PLATINUM ENERGY

30343 Canwood Street, Suite 200
Agoura Hills, CA 91301
p 818.206.5700 f 818.206.5715
platinum-energy.net

March 26, 2012

Mr. Keith Nowell
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: **Sensitive Receptor Survey**

Site: **76 Station No. 6277**
15803 East 14th Street
San Leandro, California
Fuel Leak Case No. RO0002969

Dear Mr. Nowell;

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call:

Brian Whalen
Platinum Energy
30343 Canwood Street, Suite 200
Agoura Hills, Ca 91301
Tel: (818) 206-5704
Fax: (818) 206-5721
bwhalen@platinum-energy.net

Sincerely,

PLATINUM ENERGY

BRIAN WHALEN

Attachment

Sensitive Receptor Survey

76 Service Station No. 6277
15803 East 14th Street
San Leandro, California

Alameda County Health Care Services Agency
Fuel leak Case No. RO0002969

GeoTracker Global ID No.T0619718179

Antea Group Project No. I40256277

March 26, 2012

Prepared for:
Mr. Keith Nowell PG, CHG
Hazardous Materials Specialist
Alameda County Health Care
Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Prepared by:
Antea™Group
11050 White Rock Road
Suite 110
Rancho Cordova, CA
95670
+1 800 477 7411

Table of Contents

Figures

Table

Appendices

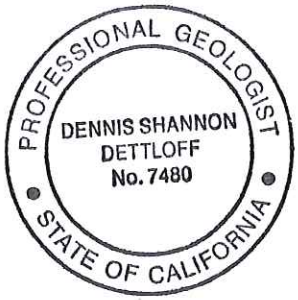
Certification

Information, conclusions, and recommendations provided by Antea Group in this document regarding the site have been prepared under the supervision of and reviewed by the licensed professional whose signature appears below.

Please contact the undersigned at 800-477-7411 if you have any questions.

Dennis S. Dettloff

Dennis S. Dettloff
Project Manager
California Registered Professional Geologist No. 7480



Sensitive Receptor Survey

76 Service Station No.6277
San Leandro, California

1.0 INTRODUCTION

Antea Group has prepared this *Sensitive Receptor Survey* for the 76 Service Station No. 6277 located at 15803 East 14th Street in San Leandro, California (**Figure 1**). This report includes a site description, site assessment history (**Appendix A**), and a sensitive receptor survey. The purpose of this report is to indentify any potential sensitive receptors which could be affected by a petroleum hydrocarbon release at the site.

The site is currently under the lead regulatory oversight of the Alameda County Health Care Services Agency (ACHCSA). Selected reports and agency correspondence for the site can be found on the State of California Water Resources Control Board's online Geotracker database (Global I.D. No. T0619718179).

2.0 SITE DESCRIPTION AND LAND USE

Service Station No. 6277 is an active 76-branded gasoline retail outlet located at the intersection of East 14th Street and 159th Avenue in a mixed commercial and residential area of San Leandro, California. The site currently contains two, 12,000 gallon, fuel, underground storage tanks (USTs), two dispenser islands, and a service station building containing three service bays (**Figure 2**). Please refer to **Appendix A** for additional site information and for the history of environmental investigations and remedial actions.

3.0 SENSITIVE RECEPTOR SURVEY

Antea Group conducted a survey to identify any sensitive receptors which have the potential to be affected by a petroleum hydrocarbon release at the site. The survey included a review of well records from the Alameda County Public Works Agency (ACPWA) and well completion reports from the Department of Water Resources (DWR), a web-based search for potential receptors, and a site reconnaissance to confirm receptor location.

3.1 Well Search

As part of this *Sensitive Receptor Survey*, Antea Group contacted the ACPWA, requesting that they provide data for known wells located within 0.5 miles of the site. Antea Group also contacted DWR to obtain copies of Well Completion Reports for wells located within 0.5 miles of the site. The purpose of the search was to identify all water supply, domestic, municipal, and irrigation wells which have the potential to be affected by a petroleum hydrocarbon release at the site. The water supply well data provided by the ACPWA are included as **Appendix B**.

Selected well completion reports provided by the DWR are included as **Appendix C**. The results summarized in **Table 1** do not include wells identified by the ACPWA or DWR as geotechnical, cathodic protection, monitoring, chemical leak, extraction, injection, or vapor wells, as those wells do not supply water and are therefore, not considered to be potential risk receptors. Additionally, Antea Group's results do not include any wells which are identified as destroyed or abandoned. Antea Group identified the following wells within the 0.5-mile search radius (all distances approximate):

1. Namura Nursery (irrigation) – 2,320 feet east-southeast
2. Allen (irrigation) – 1,490 feet north-northwest
3. Paul Fearon (irrigation) – 2,270 feet north-northwest
4. Harwood (irrigation) – 1,250 feet north
5. Mary Welsh (irrigation) – 1,140 feet northeast
6. Manuel Rose (irrigation) – 1,000 feet southeast
7. Lee Dugan (irrigation) – <100 feet north-northwest
8. Walsh (irrigation) – 1,130 feet southeast
9. F. Chimente (irrigation) –1,900 feet southeast
10. Ernest Carbal (irrigation) – 1,220 feet south
11. T.D. Sexton (irrigation) – 1,162 feet southwest
12. J. Fidelgo (irrigation) – 1,940 feet south-southeast
13. Okada Brother Nursery (irrigation) – 1,900 feet south
14. Manuel Cabral (irrigation) – 2,380 feet south-southeast
15. PG&E (irrigation) – 860 feet north
16. Phillip Gonsolves (irrigation) – 2,560 feet north

The approximate location of the wells is shown on **Figure 3**. Five additional wells were identified in the data from ACPWA and DWR whose locations were unknown.

1. A.J. Pitcka (irrigation)
2. Medina (domestic)
3. Bertero (irrigation)
4. A.L. Christensen (unknown)
5. Wm Dennis (domestic, irrigation)

3.2 Web-Based Receptor Search

Using Google Maps, Antea Group conducted a web-based search to identify any sensitive receptors (schools, churches, day care facilities, elderly care facilities, hospitals, surface water bodies, etc.) within a 0.5 mile of the site which have the potential to be affected by a petroleum hydrocarbon release at the site. Antea Group identified the following sensitive receptors during the web-based search (all distances are approximate):

A. Drainage canal running north to south (260 feet west)

B. Drainage canal running east to west (420 feet south)
C. Bayfair Lodge Residential Care, 1480 159th Avenue, (650 feet northeast)
D. Lighthouse Worship Center and Christian Academy (church and daycare), 16053 Ashland Avenue, (950 feet southeast)
E. Korean Evangelical Church of Siloam, 1484 156th Avenue, (1,340 feet north-northwest)
F. Grace Baptist Church, Ashland, California, (1420 feet east-southeast)
G. International Bible Baptist Church/Academy, Ashland, California, (1,460 feet east-northeast)
H. Hillside Elementary, 15980 Marcella Street, (1,580 feet east-northeast)
I. Carrington College California, 15555 E 14th Street, (1,580 feet west)
J. Edendale Middle School, Ashland California, (1,790 feet southeast)
K. All Saints Hospital, 1652 Mono Avenue, (1,800 feet north-northeast)
L. Badarikashrama, Ashland, California (2,190 feet north-northeast)
M. Hesperian Elementary School, Ashland, California, (2,370 feet south-southwest)

Receptor locations within the survey area are shown on **Figure 3**. Based on the above identified receptors distance from the site, location up-gradient or cross-gradient to the site, and the extent of the impacted groundwater plume, they are not anticipated to be affected by a petroleum hydrocarbon release at the site.

3.3 Site Reconnaissance

Antea Group conducted a site reconnaissance on March 21, 2012 to verify any receptors reported during the web-based search, and identify any receptors not reported during the web-based search. Antea Group was able to verify the location of all the receptors reported above (**Section 3.2**), with the exception of Carrington College California and Badarikashrama, which were not found at their mapped locations. One additional receptor was identified in the search area:

N. Kingdom Hall of Jehovah's Witnesses, 1605 Mono Avenue (1,520 feet north-northeast)

Antea Group also attempted to verify the location of the wells identified in **Section 3.1**. However, the exact well locations could not be verified during the site reconnaissance at the locations described in the ACPWA data and on the DWR logs provided (**Figure 3**, **Appendix B**, and **Appendix C**).

Antea Group made extra effort to determine the status of the irrigation well at address 15801 East 14th Street, as shown in indicated in the data provided by the ACPWA (**Appendix B**). This well was installed in 1948. However, the address no longer exists as it has been replaced by an apartment complex called "The Hamlet Apartments" at 1319 159th Avenue. This apartment complex was built in 1981, and according to the property management, they do not have a well on the property. They irrigate their landscaping using city water. We therefore must conclude that this well was either abandoned or destroyed.

Based on the distance from the site, location with respect to the site and the prevailing groundwater flow direction, northwest (**Figure 4**), the potential sensitive receptors identified above and in **Section 3.2** do not appear to be affected by soil, soil vapor, or groundwater impact due to a release at the site.

4.0 SUMMARY

As part of this *Sensitive Receptor Survey*, Antea Group conducted a well radius search through the DWR and ACWPA, a web-based search, and a site reconnaissance sensitive receptors which have the potential to be affected by a petroleum hydrocarbon release at the site. The results indicate that each of the identified sensitive receptors and wells within a 0.5-mile radius of the site do not appear to be affected by the soil, soil vapor, or groundwater impacts due to a release at the site.

5.0 REMARKS

The descriptions, conclusions, and recommendations contained in this report represent Antea Group's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Antea Group, the data from those reports is used "as is" and is assumed to be accurate. Antea Group does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This report is based upon a specific scope of work requested by the client. The Contract between Antea Group and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were conducted. This report is intended only for the use of Antea Group's Client and anyone else specifically listed on this report. Antea Group will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea Group makes no express or implied warranty as to the contents of this report.

If you have questions about this report and the site, please contact Dennis Dettloff at 800-477-7411.

Jonathan Fillingame

Jonathan Fillingame
Staff Geologist

Dennis S Dettloff

Reviewed by:
Dennis S. Dettloff, P.G.
Project Manager

Figures

North

0 900 1800 FT

SCALE

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1973)

FIGURE 1

SITE LOCATION MAP

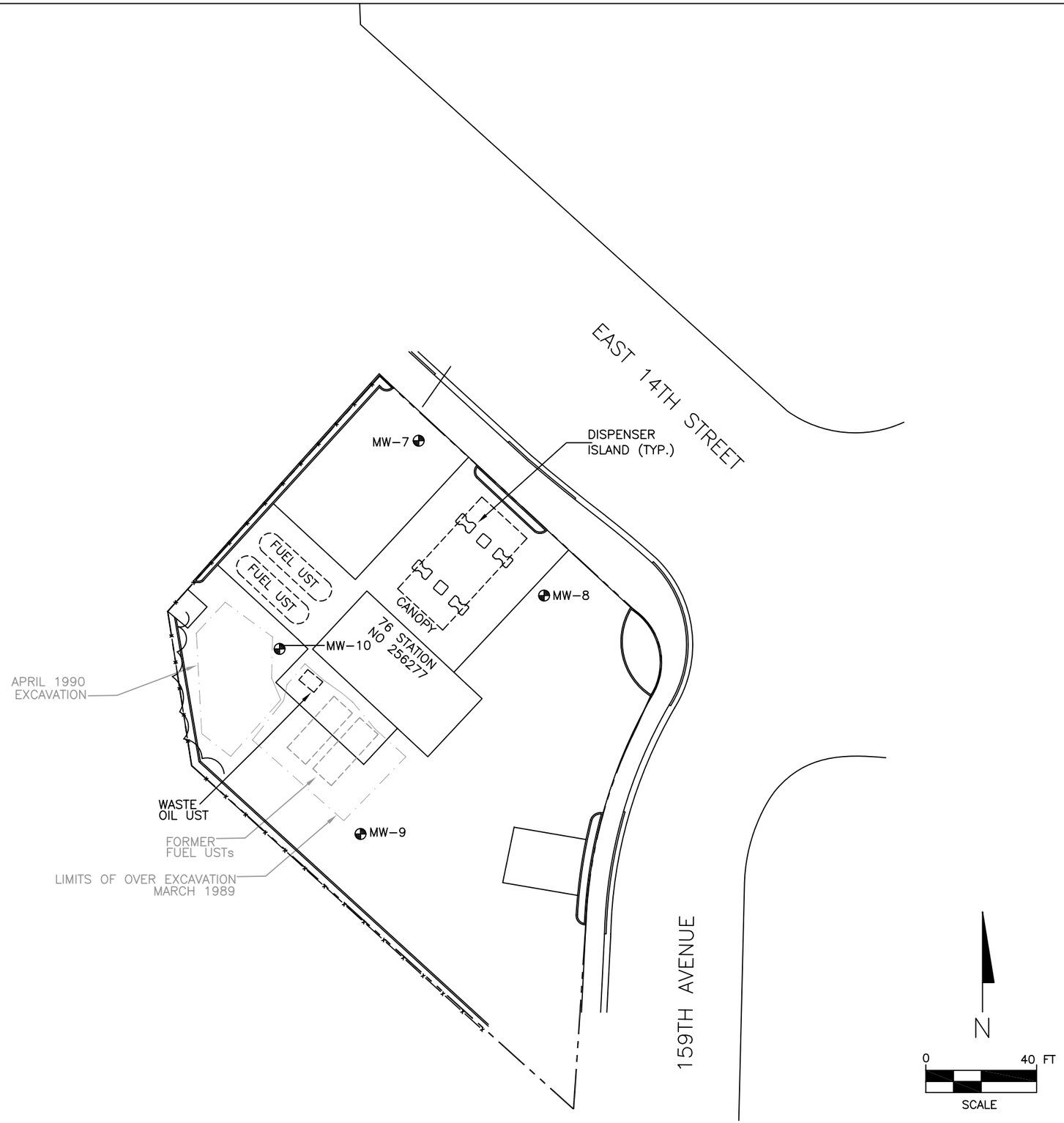
76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. I4256277	DRAWN BY JH 05/13/11
FILE NO. 6277-SiteLocator	PREPARED BY EW
REVISION NO.	REVIEWED BY

anteagroup

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- FENCE
- FORMER EXCAVATION AREA
- MONITORING WELL LOCATION (ANTEA GROUP 2011)



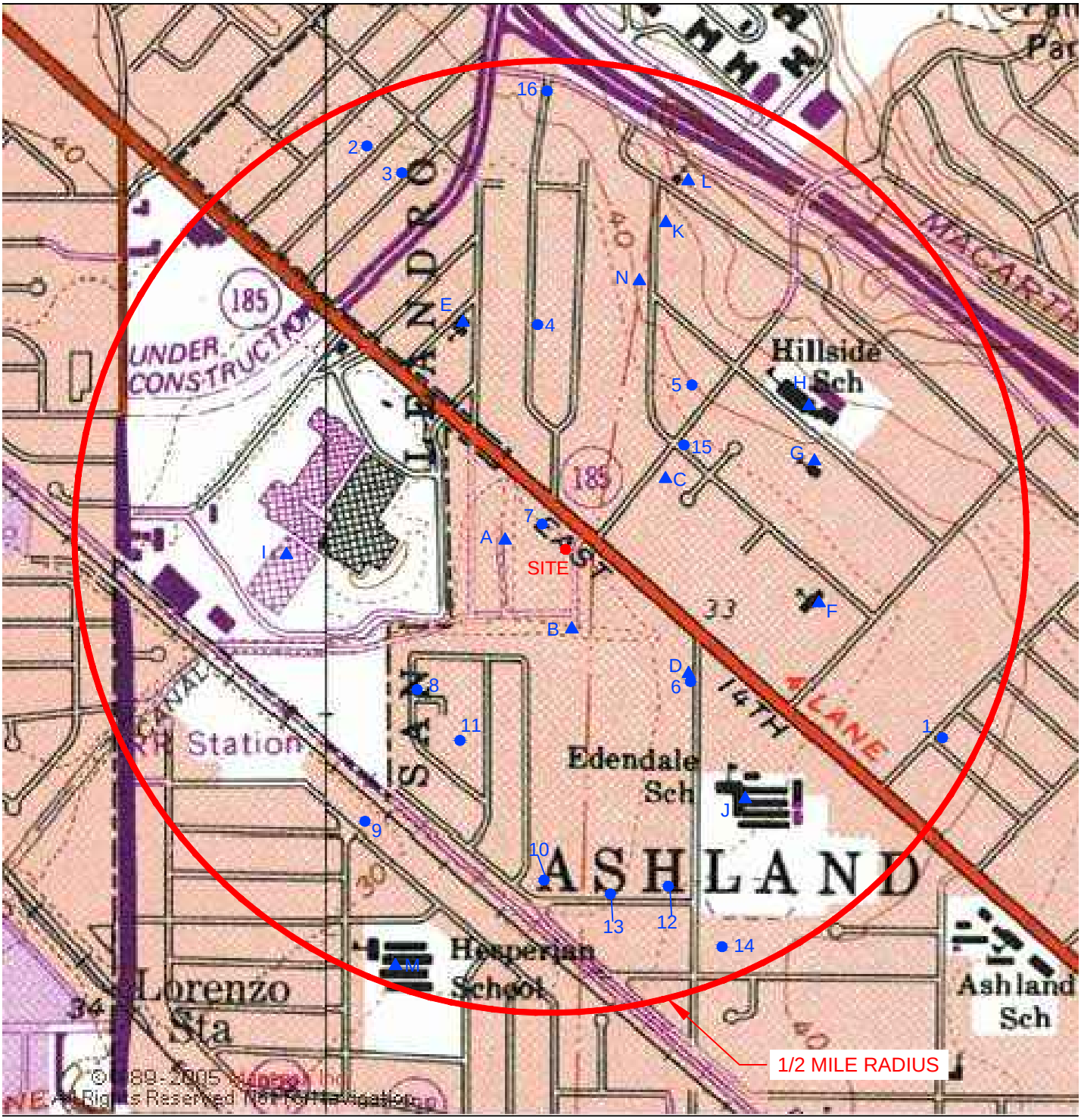
SITE PLAN ADAPTED FROM A SURVEY BY MORROW SURVEYING 2011 AND BASE MAPS DATED 1989 AND 2003 BY KEI AND 2007 BY ATC AND ASSOCIATES.

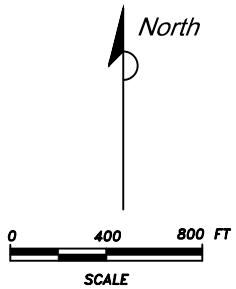
FIGURE 2
SITE PLAN

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
14256277	EW	JH
DATE	REVIEWED BY	FILE NAME
04/21/11	DD	6277-SMS

anteagroup





1 ● WELL LOCATION

A ▲ OTHER SENSITIVE RECEPTOR LOCATION

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1973)

FIGURE 3

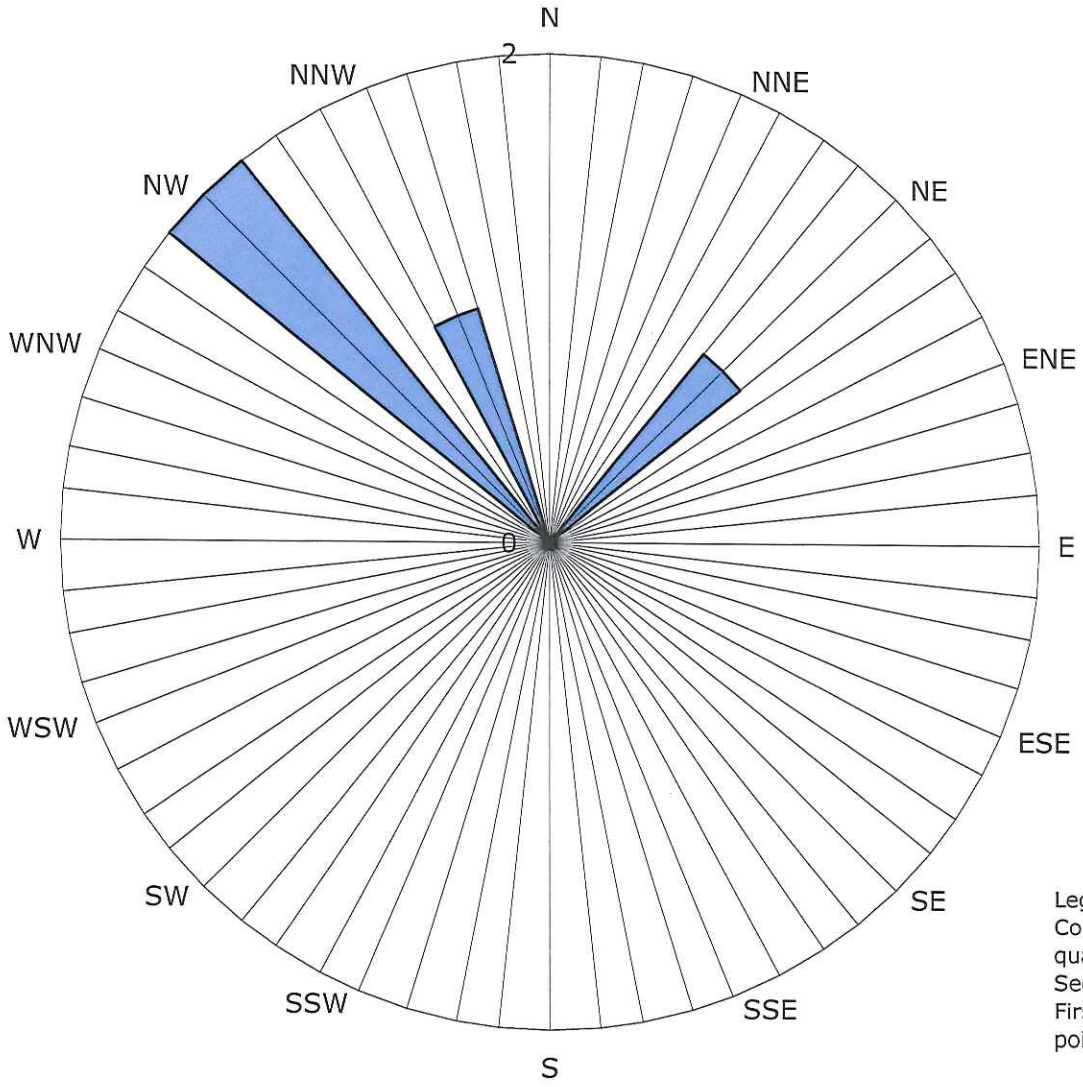
SENSITIVE RECEPTOR MAP

76 SERVICE STATION NO. 6277
15803 EAST 14TH STREET
SAN LEANDRO, CALIFORNIA

PROJECT NO. I4256277	DRAWN BY JH 03/23/12
FILE NO. 6277-SiteLocator	PREPARED BY JF
REVISION NO.	REVIEWED BY

anteagroup

Figure 4
Historical Groundwater Flow Directions
76 Service Station No. 6277
15803 East 14th Street
San leandro, California



Legend
Concentric circles represent quarterly montoring events Second Quarter 2011 through First Quarter 2012 4 data points shown

Table

TABLE 1
Well Search Results
76 Service Station No. 6277
15803 East 14th Street, San Leandro, California

Map ID #	Owner	Installed	Approximate Distance from Site (feet)	Direction From Site	Reported Use	Depth (feet)	Screened Interval (feet bgs)	Casing Diameter (inches)	Data Source
1	Namura Nursery	1939	2,320	ESE	irrigation	50	--	8	ACPWA
2	Allen	1957	1,490	NNW	irrigation	40	--	4	ACPWA
3	Paul Fearon	8/6/1977	2,270	NNW	irrigation	30	10-30	6	ACPWA, DWR
4	Harwood	--	1,250	N	irrigation	--	--	--	ACPWA
5	Mary Welsh	1924	1,140	NE	irrigation	32	--	8	ACPWA
6	Manuel Rose	1910	1,000	SE	irrigation	52	--	12	ACPWA
7	Lee Dugan	8/1948	<100	NNW	irrigation	148	--	8	ACPWA
8	Walsh	1957	1,130	SE	irrigation	30	--	4	ACPWA
9	F. Chimente	1958	1,900	SE	irrigation	20	--	6	ACPWA
10	Ernest Carbal	1956	1,220	S	irrigation	13	--	4	ACPWA
11	T.D. Sexton	1952	1,162	SW	irrigation	15	--	4	ACPWA
12	J. Fidelgo	1940	1,980	SSE	irrigation	70	--	4	ACPWA
13	Okada Brother Nursery	10/1990	1,900	S	irrigation	420	274-284, 294-304	4	ACPWA, DWR
14	Manuel Cabral	--	2,380	SSE	irrigation	42	--	8	ACPWA
15	PG&E	12/91	860	NE	--	122	--	--	ACPWA, DWR
16	Phillip Gonsolves	7/9/1977	2,560	N	irrigation	70	20-70	6	DWR
	A.J. Pitcka	--	--	--	irrigation	47	--	8	ACPWA
	Medina	1949	--	--	domestic	51	--	8	ACPWA
	Bertero	--	--	--	irrigation	425	--	12	ACPWA
	A.L. Christensen	3/4/1940	--	--	unkown	370	348-358; 326-330; 318-323; 275-279	12	DWR
	Wm Dennis	11/14/1977	--	--	domestic, irrigation	62	24-56	12	DWR

Notes:
DWR - Department of Water Resources
ACPWA - Alameda County Public Works Agency
-- - no data

Appendix A

Previous Investigation and Site History Summary

PREVIOUS INVESTIGATION AND SITE HISTORY SUMMARY

1969 - Reported site history indicates the site was first developed as a gas station from an empty lot in 1969.

March 1989 - Two 10,000-gallon gasoline USTs, one 550-gallon waste-oil UST, and the product piping were removed from the site during UST replacement activities. Kaprealian Engineering Inc. (KEI) advanced two exploratory borings designated as EB-1 and EB-2 at the site. The borings were advanced at the request of Alameda County to assess the possible presence of hydrocarbon impact to the soil in the vicinity of the proposed UST excavation.

The borings were advanced to depths of 10.5 feet below ground surface (bgs) and 13.5 feet bgs. Ground water was encountered in the borings at depths of 11 to 12 feet bgs. The analytical results of the soil samples were as follows:

- At a depth of 5 feet bgs soil samples analyzed for total petroleum hydrocarbons as gasoline (TPHg) ranged from below the laboratory's indicated reporting limit in boring EB-2 to 2.1 parts per million (ppm) in boring EB-1.
- At a depth of 10 feet bgs TPHg concentrations ranged from 200 ppm in boring EB-1 to 620 ppm in boring EB-2.

Based on results of this preliminary investigation, KEI recommended that the contractor excavate the existing UST excavation to a depth of approximately 13 feet bgs. Water was encountered in the fuel UST excavation at a depth of approximately 11 feet bgs, thus prohibiting the collection of any soil samples from immediately beneath the USTs.

Six soil samples, labeled SW1 through SW6, were collected from the sidewalls of the fuel UST pit at depths of approximately 1 foot above the water table; and one soil sample, labeled W0-1, was collected from beneath the waste-oil UST at a depth of about 10 feet bgs. Based on observations in the field, it was decided to excavate additional soil from three of the four excavation sidewalls.

March 14, 1989: Four trenches were installed to assess the limits of additional soil excavation needed. Four soil samples were then collected at depths of approximately 10 feet bgs. The soil analytical results were as follows:

- In the fuel UST excavation, TPHg concentrations ranged from 24 ppm to 150 ppm.
- A sample collected adjacent to the existing station building indicated that TPHg was present at a concentration of 3,500 ppm.
- The soil sample collected after excavating 2 feet of sidewall toward the station building indicated that TPHg was present at a concentration of 100 ppm.
- Soil sample (SW-2) contained TPHg at a concentration of 390 ppm.
- The soil sample collected from the waste-oil UST excavation (WO-1) contained total oil and grease (TOG) at a concentration of 280 ppm. A side wall sample, SW-7 collected after excavating 14 feet of sidewall contained TOG at a concentration of 41 ppm.

The analytical results of the water sample (W1) collected from the waste-oil/fuel UST excavation contained TPHg at a concentration of 19,000 parts per billion (ppb) and benzene at a concentration of 230 ppb.

March 23, 1989: KEI returned to the site for pipe trench soil sampling. Six soil samples, labeled P1 through P6, were collected from beneath the product lines at depths of approximately 3 to 3.5 feet below grade. The analytical results of the soil samples P1 through P6 collected from the pipe trenches indicated concentrations of TPHg ranging from 1.1 ppm to 6.8 ppm.

The fuel UST pit and the waste-oil UST pit were over-excavated in order to remove hydrocarbon-impacted soil. The majority of the hydrocarbon-impacted soil appeared to have been removed from the site, except for the capillary fringe in the vicinity of the former UST pit and the building.

May 24, 1989: Four two-inch diameter monitoring wells, MW-1 through MW-4 were installed at the site. The four wells were installed to depths ranging from 24.5 to 25 feet bgs. Ground water was encountered at depths ranging from 11 to 12 feet bgs during drilling.

July 1989: The monitoring and sampling program was initiated.

February 1990: Monitoring well MW-2 was destroyed on February 1 in preparation for additional soil excavation in the vicinity of this well. Soil was excavated to a depth of approximately 6 to 12 inches below the level of the groundwater, which was encountered at a depth of about 11.5 feet below grade. After additional excavation, four soil samples were collected from the sidewalls of the excavation, each approximately 6 to 12 inches above ground water. Soil excavation activities were terminated due to the close proximity of the former and new UST excavations and the site's property line.

The analytical results of three soil samples indicated that TPHg was present at concentrations ranging from 140 ppm to 1,100 ppm, while concentrations of total petroleum hydrocarbons as diesel (TPHd) ranged from below the laboratory's indicated reporting limits to 280 ppm. The analytical results also indicated Environmental Protection Agency (EPA) Method 8010 constituents and TOG from each of the four samples were below the laboratory's indicated reporting limits, except in sample SW11A which contained TOG at a concentration of 210 ppm.

Over-excavation in the vicinity of monitoring well MW-2 was completed in April of 1990. Monitoring well MW-2 was then replaced with a new monitoring well (MW-2A) in March 1991.

1991: Due to the regular occurrence of tetrachloroethene (PCE), trichloroethene (TCE) and 1,2-dichlorethane (1,2-DCA) in sampled groundwater, a review of records documenting historic site activities was performed in 1991 to assess whether there were any up-gradient sources contributing to the impacted groundwater at the site. The file review was conducted by KEI at the Regional Water Quality Control Board (RWQCB).

The review focused on three sites with monitoring wells located within a half mile of the station. The Okada property, located at 16109 Ashland Avenue, a former USA Petroleum station located at 15120 Hesperian Boulevard, and Kaufman and Broad, located at 1620 162nd Avenue, approximately 1,800 feet east-southeast of the site. The file review is outlined in Delta's *Addendum to Additional Site Assessment Work Plan*, dated April 3, 2009.

December 1992: A file review was conducted at the ACHCSA. Four sites with existing or former USTs were located in the vicinity of the site during the file review. These sites are as follows: 1.) Nayou Properties, 1500 Thrush Avenue; 2.) ABC Auto Repair, 15960 East 14th Street; 3. Petsas Property, 16035 East 14th Street, and; 4.) SpeeDee Oil Change, 15900 East 14th Street.

1991-1993: The California EPA, Department of Toxic Substances Control (DTSC), identified regional chlorinated solvent contamination of the upper aquifer in the San Leandro area.

1993: Based on the results of the site history research, site reconnaissance, and file review, and based upon the fact that no evidence of an on-site solvent source area in the vicinity of monitoring wells MW-3 and MW-4 was found, it was concluded that there was no likely on-site source of the halogenated volatile organic compound (HVOC) impact.

The potential of an off-site HVOC source is further supported by the fact that the highest HVOC concentrations have been reported in samples collected from monitoring wells MW-3 and MW-4, located on the up-gradient side of the site. HVOC concentrations reported in the groundwater samples collected from these monitoring wells are likely coming from a source (E.G. reaching sanitary sewer lines, etc.) up-gradient of the site.

March 1993: Monitoring wells MW-5 and MW-6 were installed on March 9, 1993. These wells were monitored monthly and sampled on a quarterly basis until 1996. Groundwater flow predominantly ranged from southwest to north during the course of the investigation. Chlorinated solvents have consistently been reported in up-gradient wells MW-3 and MW-4, and it appears that the chlorinated solvent impact at the site may be due to an unidentified source (or sources) located up-gradient of the site, or is part of a regional chlorinated solvent plume. The perimeter monitoring wells, MW-5 and MW-6, have historically shown a maximum concentration of 72 micrograms per liter (µg/L) of TPHg and below the laboratory's indicated reporting limits for benzene, toluene, ethylbenzene, and total xylenes (BTEX).

March 1997: An off-site investigation was conducted in March 1997 to assess any impacts in the down-gradient direction from monitoring well MW-1. Monitoring well MW-1 is the most down-gradient of the wells at the site and has historically contained the highest concentrations of petroleum hydrocarbons in groundwater throughout the duration of the site investigation.

Three direct push borings (EB-3, EB-4, and EB-5) were advanced through East 14th Street in a northerly transect from the site. The three borings were each advanced to total depths ranging from 11 to 15 feet below grade. Groundwater was encountered at depths ranging from 10.5 to 15 feet bgs during drilling. No reportable target compounds were identified in either soil or groundwater samples.

1998 – A *Case Closure Summary* was prepared by the Alameda County Environmental Protection Department. This document concluded that drinking water wells are not affected. It also documented the maximum contaminant concentrations – before and after cleanup as follows:

Contaminant	Soil (ppm)			Water (ppb)	
	Before	After		Before	After
TPHg	3,500	1,100		19,000	510
TPHd	ND	6.2		NA	NA
Benzene	40	8		230	72
Toluene	280	43		79	ND
Xylenes	600	230		1,300	17
Ethyl-benzene	100	37		ND	ND
Methyl tert-butyl ether (MTBE)	NA	NA		NA	390
TOG	7,700	1,300		NA	NA
Heavy Metals	NA	NA		NA	NA
Other HVOC TCE	0.063	ND	TCE	4.4	ND
			PCE	110	950
			1,2-DCA	2.8	ND

The *Case Closure Summary* concluded that "there are no known municipal or residential water wells or surface water bodies within 750 feet down-gradient of the subject site that would be impacted by shallow groundwater from this site".

December 2000: The ACHCSA issued a *Case Closure* letter dated December 26, 2000.

2003: Six groundwater monitoring wells (MW-1, MW-2A, and MW-3 through MW-6) destroyed. Groundwater was at 6-11 feet bgs.

September 2007: Six soil borings (ATC-1 through ATC-6) were advanced in the vicinity of the existing fuel and waste-oil USTs and dispensers on September 25 and 26, 2007. The borings were advanced to total depths of

approximately 20 feet bgs (ATC-2, ATC-3, ATC-4, and ATC-5) and 25 feet bgs (ATC-1 and ATC-6). Groundwater was initially encountered at depths ranging from 14 feet bgs to 24 feet bgs during drilling activities.

Groundwater samples were collected from each of the six borings. A duplicate groundwater sample designated as "Duplicate B-1" was collected from boring ATC-1. Photo ionization detector (PID) readings from the screened soil samples ranged from 1.4 ppm to 2,272 ppm. The analytical results from the ATC Investigation are outlined in Delta's *Addendum to Additional Site Assessment Work Plan* dated April 3, 2009.

December 2009: Delta advanced six soil borings (B-1 through B-5, and B-7) to assess the extent of petroleum hydrocarbon impact to the soil and groundwater. The borings were advanced to total depths ranging from 24 to 32 feet bgs. First groundwater was encountered at depths ranging from 21 to 28.5 feet bgs during drilling activities.

Soil and groundwater samples were collected from each of the six borings. PID readings from the screened soil samples ranged from 0.2 ppm to 197 ppm. The analytical results indicated that TPHg was present in the soil at a maximum concentration of 603 mg/kg (B-1 at 12 feet) and in the groundwater at a maximum concentration of 2,110 µg/L (B-1). The analytical results from the December 2009 Investigation are outlined in Delta's *Subsurface Soil and Groundwater Investigation Report* dated March 23, 2010.

January 2011: Delta Consultants rebranded to Antea Group.

April 5, 2011: Antea Group completed a site investigation consisting of the installation of four on-site monitoring wells (MW-7 through MW-10). The results of the investigation are presented in the *Site Investigation Report*, dated July 5, 2011.

SENSITIVE RECEPTORS

1991: The well survey performed by KEI focused on the area within a one-half mile radius of the subject site, and was based upon data obtained from the Alameda County Flood Control and Water Conservation District. The information revealed the presence of 15 producing wells designated as irrigation wells and had depths ranging from 20 to 440 feet bgs.

The Alameda County Flood Control and Water Conservation District records suggested that the status of many of the irrigation wells is unknown. In the 1991 survey, it was stated that "no producing wells that could possibly influence the groundwater flow direction at the subject site were located". The closest irrigation well (148 feet deep) installed in 1949 was noted in the north corner of East 14th Street and 159th Avenue.

2008: This survey entailed a request to the California Department of Water Resources (DWR) office in Sacramento to provide well log records. DWR well log records were reviewed in order to assess the location of any water-supply wells in the vicinity of the subject site. Using the DWR well logs, a total of five wells had verifiable addresses within a half-mile radius of the site.

Stains and spills have been documented at the adjacent site to the east, SpeeDee Oil Change shop, located at 15900 East 14th Street, including staining from leaking automobiles, spills not cleaned up immediately, a spill migrating toward a storm drain inlet, a spill in the driveway not cleaned up, and a spill beneath the waste-oil UST was not appropriately addressed. Moreover, it is documented that solvents were used at this adjacent site in 1993 and based on that site history; it appears that solvents have been used at that site for decades.

2012: Antea Group reviewed well records from the Alameda County Public Works Agency as well as the DWR well log records. Sixteen irrigation wells had identifiable addresses in the search area and five wells has insufficient data to locate, but may be within the search area. In addition Antea Group conducted a web based search for potential receptors and a site reconnaissance to confirm receptor locations and locate additional receptors. Fourteen other receptors (daycares, senior cares, places of worship, schools, and water ways) were identified in the web based search and the site reconnaissance. Based on the distance from the site and the location with respect to prevailing groundwater flow direction, no wells or other receptors appear to be affected by soil, soil vapor, or groundwater impact due to the release at the site.

Current Consultant: **Antea Group**

Appendix B

Alameda County Public Works Agency Well Search Data

Address	Longcity	Owner	Drill date	Elevation	Total depth	Water depth	Diameter	Use	WCR #
1767 162ND AVE	San Leandro	U.S. NURSERY	?	60	50	0	8	ABN	
16001 FOOTHILL BLVD	San Leandro	UMEKI NURSERY	/37	100	75	0	6	IRR	
1630 162nd Av	San Leandro	Hiro Fukushima	5/95	0	20	10	2	MON	
1630 162nd Av	San Leandro	Hiro Fukushima	5/95	0	20	10	2	MON	
1630 162nd Av	San Leandro	Hiro Fukushima	5/95	0	20	10	2	MON	
FOOTHILL BLVD	San Leandro	?	?	49	0	0	0	ABN	
1700 163RD AVE	San Leandro	A. QUILICI	/34	59	71	0	0	IRR	
GRAVEL RD	San Leandro	A.J. PITCKA	?	100	47	0	8	IRR	
1570 164TH AVE	San Leandro	FRANK MARTINEZ	?	52	100	0	10	ABN	
1500 163RD AVENUE	San Leandro	JONATHAN GROUP	Jun-86	0	51	0	10	DES	149567
1595 164TH AVE	San Leandro	WOODWARD	/15	51	40	0	0	IRR	
16211 East 14th St.	San Leandro	Garcia Enterprises	9/92	35	17	0	2	MON	
16211 East 14th St.	San Leandro	Garcia Enterprises	9/92	36	17	0	2	MON	
16211 East 14th St.	San Leandro	Garcia Enterprises	9/92	36	22	0	2	MON	
1630 162nd Avenue	San Leandro	Kaufman & Broad	Dec-89	0	33	16	4	MON	
1630 162nd Avenue	San Leandro	Kaufman & Broad	Dec-89	0	19	14	2	MON	
1480 162ND AVE	San Leandro	PROTEZ	/40	35	95	0	8	ABN	
?	San Leandro	MEDINA	/49	0	51	0	8	DOM	
1501 163RD AVE	San Leandro	NAMURA NURSERY	/39	37	50	0	8	IRR	
1414 164TH AVE	Hayward	SELIN	/14	43	48	0	5	IRR	
16301 E. 14 Street-MW-1	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			15.5	0	6	DES	
16302 E. 14 Street-MW-2	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward				0	6	DES	
16303 E. 14 Street-MW-3	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward				0		DES	
16304 E. 14 Street-MW-4	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			23	0	6	DES	
16305 E. 14 Street-MW-5	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			20	0	6	DES	
16306 E. 14 Street-MW-6	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			14	0	8	DES	
16307 E. 14 Street-MW-7	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			15	0	6	DES	
16308 E. 14 Street-MW-8	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			15	0	6	MON	WCR-0921080
16308 E. 14 Street-MW-8	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward			15	0	8	DES	
16309 E. 14 Street-MW-9	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward				0	6	MON	WCR-e0081954
16309 E. 14 Street-MW-9	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward						DES	
16309 E. 14 Street-MW-10	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward						MON	WCR-e0081955
16309 E. 14 Street-MW-11	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward						MON	WCR-e0081962
16309 E. 14 Street-MW-12	San Leandro	Hayward Area Park & Rec-1099 E. Street, Hayward						MON	WCR-e0081963
1440 164TH AVE	San Leandro	ALAMEDA COUNTY	?	0	61	0	8	DES	120477
1440 164TH AVE	San Leandro	ALAMEDA COUNTY	?	0	25	0	6	DES	120477
1601 165TH AVE	San Leandro	NELSON NURSERY	/15	54	42	0	8	ABN	
1537 165TH AVE	San Leandro	S. NIEDA	/28	49	80	0	8	IRR	
15641 FOOTHILL BLVD	San Leandro	MARTINELLI	?	100	0	0	0	ABN	
1571 152ND AVE	San Leandro	ALLEN	/57	28	40	0	4	IRR	
1573 153RD AVE	San Leandro	PAUL FEARON	8/6/1977	0	30	12	6	IRR	106383
153RD & E 14TH ST	San Leandro	PG&E	6/73	0	120	0	0	CAT	91536
836 CARMEL CT	San Leandro	PHILLIPS GONSALVES	7/77	0	68	18	6	IRR	33261
BAYFAIR SHOPPING CEN.ADD.	San Leandro	?	Nov-77	0	54	0	0	GEO	

Address	Longcity	Owner	Drill date	Elevation	Total depth	Water depth	Diameter	Use	WCR #
15135 Hesperian Blvd	San Leandro	ARCO #2162 VW-1	6/91	30	11	10	2	EXT	
15135 Hesperian Blvd	San Leandro	ARCO #2162 VW-2	6/91	30	10	10	2	EXT	
15135 Hesperian Blvd	San Leandro	ARCO Products Co.	9/92	0	16	11	4	MON	
15135 Hesperian Blvd	San Leandro	ARCO Products Co.	9/92	0	16	10	4	MON	
15135 Hesperian Blvd	San Leandro	ARCO Products Co.	9/92	0	15	10	8	MON	
15135 Hesperian Blvd	San Leandro	ARCO Products Co.	9/92	0	18	11	4	MON	
15444 Hesperian Blvd	San Leandro	Hesperian Properties	5/94	0	20	12	2	MON	
15444 Hesperian Blvd	San Leandro	Hesperian Properties	5/94	0	20	12	2	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-2-P	9/92	0	27	10	4	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-3-P	9/92	0	27	9	4	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-4-P	Aug-92	0	27	10	4	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-5-P	8/92	0	27	10	4	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-6-P	8/92	0	27	9	4	MON	
15135 Hesperian Blvd	San Leandro	USA Petroleum MW-7-P	8/92	0	27	10	4	MON	
E. 14th St. && Thrush Ave	San Leandro	C & H Development Co.	3/93	0	18	0	2	DES	
1584 ORIOLE AVE	San Leandro	HARWOOD	?	27	0	0	0	IRR	
15803 East 14th St.	San Leandro	Unocal #6277 MW-5	3/93	0	21	16	2	MON	
15803 East 14th St.	San Leandro	Unocal #6277 MW-6	3/93	0	21	10	2	MON	
1570 MONO AVE	San Leandro	MAGNAINI	/27	40	40	0	10	ABN	
1575 159TH AVE	San Leandro	MARY WELSH	/24	42	32	0	8	IRR	
1500 Thrush Ave.	San Leandro	Nelson Maples/Narou MW1	3/93	0	18	0	2	DES	
1500 Thrush Ave.	San Leandro	Nelson Maples/Narou MW2	3/93	0	18	0	2	DES	
1500 Thrush Ave.	San Leandro	Nelson Maples/Narou MW3	3/93	0	18	0	2	DES	
159th & Mono Ave	San Leandro	PG&E	Dec-91	0	122	0	0	OTH	
1500 Thrush Ave.	San Leandro	Robert Narvo (Narvo Nurs)	Nov-90	9	18	14	2	MON	
1500 Thrush Ave.	San Leandro	Robert Narvo (Narvo Nurs)	Nov-90	33	17	7	2	MON	
1500 Thrush Ave.	San Leandro	Robert Narvo (Narvo Nurs)	Nov-90	33	17	7	2	MON	
15803 E. 14TH ST	San Leandro	UNOCAL	Mar-89	0	10	0	2	BOR	
15803 E. 14TH ST.	San Leandro	UNOCAL CORP.	May-89	0	25	11	2	MON	
15803 E. 14TH ST.	San Leandro	UNOCAL CORP.	May-89	0	24	11	2	MON	
15803 E. 14TH ST.	San Leandro	UNOCAL CORP.	May-89	0	25	11	2	MON	
15803 E. 14TH ST	San Leandro	UNOCAL CORP.	May-89	0	25	11	2	MON	
15803 E 14TH ST	San Leandro	UNOCAL CORP.	May-89	0	24	12	2	MON	
15803 E. 14TH ST	San Leandro	UNOCAL CORP.	May-89	0	24	11	2	MON	
15803 E. 14TH ST	San Leandro	UNOCAL CORP.	May-89	0	25	11	2	MON	
15803 E. 14TH ST.	San Leandro	UNOCAL CORP.	May-89	0	24	12	2	MON	
15803 East 14th Street	San Leandro	Unocal Corporation	3/90	0	25	0	2	DES	
15803 East 14th St.	San Leandro	Unocal Corporation	5/91	0	20	7	2	MON	
15803 East 14th Street	San Leandro	Unocal Corporation	3/91	0	0	0	7	BOR*	
			Mar-89	0	10	0	2	BOR	
			Mar-89	0	10	0	2	BOR	
			Mar-89	0	10	0	2	BOR	
			Mar-89	0	10	0	2	BOR	
			Mar-89	0	10	0	2	BOR	

Address	Longcity	Owner	Drill date	Elevation	Total depth	Water depth	Diameter	Use	WCR #
15960 East 14th St.	San Leandro	ABC Mustang MW-1	3/93	0	25	8	2	MON	
16109 Ashland Avenue	Hayward	Citation Builders	8/89	93	16	9	2	MON	
ASHLAND AVE & E 14TH ST.	San Leandro	CITATION BUILDERS	Mar-89	0	21	7	7	BOR	
16109 Ashland Ave	San Lorenzo	Citation Builders 6R02	7/91	0	440	0	12	DES	373064
16109 Ashland Ave	San Lorenzo	Citation Builders 6R80	5/91	0	550	0	12	DES	373065
16109 Ashland Ave	San Lorenzo	Citation Builders 6R81	7/91	0	80	0	10	DES	373066
16109 Ashland Ave	San Lorenzo	Citation Builders 6R82	7/91	0	170	0	10	DES	373067
16109 Ashland Ave	San Lorenzo	Citation Builders 6R83	8/91	0	25	0	1	DES	373073
16109 Ashland Ave	San Lorenzo	Citation Builders 6R85	8/91	0	90	0	8	DES	373071
15960 MATEO ST	San Lorenzo	J. TONINI	/23	0	60	0	6	ABN	
1115 SANTA ANA ST	San Leandro	KEN KRENTZ	7/77	0	26	11	4	IRR	107031
16053 ASHLAND	San Leandro	MANUEL ROSE	/10	30	52	0	12	IRR	
16035 East 14th St.	San Leandro	Mary Petsas MW1	4/93	33	15	7	2	MON	
16035 East 14th St.	San Leandro	Mary Petsas MW2	4/93	32	17	7	2	MON	
16035 East 14th St.	San Leandro	Mary Petsas MW3	4/93	33	17	7	2	MON	
16109 ASHLAND AVE	San Leandro	OKADA PROPERTY	Mar-89	0	13	5	2	MON	
16109 ASHLAND AVE	San Leandro	OKADA PROPERTY	Mar-89	0	13	5	2	MON	
			Mar-89	0	20	7	7	BOR	
			Mar-89	0	16	7	7	BOR	
15801 E. 14TH ST	San Leandro	LEE DUGAN	8/49	32	148	0	8	IRR	
15803 EAST 14TH STREET	San Leandro	UNOCAL SERVICE STATION		0	0	0	0		
877 MOONEY AV & CONNOLLY	San Lorenzo	WALSH	/57	33	30	0	4	IRR	
533 RUTGERS ST	San Lorenzo	ALAN MASSEY	3/77	0	25	0	0	IRR	
538 RUTGERS ST	San Leandro	ARTHUR MAXWELL	/77	0	21	8	4	IRR	33404
15508 WEGNER ST	San Leandro	F.CHIMENTE	/58	28	20	4	6	IRR	
15360 DERMODY AVE	San Leandro	R.G. WILSON	/53	27	25	0	8	IRR	
15285 Hesperian Blvd	San Leandro		3/94	28	15	8	2	MON	
15285 Hesperian Blvd	San Leandro		3/94	27	14	7	2	MON	
15285 Hesperian Blvd	San Leandro		3/94	28	15	8	2	MON	
?	San Leandro	?	?	30	0	0	0	DES	
BERTERO?	San Lorenzo	BERTERO	?	30	425	0	12	IRR	
717 VIDELL ST	San Lorenzo	ERNEST CARBAL	/56	32	13	0	4	IRR	
825 JAN CT	San Lorenzo	T.D. SEXTON	/52	32	15	0	4	IRR	
16109 Ashland Ave	San Lorenzo	Citation Homes Cent 6R84	8/91	0	65	0	8	DES	373072
TENNYSON	San Lorenzo	COSTELLO	7/49	0	51	0	0	?	
16239 ASHLAND AV	San Leandro	J. FIDELGO	/40	33	70	0	4	IRR	
16109 ASHLAND AV	San Leandro	OKADA BROTHER INC.	Oct-47	28	440	0	12	IRR+	
16100 Bertero Ave.	San Lorenzo	Okada Brothers Nursery	Oct-90	0	17	8	4	TES	
16100 Bertero Ave.	San Lorenzo	Okada Brothers Nursery	Oct-90	0	420	8	4	IRR	364914
16284 ASHLAND AVE	San Lorenzo	MANUEL CABRAL	?	37	42	0	8	IRR	
878 ELGIN ST	San Lorenzo	MCCLELLAND	?	38	125	0	6	IRR	
16464 ASHLAND ST	San Lorenzo	MELLO	?	39	60	0	6	DOM	
16501 Ashland Av	San Lorenzo	Organizational Maintenanc	7/93	36	20	15	4	MON	
16501 Ashland Av	San Lorenzo	Organizational Maintenanc	7/93	0	17	11	2	MON	

Address	Longcity	Owner	Drill date	Elevation	Total depth	Water depth	Diameter	Use	WCR #
16501 Ashland Av	San Lorenzo	Organizational Maintenanc	7/93	0	21	12	2	MON	
16435 ASHLAND ST	San Lorenzo	REPOSE	/09	38	50	0	6	DOM	
863 ELGIN ST	San Lorenzo	SALVADORE	9/49	39	49	0	8	IRR	
16414 ASHLAND ST	San Lorenzo	SMITH	/18	39	68	0	6	DOM	
820 ELAND WAY	Hayward	W.H. CLAYTON	/48	37	120	0	8	IRR	
786 ELGIN ST	San Leandro	WOLF	/38	35	40	0	0	IRR	
764 Galway Dr	San Leandro		2/25/1988		60			DEST	299128
901 Lynn Ct.	San Lorenzo	?	?	0	22	0	5	DOM/IRR	
901 Lynn Ct.	San Lorenzo	BART	7/92	0	22	0	5	DES	
1106 ELGIN ST	Hayward	FORTH	/23	45	70	0	0	IRR	
16450 KENT AVE	Hayward	KURAMOTO NURSERY	/52	45	100	0	10	IRR	
916 ELGIN ST.	San Leandro	MARY RAMOS	Sep-88	0	0	0	0	DES	
16450 Kent Ave.	Hayward	Plant Unlimited MW-1	Nov-92	0	19	0	2	MON	
16450 Kent Ave.	Hayward	Plant Unlimited MW-2	Nov-92	0	18	0	2	MON	
16450 Kent Ave.	Hayward	Plant Unlimited MW-3	Nov-92	0	18	0	2	MON	

Appendix C

Department of Water Resources Well Completion Reports

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

GEO-HYDRO-DATA

INCORPORATED

ELECTRIC WELL LOG

COMPANY	: OKADA BROTHERS INC.				
WELL	: #1 REPLACEMENT				
LOCATION/FIELD	: 16100 BERTERO AVE				
COUNTY	: ALAMEDA				
STATE	: CALIFORNIA				
SECTION	:	TOWNSHIP	:	RANGE	:
DATE	: 11/09/90	PERMANENT DATUM	: G.L.	ELEVATIONS	
DEPTH DRILLER	: 420	ELEV. PERM. DATUM	:	KB	:
LOG BOTTOM	: 419.60	LOG MEASURED FROM	: G.L.	DF	:
LOG TOP	: 0.30	DRL MEASURED FROM	: G.L.	GL	:
CASING DRILLER	: 20	LOGGING UNIT	: 7		
CASING TYPE	: STEEL	FIELD OFFICE	: SANTA CRUZ		
CASING THICKNESS	: .25	RECORDED BY	: C. HERON		
BIT SIZE	: 17.5	BOREHOLE FLUID	: WATER	FILE	: ORIGINAL
MAGNETIC DECL.	:	RM	:	TYPE	: 9041A
MATRIX DENSITY	:	RM TEMPERATURE	:	LOG	: 4
FLUID DENSITY	:	MATRIX DELTA T	:	PLOT	: GHD 1
NEUTRON MATRIX	:	FLUID DELTA T	:	THRESH	:
REMARKS	:				

OTHER SERVICES:
INU 7262
MUD 458

Drilled By: Horseshoe Drilling - San Lorenzo CA (Reverse Drilled) Lic# 574107

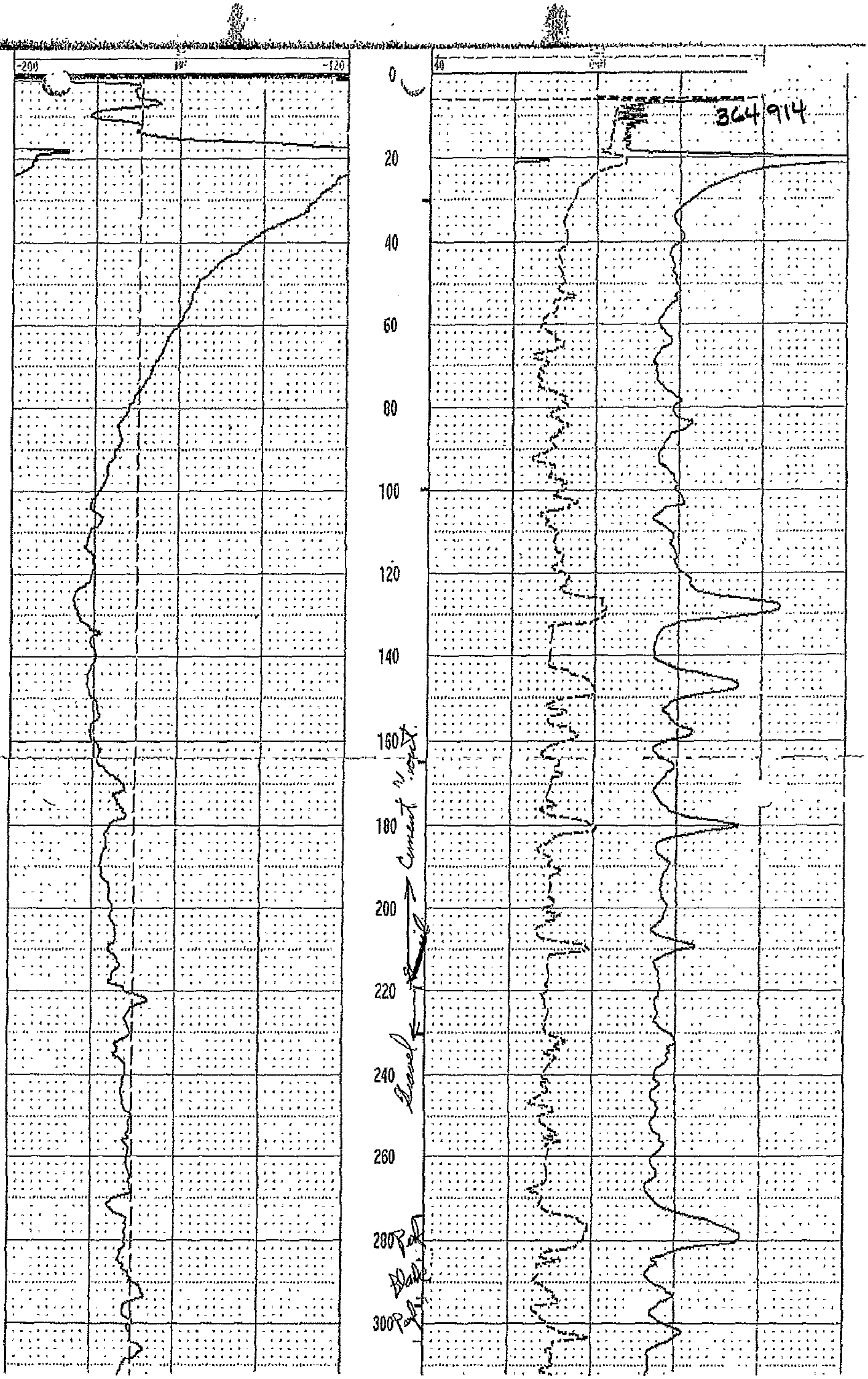
WITNESSED BY: IRVING HULBERT - DRILLER

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

3S/2W 6R4
3649/4

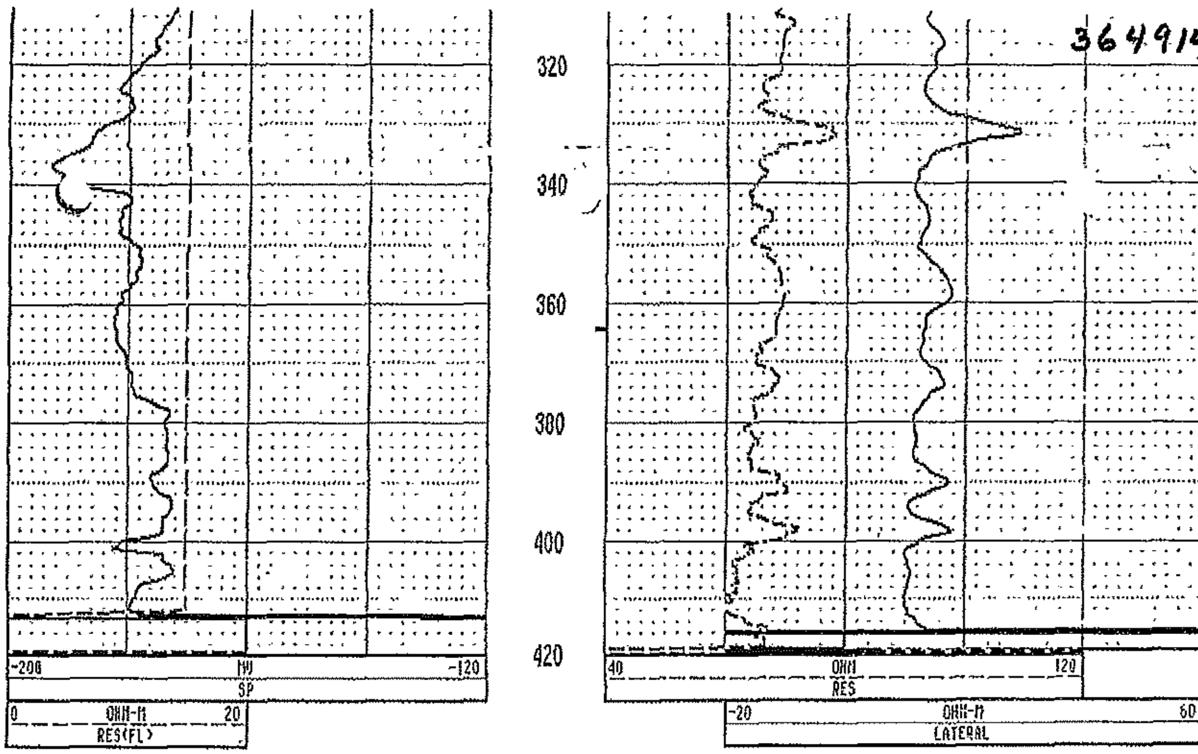
RES(FL)		
20	OHM-M	20

LATERAL		
-20	OHM-M	60



33/2W 6R4

33/2W 6R4


364914
320
340
360
400
420
-200
MV
-120
SP
0
OHM-M
20
RES(FL)
40
OHM
120
RES
-20
OHM-M
60
LATERAL

3S/2W 6R4