<0.5	<0.5	0.71	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	6.1
	1/9/2007	<50	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TAP Sample	4/15/2003	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
1S/1E/2P3 (well)	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ESL		100	100	100	1.0	40	30	20	5	NE	NE	0.5	17	NE	NE	2.5

Notes:

TPH-D	Total Petroleum Hydrocarbons as Diesel	d	Gasoline range compounds are significant
TPH-G	Total Petroleum Hydrocarbons as Gasoline	e	TPH pattern that does not appear to be derived from gasoline
TPH-SS	Total Petroleum Hydrocarbons as Stoddard Solvent	#	Kerosene and jet fuel range compounds (possibly stoddard solvent/mineral spirit)
MTBE	Methyl Tertiary-Butyl Ether	g	strongly aged gasoline or diesel range compounds are significant
µg/L	Micrograms per Liter (approx. equal to parts per billion)	h	Lighter than water immiscible sheen is present
<0.5	Not detected at or above the laboratory method reporting limit	n	stoddard solvent/mineral spirit
a	Unmodified or weakly modified gasoline is significant	m	No recognizable pattern
b	Diesel range compounds are significant; no recognizable pattern	NA	Not analyzed
TAP	Sample collected from the on-site water supply well	NS	Not Sampled
h2o	Sampling conducted by H2OGEOL	cs	Sampling conducted by Consolidated Engineering
ND	Not Detected	NE	Not Established
1,2-DCA	1,2-Dichloroethane		
ESL	Environmental Screening Level for groundwater that is a current or potential source of drinking water - San Francisco Bay Regional Water Quality Control Board, Interim Final - February 2005.		

Consolidated Engineering also analyzed groundwater samples for semivolatile organic compounds by EPA Method 8270D. See their report for details.

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-1
Number: 10-300613-005	
Total Depth: 25 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
5				0 0 80 100	2.3	CL	CLAY, silty – dark grayish brown (10YR 4/2), moist, medium stiff, medium to high plasticity, trace fine grained sand (~5%)		
10				90 100 100 100	2.9	CL	CLAY, silty – very dark grayish brown (10YR 3/2), moist, medium stiff, medium plasticity, trace fine to medium grained sand (~5%), no odor		
15				90 100 100 100	40.3	CL	as above, strong odor	1030 hrs ▽	
20				90 100 100 100	0.0	CL	CLAY, silty – grayish brown (2.5Y 5/2), moist, stiff to very stiff, high plasticity, no odor		
25				100 100 100 100		SM	SAND, silty – dark grayish brown (10YR 4/2), saturated, low plasticity, fine grained		
28								Boring terminated at 28.0 feet.	

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

[redacted]

Drafted by	Date
L. Sue	9/15/97
Reviewed by	Date
N. Siler	10/16/97

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-2
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–23								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1158 hrs ▽	
24								Boring terminated at 24.0 feet.	
25–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-3
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
5				0 0 70 80	0.0	CL	CLAY, silty – very dark gray (7.5YR 3/1), moist, stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
10				90 100 100 100	0.0	CL	CLAY, silty – dark brown (7.5YR 3/2), moist, stiff, high plasticity, no odor		
15				95 100 100 100	0.0		as above	1545 hrs ▽	
20				95 100 100 100	0.0		as above		
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	8/28/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-4
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–28								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1350 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	8/28/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-5
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1430 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-6
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–28								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1525 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-7
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐ PID ☐ FID	USCS	Description	Remarks	Well Construction
1–28								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1625 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by: R. Silva	Date: 8/28/97	Plate
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-8
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–28								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1700 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	8/28/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	
Number: 10-300613-005	KB-9
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
5				0 50 100 100	0.9	CL	CLAY, silty – very dark gray (10YR 3/2), stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
10				95 100 100 100	0.9	CL	CLAY, silty – dark grayish brown (140YR 4/2), moist, stiff, medium to high plasticity, no odor		
15				95 100 100 100	1.8	CL	CLAY, silty – brown (7.5YR 4/2), moist, stiff to very stiff, high plasticity, no odor	0935 hrs ▽	
20				100 100 100 100	1.2		as above		
28								Boring terminated at 28.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-10
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1040 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/29/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-11
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1300 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/29/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-12
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1410 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/29/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-13
Number: 10--300613--005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1520 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/29/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-14
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
1–9				0 0 90 100	2.7	CL	CLAY, silty – dark grayish brown (10YR 4/2), moist, stiff, medium plasticity, trace fine grained sand (~5%), no odor		
10–19				95 100 100 100	1.1	CL	CLAY, silty – dark brwon (10YR 3/3), moist, sstiff, medium to high plasticity, no odor	1220 hrs ▽	
15–18				95 100 100 100	1.0		as above		
20–24				95 100 100 100	0.7	CL	CLAY, silty – BROWN (7.5yr 4/2), moist, stiff, medium plasticity, no odor		
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

CAD FILE: C:\...KB-14.dwg

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-15
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
5				0 0 0 0	0.9	CL	CLAY, silty – dark grayish brown (10YR 4/2), moist, stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
10				95 100 100 100	1.6	CL	CLAY, silty – dark brown (10YR 3/3), moist, stiff, medium plasticity, no odor		
15				90 100 100 100	2.1	CL	CLAY, silty – brown (7.5YR 4/2), moist, medium to high plasticity, no odor		
22								1225 hrs ▽	
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	8/29/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

CAD FILE: C:\...KB-15.dwg

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-16
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
1-9				0 0 90 100	0.0	CL	CLAY, silty – very dark gray (10YR 3/1), moist, stiff, medium plasticity, no odor		
10-14				95 100 100 100	0.0	GM	GRAVEL, silty – light brownish gray (10YR 6/2), moist, loose, low plasticity, with rocks, some silt (~10%), no odor	1440 hrs ▽	
15-17				90 100 100 100	0.0	CL	CLAY, silty – dark brown (10YR 3/3), moist, stiff, medium plasticity, no odor		
28								Boring terminated at 28.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/28/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

CAD FILE: C:_KA-PROJ\PLEAS\10300613\005\ KB-16.dwg

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-17
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
5				0 50 90 100	0.7 100 100 100	CL	CLAY, silty - very dark gray (10YR 3/1), moist, stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
10				95 100 100 100	1.1 100 100 100	CL	CLAY, silty - very dark grayish brown (10YR 3/2), moist, stiff, medium to high plasticity, no odor	1500 hrs ▽	
15				90 100 100 100	0.9 100 100 100	CL	CLAY, silty - grayish brown (2.5Y 5/2), moist, stiff to very stiff, high plasticity, no odor		
28								Boring terminated at 28.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Drafted by	Date	Reviewed by	Date	Plate
Site Characterization	R. Silva	8/29/97	L. Sue	9/15/97	N. Siler	10/16/97	

Note: Logs are to be used only for designated purpose(s).

CAD FILE: C:\ KA-PROJ\PLEAS\10300613\005\ KB-17.dwg

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-18
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☑PID ☐FID	USCS	Description	Remarks	Well Construction
1–9				95 100 100 100	0.0	CL	CLAY, silty – very dark gray (10YR 3/1), moist, stiff, meidum to high plasticity, trace fine grained sand (~5%), no odor		
10–14				90 100 100 100	0.0	CL	CLAY, silty – very dark grayish brown (10YR 3/2), moist, stiff to very stiff, medium to high plasticity, no odor		
15–19				100 100 100 100	20.9	CL	CLAY, silty – grayish brown (2.5Y 5/2), moist, stiff to very stiff, high plasticity, slight odor		
20–27				100 100 100 100	12.9	CL	CLAY, silty – grayish brown (2.5Y 5/2), moist, stiff, high plasticity, slight odor	1515 hrs ▽	
28–30								Boring terminated at 28.0 feet.	

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	8/29/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

CAD FILE: C:\ KA-PROJ\PLEAS\10300613\005\ KB-18.dwg

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-19
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1610 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

CAD FILE: C:_KA-PROJ\PLEAS\10300613\005\ KB-19.dwg

Logged by: R. Silva	Date: 8/29/97	Plate
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KB-20
Number: 10-300613-005	
Total Depth: 28 feet	Sheet: 1 of 1

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1–27								Boring not logged. No soil samples collected. Grab groundwater samples collected for TPH-d, TPH-g and BTEX analyses. 1550 hrs ▽	
28								Boring terminated at 28.0 feet.	
29–30									

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	8/29/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

CAD FILE: C:_KA-PROJ\PLEAS\10300613\005\ KB-20.dwg

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-1
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company: Spectrum	Logged By: Richard Silva	Task	Start	Finish
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castanedo	Drilling	9/2/97	9/2/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	6/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing / Easting	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Reference Point / Ground	Filter Pack	2/12 Lonestar	8 feet	24 feet
Datum: Mean Sea Level	Bentonite	3/8" Pellets	6 feet	8 feet
Surveyed By / Date	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F, Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/2/97		21 feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0915 hrs	12.72 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1004 hrs	12.84 feet

Surface Conditions

Landscape

Development Information

Total Gallons Purged =
pH = 7.2
Temperature (°C) = 18
Color =
Conductivity (µmhos/cm) = 1500
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date: _____

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KMW-1
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
0							Fill – GRAVEL – moist, subangular medium to coarse grained, poorly graded, no odor		
3						CL	CLAY, silty – very dark brown (7.5YR 2.5/2), moist, medium to very stiff, medium to high plasticity, trace fine to medium grained sand (~5%), poorly graded, no odor		
6						CL	CLAY, silty – very dark brown (7.5YR 3/3), moist, medium stiff, medium to high plasticity, no odor		
12						CL	CLAY, silty – brown (7.5YR 4/2), moist, very stiff, medium to high plasticity, no odor	9/12/97,1004 ▼	
20							as above, saturated	9/2/97 ▽	
24								Boring terminated at 24.0 feet.	
30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	9/2/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-2
Number: 10-300613-.005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Richard Silva			
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castaneda	Drilling	9/2/97	9/2/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	6/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing / Easting	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Reference Point / Ground	Filter Pack	2/12 Lonestar	8 feet	24 feet
Datum: Mean Sea Level	Bentonite	3/8" Pellets	6 feet	8 feet
Surveyed By / Date	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F, Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/2/97		21 feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0917 hrs	14.19 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1007 hrs	14.35 feet

Surface Conditions

Asphalt

Development Information

Total Gallons Purged =
pH = 7.4
Temperature (°C) = 18
Color = 1550
Conductivity (μmhos/cm) =
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date:

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KMW-2
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
0							Fill – GRAVEL – moist, subangular, medium to fine grained, poorly graded, no odor		
2						CL	CLAY, silty – very dark brown (7.5YR 2.5/2), moist, medium stiff, medium plasticity, trace medium to fine grained sand (~5%), no odor		
8						CL	CLAY, silty – dark brown (7.5YR 3/3), moist, medium to very sitff, medium to high plasticity, no odor	9/12/97,1007 ▼	
15						CL	CLAY, silty – brown (7.5YR 4/2), moist, very stiff, medium to high plasticity, no odor		
20							as above, saturated	9/2/97 ▽	
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by: R. Silva	Date: 9/4/97	Plate
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-3
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Richard Silva			
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castaneda	Drilling	9/2/97	9/2/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	6/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing: Easting:	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Reference Point: Ground:	Filter Pack	2/12 Lonestar	8 feet	24 feet
Datum: Mean Sea Level	Bentonite	3/8" Pellets	6 feet	8 feet
Surveyed By: Date:	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/2/97		21.5 feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0920 hrs	12.22 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1009 hrs	12.36 feet

Surface Conditions

Asphalt

Development Information

Total Gallons Purged =
pH = 7.2
Temperature (°C) = 19
Color =
Conductivity (μmhos/cm) = 1310
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date: _____

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KMW-3
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
0							Fill – GRAVEL – moist, no odor		
1–6						SM	SAND, silty – grayish brown (10YR 5/2), moist, medium to fine grained, poorly graded, with some subangular to round gravel (~10%), no odor		
7–18						SM	SAND, silty – yellowish brown (10YR 5/4), moist, medium to coarse grained, poorly graded, with cobbles, no odor	9/12/97,1009 ▼	
19–23						SM	SAND, silty – dark grayish brown (10YR 4/2), moist, medium to coarse grained, poorly graded, with subangular gravel, no odor as above, saturated	9/2/97 ▽	
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	9/2/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-4
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Richard Silva			
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castaneda	Drilling	9/3/97	9/3/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	9/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing / Easting	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation: Reference Point / Ground	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Datum: Mean Sea Level	Filter Pack	2/12 Lonestar	8 feet	24 feet
Surveyed By / Date	Bentonite	3/8" Pellets	6 feet	8 feet
	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F, Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/3/97		21.5 feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0924 hrs	13.00 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1011 hrs	13.81 feet

Surface Conditions

Asphalt

Development Information

Total Gallons Purged =
pH = 7.3
Temperature (°C) = 21
Color =
Conductivity (µmhos/cm) = 1600
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date: _____

KLEINFELDER

Project	Boring No.
Friesmon Ranch Property	KMW-4
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1							FILL – GRAVEL – moist, no odor		
2						SM	SAND, silty – dark brown (7.5YR 3/3), moist, low plasticity, medium grained, no odor		
3						CL	CLAY, silty – very dark brown (7.5YR 2.5/2), moist, medium stiff, medium plasticity, trace fine grained sand (~5%), no odor		
4									
5									
6									
7									
8									
9						CL	CLAY, silty – dark brown (7.5YR 3/3), moist, medium stiff, medium to high plasticity, trace fine to medium grained sand (~2%), no odor		
10									
11									
12									
13								9/12/97,1011 ▼	
14									
15									
16						CL	CLAY, silty – brown (7.5YR 4/2), moist, medium stiff, medium to high plasticity, no odor		
17									
18									
19									
20									
21								9/3/97 ▽	
22							as above, saturated		
23									
24								Boring terminated at 24.0 feet.	
25									
26									
27									
28									
29									
30									

Designated Purpose(s) of Log

Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	9/3/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

KMW-4.dwg

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-5
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, Ca 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Richard Silva			
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castaneda	Drilling	9/3/97	9/3/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	9/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing / Easting	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Reference Point / Ground	Filter Pack	2/12 Lonestar	8 feet	24 feet
Datum: Mean Sea Level	Bentonite	3/8" Pellets	6 feet	8 feet
Surveyed By / Date	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F, Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/3/97		21.0 feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0935 hrs	14.14 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1012 hrs	14.30 feet

Surface Conditions

Asphalt

Development Information

Total Gallons Purged =
pH = 7.3
Temperature (°C) = 21
Color =
Conductivity (μmhos/cm) = 1590
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date:

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KMW-5
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
0							Fill - GRAVEL - moist, subangular to angular, poorly graded, no odor		
1-6						CL	CLAY, silty - very dark brown (7.5YR 2.5/2), moist, medium stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
6-13						CL	CLAY, silty - very dark brown (7.5YR 3/3), moist, medium to very stiff, medium to high plasticity, trace fine grained sand (~5%), no odor	9/12/97,1012 ▼	
13-20						CL	CLAY, silty - brown (7.5YR 4/2), moist, medium to very stiff, medium to high plasticity, no odor		
20-24							as above, saturated	9/3/97 ▽	
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log	Logged by	Date	Plate
Site Characterization	R. Silva	9/3/97	
	Drafted by: L. Sue	Date: 9/15/97	
	Reviewed by: N. Siler	Date: 10/16/97	

Note: Logs are to be used only for designated purpose(s).

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL DATA SHEET

Project	Boring No.
Friesman Ranch Property	KMW-6
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 1 of 2

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 97448	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Richard Silva			
Rig Make/Model: CME-458	Driller/Crew: Robert Duvall/Art Castaneda	Drilling	9/3/97	9/3/97
Bit Type/Diameter: Hollow stem auger, 10"ø	Inspector:	Completion	9/3/97	9/3/97
Hammer Data: 140 pounds, 30 inches	Agency: Zone 7 Water Agency	Development	9/4/97	9/4/97

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description: Top of Casing	Surface Casing	Christie Box	0 feet	0 feet
Northing / Easting	Casing	4"ø Sched 40 PVC	3 inches	9 feet
Elevation	Screen	4"ø Sch 40 PVC, 0.02"-slot	9 feet	24 feet
Reference Point / Ground	Filter Pack	2/12 Lonestar	8 feet	24 feet
Datum: Mean Sea Level	Bentonite	3/8" Pellets	6 feet	8 feet
Surveyed By / Date	Surface Seal	2-5% Cement/Bentonite Grout	0.5 feet	6 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Ground Water			
Temperature: Max. 95°F, Min. 75°F	Recent Rainfall/Precipitation: None	Sym.	Date	Time	Level
Humidity: --	Nearby Wells Pumping: Unknown	▽	9/3/97		21.0feet
Windspeed/Direction: Slight breeze, westerly	Nearby Surface Water: Stream, outer edge and through site	▼	9/4/97	0928 hrs	14.19 feet
Cloud Cover: Clear skies	Nearby Utilities: Water and storm drains	▼	9/12/97	1014 hrs	14.33 feet

Surface Conditions

Asphalt

Development Information

Total Gallons Purged =
pH = 6.9
Temperature (°C) = 23
Color =
Conductivity (μmhos/cm) = 1900
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

PLATE

Date: 9/12/97

Revision Date: _____

KLEINFELDER

Project	Boring No.
Friesman Ranch Property	KMW-6
Number: 10-300613-005	
Total Depth: 24 feet	Sheet: 2 of 2

LOG OF BORING

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐PID ☐FID	USCS	Description	Remarks	Well Construction
1							Fill – GRAVEL – moist, subangular medium to fine grained, poorly graded, no odor		
2						CL	CLAY, silty – very dark brown (7.5YR 2.5/2), moist, medium stiff, medium to high plasticity, no odor		
8						CL	CLAY, silty – dark brown (7.5YR 3/3), moist, medium stiff, medium to high plasticity, trace fine grained sand (~5%), no odor	9/12/97,1014 ▼	
16						CL	CLAY, silty – dark brown (7.5YR 4/2), moist, medium stiff, medium to high plasticity, trace fine grained sand (~5%), no odor		
20							as above, saturated	9/3/97 ▽	
24								Boring terminated at 24.0 feet.	

Designated Purpose(s) of Log: Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by	Date	Plate
R. Silva	9/4/97	
Drafted by: L. Sue	Date: 9/15/97	
Reviewed by: N. Siler	Date: 10/16/97	

CAD FILE: G:\...\KA_PROJ\PLEAS\10300613\005\... KMW-3.dwg

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL

Project	Boring No.
Friesman Ranch Property	KMW-7
Number 10-3006-13/010	
Total Depth 25 feet / Sheet 1 of 2	

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 98208	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Stephen Quayle			
Rig Make/Model CME-75	Driller/Crew Bobby/Mark	Drilling	12-23-98	12-23-98
Bit Type/Diameter Hollow Stem Auger, 10"Ø	Inspector	Completion	12-23-98	12-23-98
Hammer Data 140 pounds, 30 inches	Agency Zone 7 Water Agency	Development	12-23-98	12-23-98

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description Top of Casing	Surface Casing	Christy box	0 feet	0 feet
Northing Easting	Casing	4"Ø Sched. 40 pvc	0 feet	10 feet
Elevation	Screen	4"Ø Sch. 40 pvc, 0.02" pcv - slot	10 feet	25 feet
Reference Point Ground	Filter Pack	2/12 Lonestar	9 feet	25 feet
Datum Mean Sea Level	Bentonite	3/8" pellets	7 feet	9 feet
Surveyed By Date	Surface Seal	2-5% cement/bentonite grout	0 feet	7 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Groundwater			
Temperature Max. Min.	Recent Rainfall/Precipitation None	Sym.	Date	Time	Level
Humidity - -	Nearby Wells Pumping Unknown	▽	12-23-98	0900	23.4 feet
Windspeed/Direction calm	Nearby Surface Water Stream, outer edge and through site	▼	12-23-98	1543	12.91 feet
Cloud Cover Clear	Nearby Utilities Water and storm drains				

Surface Conditions

Gravel

Development Information

Total Gallons Purged = 45 gallons
(see well development log)
pH =
Temperature (°C) =
Color =
Conductivity (µmhos/cm) =
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

Plate
C-1

KLEINFELDER

LOG OF BORING

Project		Boring No.
Friesman Ranch Property		KMW-7
Number 10-3006-13/010		
Total Depth 25 feet	Sheet 2 of 2	

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐ PID ☐ FID	USCS	Description	Remarks	Well Construction
0-4						CH	CLAY – dark grayish brown (2.5Y3/2), moist, medium stiff to stiff, moderate to high plasticity, no odor		
4-8				100, 100, 100, 100, 100, 100, 100, 100					
8-9				50		CL	SILTY CLAY – very dark grayish brown (2.5Y3/2), moist, medium stiff to stiff, low to moderate plasticity, no odor		
9-12				100, 100, 100, 100, 100, 100, 100					
12-13				75		CH	CLAY – olive gray (5Y4/2), moist, stiff to very stiff, moderate to high plasticity, no odor	▼ 12/23/98, 1543	
13-16				80, 100, 100, 100, 100, 100, 100					
16-20				90, 90, 90, 100, 100, 100, 100, 100		CH	same as above except odor		
20-23				20, 50, 70, 70, 70, 80, 100, 100		CH	FAT CLAY – dark gray (5Y4/1), moist, stiff to very stiff, high plasticity, odor	▽ 12/23/98, 0900	
23-25									
25								Boring terminated at 25.0 feet	
26-30									

Designated Purpose(s) of Log
Site Characterization

Note: Logs are to be used only for designated purpose(s).

Logged by S. Quayle	Date 12/23/98	Plate C-1
Drafted by M. Thomas	Date 1/5/98	
Reviewed by N. Siler	Date	

KLEINFELDER

ENVIRONMENTAL BORING AND MONITORING WELL

Project	Boring No.
Friesman Ranch Property	KMW-8
Number 10-3006-13/010	
Total Depth 25 feet / Sheet 1 of 2	

Location

Well Location	Section, Range, Township	Owner and Mailing Information
See Site Plan	APN 904-0001-001-10 Local Permit # 98208	Children's Hospital Foundation 747 52nd Street Oakland, CA 94609-1815

Drilling Operations

Drilling Company	Logged By	Task	Start	Finish
Spectrum	Stephen Quayle			
Rig Make/Model CME-75	Driller/Crew Bobby/Mark	Drilling	12-23-98	12-23-98
Bit Type/Diameter Hollow Stem Auger, 10"Ø	Inspector	Completion	12-23-98	12-23-98
Hammer Data 140 pounds, 30 inches	Agency Zone 7 Water Agency	Development	12-23-98	12-23-98

Boring Completion

Monumentation	Well Design	Material and Size	Top	Bottom
Reference Point Description Top of Casing	Surface Casing	Christy box	0 feet	0 feet
Northing Easting	Casing	4"Ø Sched. 40 pvc	0 feet	10 feet
Elevation	Screen	4"Ø Sch. 40 pvc, 0.02" pcv - slot	10 feet	25 feet
Reference Point Ground	Filter Pack	2/12 Lonestar	9 feet	25 feet
Datum Mean Sea Level	Bentonite	3/8" pellets	7 feet	9 feet
Surveyed By Date	Surface Seal	2-5% cement/bentonite grout	0 feet	7 feet

Field Hydrologic Conditions and Observations

Weather	Other Observations	Groundwater			
Temperature Max. Min.	Recent Rainfall/Precipitation None	Sym.	Date	Time	Level
Humidity - -	Nearby Wells Pumping Unknown	▽	12-23-98	1200	20 feet
Windspeed/Direction calm	Nearby Surface Water Stream, outer edge and through site	▼	12-23-98	1213	18.95 feet
Cloud Cover Clear	Nearby Utilities Water and storm drains	▼	12-23-98	1507	13.38 feet

Surface Conditions

Grass

Development Information

Total Gallons Purged = 37.5 gallons
(see well development log)
pH =
Temperature (°C) =
Color =
Conductivity (μmhos/cm) =
Salinity (0/00) =
Turbidity (NTUs) =

Additional Remarks

Plate
C-2

KLEINFELDER

LOG OF BORING

Project	Boring No.
Friesman Ranch Property	KMW-8
Number 10-3006-13/010	
Total Depth 25 feet / Sheet 2 of 2	

Depth (feet)	Sample Number	Sample Type	Blows/Foot	Recovery (%)	OVA (ppm) ☐ PID ☐ FID	USCS	Description	Remarks	Well Construction
1–9				0, 50, 100, 100		CL	CLAY, silty – very dark gray (10YR3/2), stiff, medium to high plasticity, trace fine sand (~5%), no odor		
10–14				95, 100, 100, 100		CL	CLAY, silty – dark grayish brown (140YR4/2), moist, stiff, medium to high plasticity, no odor	▼ 12-23-98, 1507	
15–19				95, 100, 100, 100		CL	CLAY, silty – brown (7.5YR4/2), moist, stiff to very stiff, high plasticity, no odor	▼ 12-23-98, 1213	
20–21				100, 100, 100, 100			as above	▽ 12-23-98, 1200	
25								Boring terminated at 25.0 feet	
26–30									

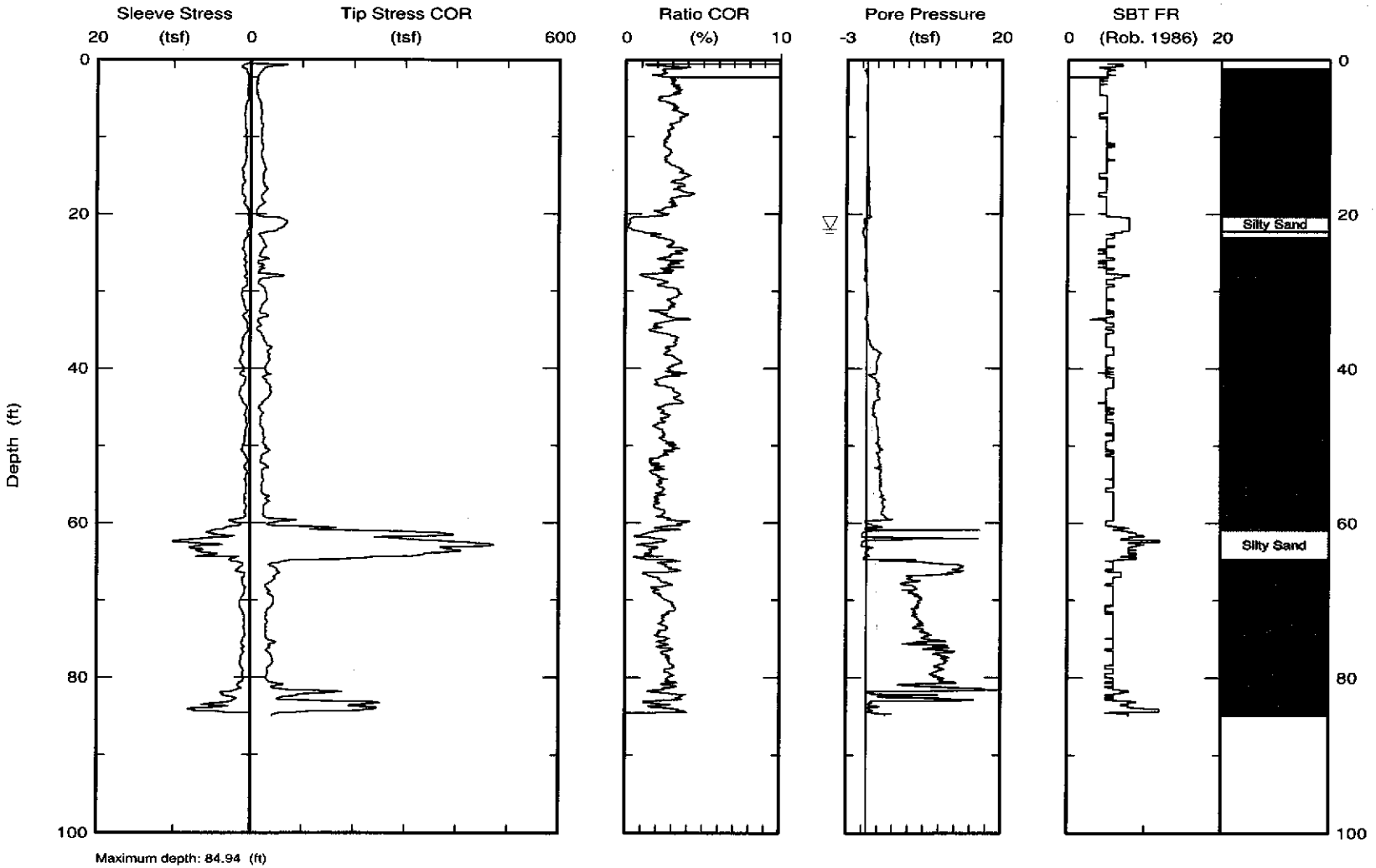
Designated Purpose(s) of Log

Site Characterization

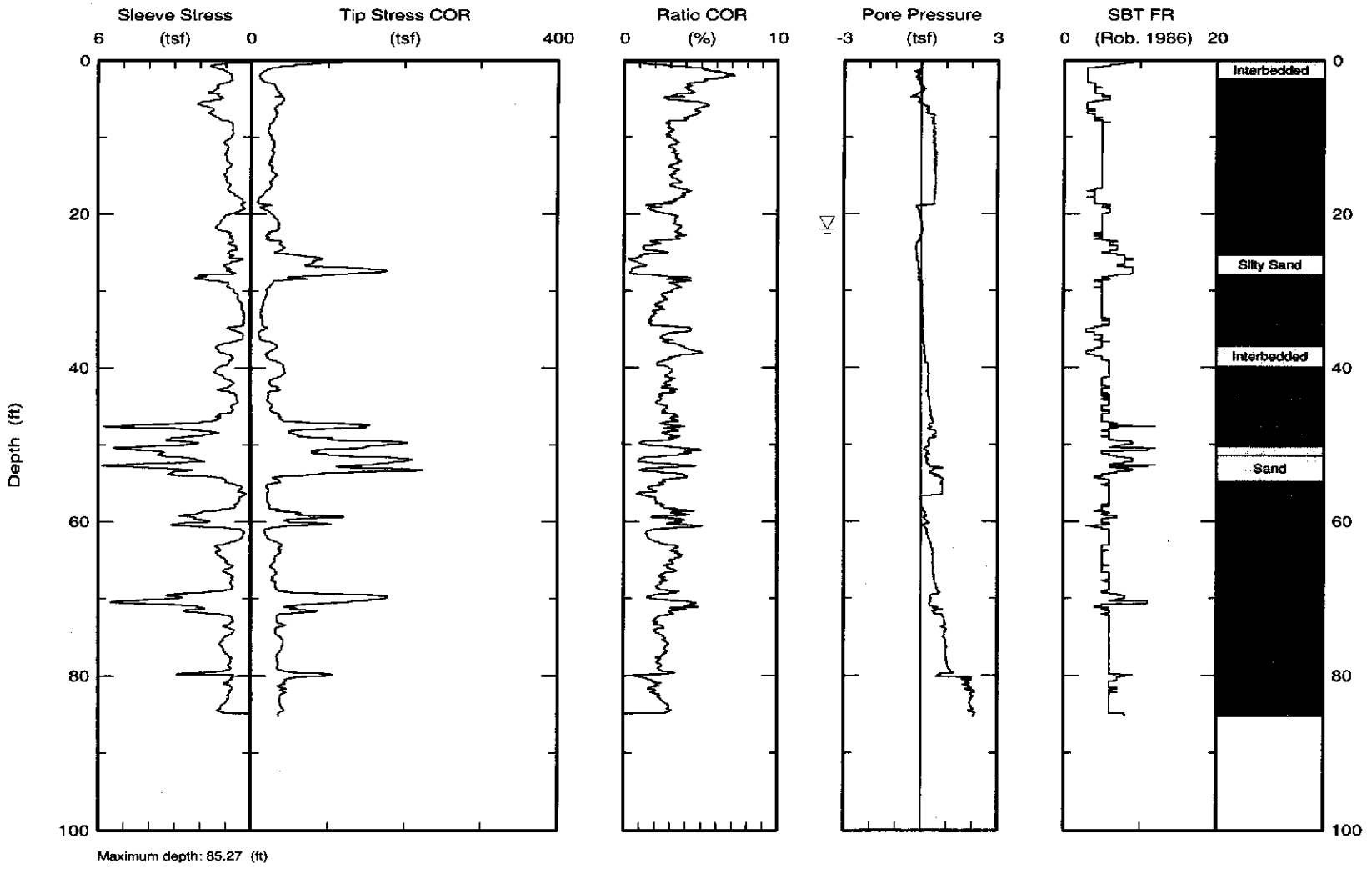
Note: Logs are to be used only for designated purpose(s).

Logged by S Quayle	Date 12/23/98	Plate C-2
Drafted by M. Thomas	Date 1/5/98	
Reviewed by N Siler	Date	

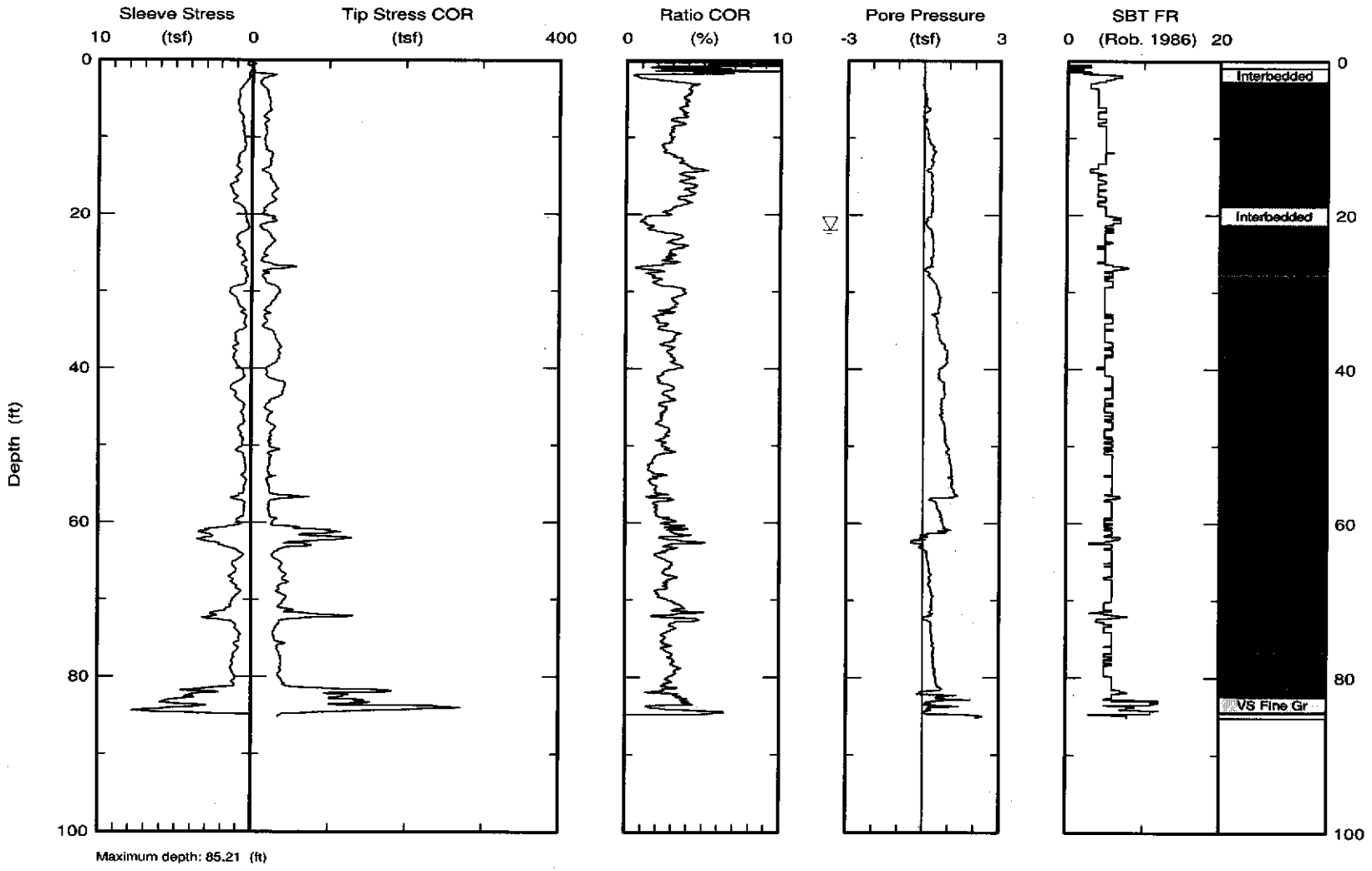
Precision Sampling, Inc. Richmond, CA 94801 (510) 812-1619 jacob@precisionsampling.com www.precisionsampling.com	Northing: Easting: Elevation:	Date: 21/Aug/2007 Test ID: PH1 Project: Friesman
	Client: SCS Job Site: Friesman Ranch	



Precision Sampling, Inc. Richmond, CA 94801 (510) 812-1619 jacob@precisionsampling.com www.precisionsampling.com	Northing: Easting: Elevation:	Date: 21/Aug/2007 Test ID: PH2 Project: Friesman
	Client: SCS Job Site: Friesman Ranch	



Precision Sampling, Inc. Richmond, CA 94801 (510) 812-1619 jacob@precisionsampling.com www.precisionsampling.com	Northing: Easting: Elevation:	Date: 22/Aug/2007 Test ID: PH3 Project: Friesman
	Client: SCS Job Site: Friesman Ranch	



SCS ENGINEERS







SITE MANAGEMENT PLAN

FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA
(APN 904-0001-001-10)

Presented to:

Children's Hospital & Research Center Foundation
2201 Broadway Avenue, Suite 600
Oakland, California 94612
(510) 428-3119

Presented by:

SCS ENGINEERS
6601 Koll Center Parkway, Suite 140
Pleasanton, California
(925) 426-0080

March 28, 2008
File No. 01203087.05

SITE MANAGEMENT PLAN

FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA
(APN 904-0001-001-10)

Presented to:

Children's Hospital & Research Center Foundation
2201 Broadway Avenue, Suite 600
Oakland, California 94612
(510) 428-3119

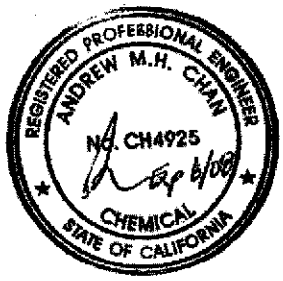
Presented by:

SCS ENGINEERS
6601 Koll Center Parkway, Suite 140
Pleasanton, California
(925) 426-0080

March 28, 2008
File No. 01203087.05

This Site Management Plan for the Freisman Ranch Property located at 1600 Freisman Road, Livermore, California, dated March 28, 2008 has been prepared and reviewed by the following:

Andy Chan, P.E.
Project Engineer



Steve Clements P.G., R.E.A.
Project Manager
SCS ENGINEERS

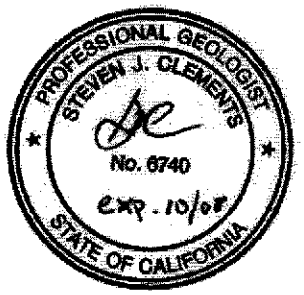


Table of Contents

List of Figures, Tables, and Appendices

Figures

Tables

Appendices

LIMITATIONS/DISCLAIMER

This Site Management Plan has been prepared on the behalf of the Children's Hospital and Research Center Foundation (Children's Hospital) with specific application to the Freisman Ranch Property located at 1600 Freisman Road, Livermore, California. This report has been prepared in accordance with the care and skill generally exercised by reputable professionals, under similar circumstances, in this or similar localities. No other warranty, expressed or implied, is made as to the professional opinions presented herein. Third parties use this report at their own risk.

Changes in site use and conditions may occur due to manmade changes or variations in rainfall, temperature, water usage, or other factors. Additional information which was not available to the consultant at the time this report was prepared or changes which may occur on the Property or in the surrounding area may result in modification to the Property that would impact the this report. This report is not a legal opinion.

1 INTRODUCTION

This Site Management Plan has been prepared by SCS Engineers (SCS) on behalf of Children's Hospital & Research Center Foundation (Children's Hospital) for the Freisman Ranch property located at 1600 Freisman Road, Livermore, California (the "Property") (see Figure 1).

2 OBJECTIVE AND PURPOSE

The objective of this Site Management Plan is to outline notification requirements and use restrictions for the Property established to limit the potential for exposure to residual hydrocarbon-impacted groundwater (and associated soil) present beneath the southwestern portion of the Property and to outline future use restrictions for the on-site water supply well.

This Site Management Plan has been prepared at the request of Alameda County Environmental Health (ACEH) and documents Property use restrictions and requirements established at the February 14, 2008 project meeting attended by representatives from ACEH, Children's Hospital, The Terrill Company, Cross Winds Church, Zone 7 Water Agency (Zone 7), and SCS.

3 SITE DESCRIPTION

The Property is an approximately 36-acre, square-shaped property located at 1600 Freisman Road, Livermore, California. The Property is identified by Alameda County Assessor's Parcel Number (APN) 904-0001-001-10), and is located at the eastern terminus of Freisman Road just south of the Highway 580 Freeway. Arroyo Las Positas and one of its tributaries flow through the Property - roughly dividing it into thirds.

The southwestern portion of the Property is developed with remnants of the former Freisman Dairy including six single family residential structures. According to Children's Hospital, three of the residences are currently occupied and arrangements are presently underway to relocate these tenants. Other structures associated with the closed dairy include the dairy building, nine large storage sheds/barns, and various small outbuildings. A water supply well (State Well No. 3S/1E/2P3) that supplies potable water to the on-site residences and livestock is located in the south-central portion of the Property (see Figure 1). Information provided by Zone 7 indicates that this well was installed in 1975 and is screened from 340 to 372 feet below ground surface (bgs).

4 SITE BACKGROUND and ENVIRONMENTAL HISTORY

The Property was first developed in the 1910's with the residential structures, dairy building, sheds/barns, and outbuildings associated with the former onsite dairy. Dairy operations ceased in 1971, and since that time the Property has been used for residential housing, miscellaneous storage, and animal boarding/grazing (horses, cattle, etc.).

Extensive environmental assessment, investigation, and remediation have occurred at the Property since 1997. These have included a Phase I Environmental Assessment (Kleinfelder, July 8, 1997), soil and groundwater investigations including the installation and monitoring of eight groundwater monitoring wells (Kleinfelder, October 17, 1997 and February 17, 1999 and SCS, March 7, 2007), the investigation/removal of a small incinerator and associated soil (SCS, November 21, 2003, October 19, 2006, March 7, 2007, and October 5, 2007), additional soil and groundwater investigation including installation and sampling of three temporary wells (SCS, March 7, 2007), two soil vapor surveys (SCS, November 21, 2003 and March 7, 2007), and a deep groundwater investigation (SCS, October 12, 2007). A list of previous environmental reports for the Property is provided in the References section of this report.

Based on the assessments and investigations, petroleum hydrocarbon-impacted groundwater (and associated soil) was identified in the southwestern portion of the Property (central portion of the former dairy). The apparent source of petroleum hydrocarbon contamination was the former heating oil above ground storage tank (AST) used to fuel two former boilers that were located in the northern portion of the main dairy building. In addition, a small (approximately 300 gallon) gasoline underground storage tank (UST) may have been located in the vicinity of the former heating oil AST. The former caretaker of the Property has indicated that, to the best of his knowledge, this UST was removed sometime in the 1970's. This suspected former UST may be a source of gasoline range hydrocarbons detected in groundwater beneath the southwestern portion of the Property.

In an effort to remove sources of petroleum hydrocarbon contamination at the Property SCS removed the two boilers, the metal shed that historically housed the former heating oil AST, associated underground fuel piping, and impacted soil in August and September 2003 (SCS, November 21, 2003 and October 19, 2006). The soil and debris were properly disposed of off-site and the excavations were subsequently backfilled.

5 RESIDUAL IMPACTED GROUNDWATER

Eight shallow groundwater monitoring wells (KMW-1 through KMW-8) were installed in the vicinity of the former dairy on the southwestern portion of the Property between 1997 and 1999. These wells were screened from depths of approximately 9 to 24 feet bgs and water levels have historically ranged from approximately 10 to 15 feet bgs. In addition, deeper groundwater samples (depths of 48 to 78 feet bgs) were collected and analyzed from three Cone Penetration Test (CPT) locations advanced in the vicinity of the former dairy in August 2007.

Monitoring of these wells and CPT locations indicates that a relatively shallow plume of petroleum hydrocarbon-impacted groundwater is present in the central portion of the former dairy on the southwestern portion of the Property. The highest concentrations of the constituents detected in groundwater at the Property during the most recent groundwater sampling events (April and August 2007) are provided below. Current and historical groundwater data from the monitoring wells is provided in Table 1.

- Total Petroleum Hydrocarbons as gasoline (TPH-g): 2,700 µg/L
- Total Petroleum Hydrocarbons as diesel (TPH-d): 1,100 µg/L

- Total Petroleum Hydrocarbons as stoddard solvent (TPH-ss): 1,500 µg/L
- Benzene: 35 µg/L
- Toluene: <5.0 µg/L
- Ethylbenzene: 52 µg/L
- Xylenes: 33 µg/L
- n-Butylbenzene: 21 µg/L
- sec-Butylbenzene: 6.1 µg/L
- 1,2-Dichloroethane: 0.50 µg/L
- Isopropylbenzene: 25 µg/L
- Naphthalene: 110 µg/L
- n-Propylbenzene: 86 µg/L
- 1,2,4-Trimethylbenzene: 110 µg/L
- 1,3,5-Trimethylbenzene: 30 µg/L
- Dissolved Lead: 2.2 ug/L

6 SITE MANAGEMENT REQUIREMENTS

Based on the known impacted groundwater (and associated soil) in the vicinity of the former dairy on the southwestern portion of the Property, the following site management requirements shall be implemented for the Property.

Soil

If future excavation, development, or other activities at the Property will encounter or remove soil at depths greater than 10 feet below current surface grade within the Soil Management Area shown on Figure 1, ACEH must be given prior notification for project review and approval.

The Soil Management Area shown on Figure 1 is based on analytical data collected from the on-site groundwater monitoring wells. Analytical data from these wells indicates that the plume of impacted groundwater is present in the central portion of the former dairy, on the southwestern portion of the Property. Constituents of concern have generally not been detected in groundwater samples collected from perimeter monitoring wells KMW-1, -2, -3, -4, -5, and -8, and, as a result, these wells were used to "define" the Soil Management Area.

Existing Water Supply Well

The Property is part of the City of Livermore EL Charro Specific Plan and is zoned for "Regional Commercial" use. The City of Livermore requires that, when available, future developments in this area be connected to the municipal water source (see City letter provided in Appendix A).

Based on information supplied by the Terrill Company, current water usage on the Property is estimated at approximately 3,000 gallons per day (GPD). This estimate is based on 500 GPD for each of the three occupied residences and 1,500 GPD for livestock and miscellaneous irrigation. All of this water is currently supplied by the on-site water supply well.

During our February 14, 2008 meeting ACEH and Zone 7 indicated that future extraction of groundwater from well 3S/1E/2P3 should not exceed current levels and, preferably, should decrease or be eliminated.

Based on this information, the following restrictions shall be implemented for well 3S/1E/2P3: The Property owner shall connect to the municipal water source for all on-site domestic (household) water requirements when required by the City of Livermore. The Property owner may continue to use groundwater from well 3S/1E/2P3 for all on-site purposes until a municipal source is available as stated above as long as the volume extracted from the well does not exceed 3,000 GPD. Following connection to the municipal source the Property owner may continue to use groundwater from well 3S/1E/2P3 for non-domestic purposes (e.g. agricultural uses, landscape irrigation, etc.) so long as the volume extracted from the well does not exceed 3,000 GPD.

If well 3S/1E/2P3 is no longer to be used it shall be properly destroyed by a licensed well driller in accordance with state and local requirements. A permit for this work must be obtained from Zone 7 prior to well destruction.

Future Water Supply Wells

At the request of ACEH no new water supply wells are to be installed on the Property.

7 NOTIFICATIONS

Correspondences and notifications required as part of this Site Management Plan should be provided to ACEH and Zone 7 as shown below:

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502
Phone (510) 567-6791
Fax (510) 337-9335

Zone 7 Water Agency
100 North Canyons Parkway
Livermore, California 94551
Phone (925) 454-5000
Fax (925) 454-5727

8 REFERENCES

ATC Associates, Inc., December 27, 2002. *Quarterly Groundwater Monitoring Report, Fourth Quarter 2002, Freisman Ranch Property, Livermore, California.*

ATC Associates, Inc., April 22, 2003(a). *Quarterly Groundwater Monitoring Report, First Quarter 2003, Freisman Ranch Property, Livermore, California.*

ATC Associates, Inc., April 22, 2003(b). *Workplan for Soil Vapor Survey, Freisman Ranch Property, Livermore, California.*

Consolidated Engineering, March 2, 2005. *Limited Sampling Report.*

Consolidated Engineering, March 2, 2006. *Sampling Results for Limited Sampling Assessment* letter.

H_2OGEOL, February 6, 2006. *January 2006 Groundwater Monitoring Report and Summary of Possible Remedial Activities.*

Kleinfelder, Inc., July 8, 1997. *Phase I Environmental Site Assessment and Limited Soil and Groundwater Sampling Report, Freisman Road Property, Livermore California.*

Kleinfelder, Inc., October 17, 1997. *Remedial Investigation, RBCA Tier 2 Evaluation and Remedial Action Plan, Freisman Ranch Property, Livermore, California.*

Kleinfelder, Inc., February 17, 1999. *Well Installation and Quarterly Groundwater Monitoring Report, Freisman Ranch Property, Livermore, California.*

SCS Engineers, July 28, 2003. *Quarterly Groundwater Monitoring Report, Second Quarter 2003. Freisman Ranch Property, Livermore, California.*

SCS Engineers, November 21, 2003. *Groundwater Monitoring, Soil Vapor Survey, and Source Removal Report, Freisman Ranch Property, 1660 Freisman Road, Livermore, California.*

SCS Engineers, December 17, 2003. *Quarterly Groundwater Monitoring Report, Fourth Quarter 2003. Freisman Ranch Property, Livermore, California.*

SCS Engineers, May 14, 2004. *General Site Cleanup and Above-Ground Storage Tank Removal, Freisman Ranch Property, Livermore, California.*

SCS Engineers, October 19, 2006. *Revised Response to Comments/Workplan, Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*

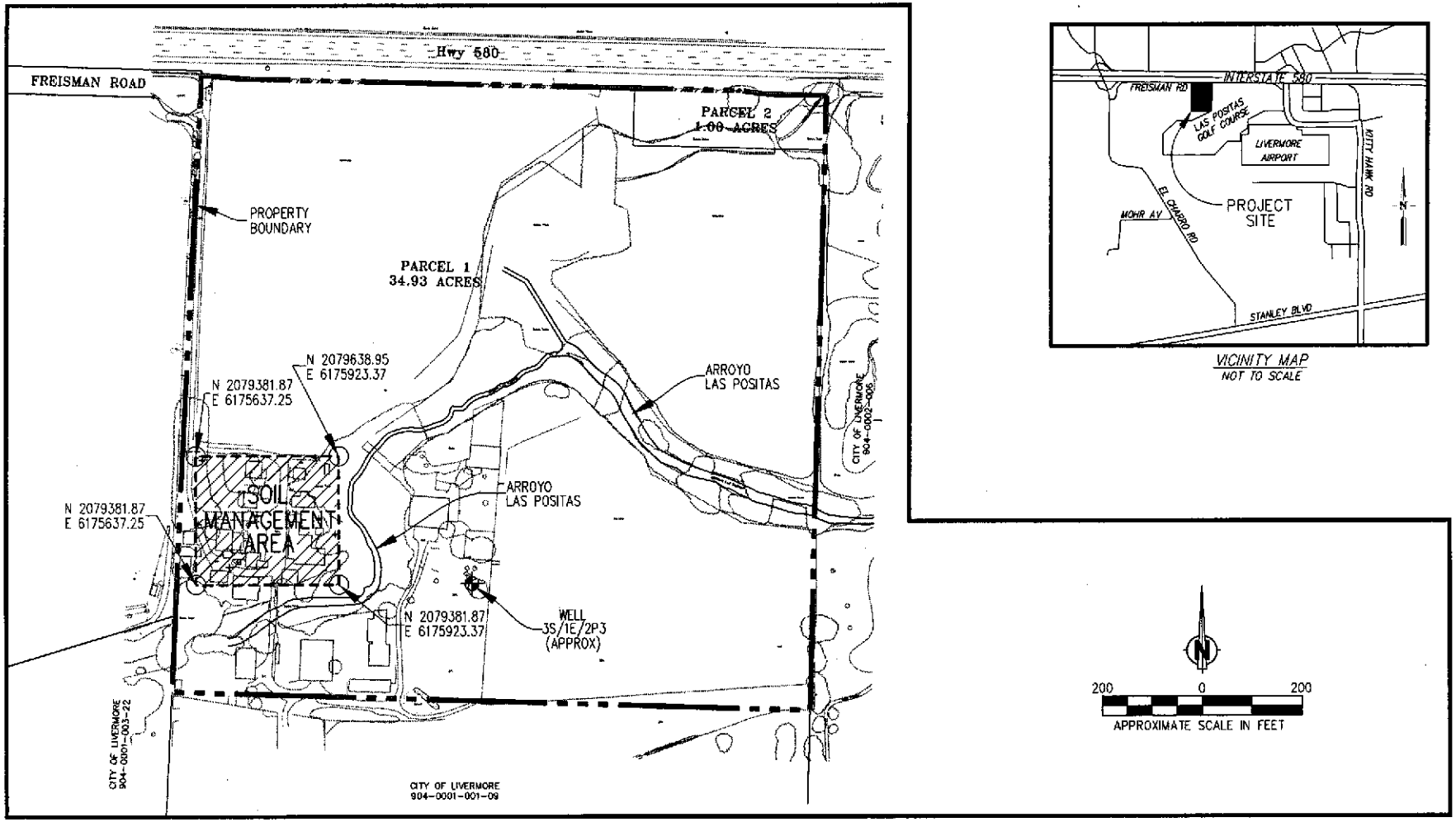
SCS Engineers, March 7, 2007. *Additional Site Investigation Report, Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*

SCS Engineers, April 17, 2007. Workplan – Limited Soil Removal/Disposal, , *Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*

SCS Engineers, June 6, 2007. *Workplan for Additional Groundwater Investigation, Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*

SCS Engineers, October 5, 2007. Limited *Soil Removal/Disposal Report, Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*

SCS Engineers, October 12, 2007. *Additional Groundwater Investigation Report, Freisman Ranch Property, 1600 Freisman Road, Livermore, California.*



VICINITY MAP
NOT TO SCALE

APPROXIMATE SCALE IN FEET

BASE: A.L.T.A. SURVEY BY RUGGERI, JENSEN, AZAR, AND ASSOCIATES 9-14-2007

NOTICE:
IF FUTURE EXCAVATION, DEVELOPMENT, OR OTHER ACTIVITIES AT THE PROPERTY WILL ENCOUNTER OR REMOVE SOIL AT DEPTHS GREATER THAN 10 FEET BELOW CURRENT SURFACE GRADE WITHIN THE "SOIL MANAGEMENT AREA" SHOWN ON THIS FIGURE, ALAMEDA COUNTY ENVIRONMENTAL HEALTH (ACEH) MUST BE GIVEN PRIOR NOTIFICATION FOR PROJECT REVIEW AND APPROVAL. ACEH'S CURRENT PHONE NUMBER IS (510) 567-6791.

SCS ENGINEERS
ENVIRONMENTAL CONSULTANTS
6601 KOLL CENTER PARKWAY, SUITE 140
PLEASANTON, CALIFORNIA 94566
PH. (925) 426-0080 FAX. (925) 426-0707

PROJ. NO.	DWN. BY.	ACAD FILE:
01203087.05	TMS	FIGURE 2.DWG
DSN. BY: TMS	CHK. BY: TMS	APP. BY: S. CLEMENTS

SHEET TITLE: VICINITY MAP AND SITE PLAN SHOWING SOIL MANAGEMENT AREA

PROJECT TITLE: FREISMAN RANCH PROPERTY
1600 FREISMAN ROAD
LIVERMORE, CALIFORNIA

DATE: 2/28/08
SCALE: AS SHOWN
FIGURE: 1

Table 1

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-1	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	7.8
	12/28/1998 dup	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	5.9
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0		NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	0.99
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-2	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	<5.0
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	55	65	NA	<0.5	<0.5	<0.5	<1.0	1.6	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	5.0
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-3	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	<5.0
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 1

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-4	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	7.5
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	<50	NA	<0.5	<0.5	<0.5	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-5	9/8/1997	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	9/8/1997 dup	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	8.5
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	9/16/1999	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	4/15/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	7/21/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	10/30/2003	NS	NS	NA	NS	NS	NS	NS	NS	NA	NA	NA	NA	NA	NA	NS
	1/12/2006 h2o	<50	89	NA	<0.5	<0.5	2	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
KMW-6	9/8/1997	**3,200, d**	**13,000, a**	NA	**250**	14	**560**	**490**	<150	NA	NA	NA	**140**	NA	NA	NA
	12/28/1998	**1,800, d**	**3,200, a**	NA	**86**	3.6	**140**	**90**	<50	NA	NA	NA	**130**	NA	NA	**15**
	3/26/1999	**1,700, d,b**	**7,000, a**	NA	**160**	5.1	**270**	**200**	<100	NA	NA	NA	**100**	NA	NA	<5.0
	3/26/1999 dup	**1,700, d,b**	**6,700, a**	NA	**170**	6.5	**270**	**200**	<100	NA	NA	NA	**100**	NA	NA	NA
	6/21/1999	**1,500, d,b**	**3,800, a**	NA	**170**	<0.5	**260**	**160**	<10	NA	NA	NA	**200**	NA	NA	<5.0
	9/16/1999	**1,900, d**	**7,100, a**	NA	**230**	9.8	**300**	**210**	<120	NA	NA	NA	NA	NA	NA	<5.0
	10/16/2002	**1,600, d**	**4,600, a**	NA	**100**	8.4	**190**	**110**	<50	NA	NA	NA	NA	NA	NA	NA
	10/16/2002 dup	**1,900, d**	**5,100, a**	NA	**110**	10	**210**	**110**	<50	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	**2,100, d**	**5,700, a**	NA	**87**	4.3	**170**	**100**	<25	NA	NA	NA	NA	NA	NA	NA
	1/17/2003 dup	**1,900, d**	**5,800, a**	NA	**89**	6.4	**180**	**100**	<25	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	**110, d**	**390, a**	NA	**7.4**	0.58	8.5	6.1	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003 dup	**100, d**	**270, a**	NA	**4.2**	0.51	5.6	3.0	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	**1,600, d**	**4,300, a**	NA	**89**	3.0	**130**	**70**	<17	NA	NA	NA	NA	NA	NA	NA
	7/21/2003 dup	**1,500, d**	**4,600, a**	NA	**83**	5.2	**130**	**72**	<25	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	**310, d**	**700, a**	NA	**23**	1.1	8.0	8.3	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003 dup	**350, d**	**750, a**	NA	**24**	1.3	8.5	8.8	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	**630**	**2,200**	NA	**21**	33	<2.0	18	<2.0	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	**1500, d**	**4000, a**	NA	**38**	<5.0	**77**	**43**	<50	NA	NA	NA	**77**	NA	NA	2.0
	1/9/2007	53, d	**180, a**	70	**3.1**	<0.5	1.9	0.65	<0.5	0.6	1.1	**0.72**	3.2	1.8	<0.5	<0.5
	4/18/2007	<50	**86, m**	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.59	<0.5	<0.5	<0.5
	4/19/2007	**1,100, d**	**2,700, a**	**890**	**35**	<5.0	**52**	**23**	<5.0	21	25	<5.0	**110**	86	<5.0	<0.5

Table 1

Summary of Groundwater Analytical Results - Groundwater Monitoring Wells

Freisman Ranch Property

1600 Freisman Road, Livermore, California

Well	Sample Date	TPH-D	TPH-G	TPH-SS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	MTBE	n-butyl Benzene	Isopropyl Benzene	1,2-DCA	Naphthalene	n-Propyl Benzene	1,2,4-Trimethyl Benzene	Dissolved Lead
		(µg/L)														
KMW-7	12/28/1998	**1,000, d,b**	**9,100, a,h**	NA	**23**	17	**190**	**700**	<70	NA	NA	NA	**110**	NA	NA	**38**
	3/25/1999	**1,200 d,b**	**4,300, a,h**	NA	**19**	16	**56**	**270**	<70	NA	NA	NA	**23**	NA	NA	**22**
	6/21/1999	**1,300, d,b**	**1,300, a**	NA	**6.5**	<0.5	21	**62**	<5.0	NA	NA	NA	**27**	NA	NA	<5.0
	6/21/1999 dup	**1,200, d**	**2,000, a**	NA	**6.4**	6.7	24	**76**	<5.0	NA	NA	NA	17	NA	NA	NA
	9/16/1999	**1,100, d**	**950, a**	NA	**3.3**	2	19	**33**	<10	NA	NA	NA	NA	NA	NA	<10
	10/16/2002	**480, d**	**270, a**	NA	**1.3**	<0.5	4	15	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	**610, d**	**1,100, a**	NA	**7.8**	1.3	24	**84**	<10	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	**350, d**	**880, a**	NA	**7.1**	0.69	4.4	**52**	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	**830, n**	**1,500, e/g, a**	NA	**2.8**	<0.5	8.3	**28**	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	**100, d**	**150, a**	NA	0.54	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	61	**230**	NA	0.51	<0.5	<0.5	2.8	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	**320#**	**530**	NA	**2.5**	<0.5	8.1	**26**	<0.5	NA	NA	NA	6.1	NA	NA	**2.9**
	1/9/2007	84, d	**330, a**	**110**	<0.5	<0.5	0.57	3.2	<0.5	<0.5	<0.5	<0.5	0.72	<0.5	1.3	<0.5
	4/18/2007	<50	**170, m**	96	0.6	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5
	4/19/2007	**290, d**	**720, a**	**490**	**3.3**	<0.5	12	**33**	<0.5	1.8	3.6	<0.5	11	7.7	32	<0.5
KMW-8	12/28/1998	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	**12**
	3/25/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	6/21/1999	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
	9/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	NA	NA	NA	NA	NA
	10/16/2002	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/17/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	4/15/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	7/21/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	10/30/2003	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
	1/12/2006 h2o	52	58	NA	<0.5	<0.5	0.71	<1.0	<0.5	NA	NA	NA	NA	NA	NA	NA
	1/21/2006 cs	<50	<50	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	**6.1**
	1/9/2007	<50	<50	<50	<1.0	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/18/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	4/19/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TAP Sample	4/15/2003	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0	NA	NA	NA	NA	NA	NA	NA
3S/1E/2P3 (well)	1/9/2007	<50	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
ESL		100	100	100	1.0	40	30	20	5	NE	NE	0.5	17	NE	NE	2.5

Notes:

TPH-D	Total Petroleum Hydrocarbons as Diesel	d	Gasoline range compounds are significant
TPH-G	Total Petroleum Hydrocarbons as Gasoline	e	TPH pattern that does not appear to be derived from gasoline
TPH-SS	Total Petroleum Hydrocarbons as Stoddard Solvent	#	Kerosene and jet fuel range compounds (possibly stoddard solvent/mineral spirit)
MTBE	Methyl Tertiary-Butyl Ether	g	strongly aged gasoline or diesel range compounds are significant
µg/L	Micrograms per Liter (approx. equal to parts per billion)	h	Lighter than water immiscible sheen is present
<0.5	Not detected at or above the laboratory method reporting limit	n	stoddard solvent/mineral spirit
a	Unmodified or weakly modified gasoline is significant	m	No recognizable pattern
b	Diesel range compounds are significant: no recognizable pattern	NA	Not analyzed
TAP	Sample collected from the on-site water supply well	NS	Not Sampled
h2o	Sampling conducted by H2OGEOL	cs	Sampling conducted by Consolidated Engineering
ND	Not Detected	NE	Not Established
1,2-DCA	1,2-Dichloroethane		
ESL	Environmental Screening Level for groundwater that is a current or potential source of drinking water - San Francisco Bay Regional Water Quality Control Board. Interim Final - February 2005.		

Consolidated Engineering also analyzed groundwater samples for semivolatile organic compounds by EPA Method 8270D. See their report for details.

APPENDIX A

CITY OF LIVERMORE WATER USE LETTER

LIVERMORE
CALIFORNIA

March 12, 2008

Jerry Wickham
Environmental Health Services
Environmental Protection
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: SLIC Case No. RO0002484 and Geotracker Global ID T0600143091, Freisman Ranch, 1600 Freisman Road, Livermore, CA 94550

Dear Mr. Wickham:

We are providing this letter to you at the request of the new owner, Cottonwood Properties, LLC.

Pursuant to City development policies and ordinances, the City requires that all properties within the City, to build the necessary water lines to provide water service or connect to an existing line, as part of development of a property. The above-mentioned property currently lies within the City limits and is part of the approved El Charro Specific Plan area. As part of development of this area, the specific plan requires all developers in this area to extend the potable and recycled water lines to serve this area.

If you have any questions or need additional information, please feel free to call me at (925)960-4500.

Sincerely,

Cheri R. Sheets, P.E.
City Engineer
Community Development

cc: Bob Vinn, P.E., Assistant City Engineer
Lorraine Purcell, Associate Civil Engineer
Judith Propp, City Attorney's Office
Tom Terrill, Cottonwood Properties, LLC
Martin Inderbitzen, Cottonwood Properties LLC
FILE – El Charro Specific Plan, Correspondence

City Hall 1052 South Livermore Avenue Livermore, CA 94550
phone: (925) 960-4000
fax: (925) 960-4058
TDD: (925) 960-4104
www.ci.livermore.ca.us