RECEIVED

1:03 pm, Aug 30, 2007

Alameda County
Environmental Health

August 29, 2007
Project SJ809-ST1-X
SAP: 135442

Mr. Jerry Wickham
Environmental Health Services – Environmental Protection
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

DELTA

Subject: **Request for Case Closure**
Shell Service Station
809 East Stanley Boulevard
Livermore, California

Dear Mr. Wickham:

Delta Consultants, Inc. (Delta), on behalf of Shell Oil Products US (Shell), submitted a case closure request for the referenced site on April 2, 2007. In your response dated May 9, 2007 (Attachment A), you requested additional information regarding this closure request. The following letter addresses the issues you raised.

1. Tank Removals in Southern Portion of Site

In a December 4, 1986 report, Kaprealian Engineering, Inc. (Kaprelian) documented field observations and soil sampling following the removal of three gasoline underground storage tanks (USTs) and one waste oil UST at the site on November 10 and 11, 1986 (Attachment B). The site map in this report shows an area in the northern part of the site labeled "new tank area." This map and the fact that Delta has been unable to locate any information regarding a later tank replacement/removal, including a file review at the Pleasanton Fire Department, would indicate the fuel tanks were relocated to this area following the 1986 UST removal, not at a later date as stated in the previous Delta closure request.

The December 4, 1986, Kaprelian report states the tanks were removed and appeared to be in good condition. No fuel related odor was noted. Soil discoloration or the presence of groundwater was not observed. Six soil samples were collected beneath the locations of the fuel tanks and one beneath the waste oil tank. Analytical results of these samples did not detect the presence of THC, BTX and VOCs.

2. Fuel Releases at the Site

In a September 8, 1986 letter report, Emcon Associates (Emcon), documented the drilling of four soil boring on the site including soil sampling and sample analyses.. According to this report, three of the borings (S-B, S-C and S-D) were drilled near the three fuel USTs (Attachment C). While these borings were drilled to depths ranging from 31.5 to 35.5 feet, only soil samples collected from depths between four feet and 20 feet (tank backfill and immediately below the bottom of the tank backfill) were submitted for analyses. While gasoline related compounds were not detected in any of these samples, in the report it was stated product odor was noted in the soils from these borings from depths of approximately 27 to 35.5 feet.

From June 19 to 23, 2006, Delta directed the advancement of five soil borings (SB-1 through SB-5) at this site. One of these borings, SB-5, was advanced in the footprint of the former fuel USTs, located adjacent to Emcon boring S-C and close to Emcon boring S-B and S-D (see Figure 2, Attachment C).

Analytical results from a soil sample collected from boring SB-5 at a depth of 35 feet indicated a maximum total petroleum hydrocarbons as gasoline (TPH-G) concentration of 1,480 milligrams per kilogram (mg/kg). However, no benzene or the gasoline oxygenate methyl tert-butyl ether (MTBE) were detected.

A groundwater monitoring well, MW-4, is located approximately 30 feet down gradient from the location of boring SB-5 (Monitoring reports from 2003, 2004, 2005, 2006 and 2007 all indicate a north-northwest groundwater flow gradient). Groundwater samples collected from MW-4 well have been submitted for analyses of TPH-G, the gasoline related constituents benzene, toluene, ethylbenzene and total xylenes (BTEX), the gasoline oxygenates MTBE, di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tertiary amyl methyl ether (TAME) and tertiary butyl alcohol (TBA). Analytical results from thirteen sampling events conducted from 2001 to 2006, indicate that none of these constituents has ever been detected in the groundwater samples collected from MW-4.

This information would suggest the TPH-G detected in the soil sample collected from SB-5 is degraded, not affecting the groundwater and does not pose a threat to the environment.

3. Detailed Well Survey

A detailed well survey was conducted to locate all water supply wells (active, inactive, standby, decommissioned, and abandoned wells) within a 2,000-foot radius of the site. A disk containing all historic well log images of Township 03S, Range 02E, Section 7, 8, 17, and 19 was provided by the California Department of Water Resources to conduct the well survey. A total of eight

wells where located within the specified radius. Sensitive receptor locations can be found in Figure 3 and Table 1 shows all well completion information available from the DWR records.

Conclusion

Available information indicates the tanks were relocated to the northern portion of the site following the 1986 removal from the southern portion of the site and not at a later date.

Groundwater monitoring information indicates petroleum hydrocarbon constituents detected in the soil have not impacted a monitoring well located approximately 30 feet downgradient from the impacted soil and therefore is not a risk to the groundwater.

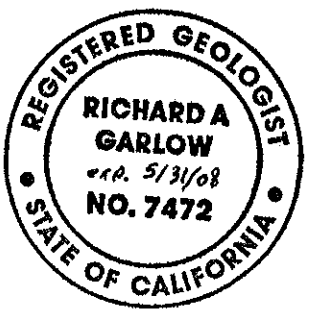
The sensitive receptor map (Figure 3) indicates only two potential supply wells located approximately 4,800 feet down to cross gradient, well beyond the 2,000 foot radius requested.

REMARKS

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

Please contact Richard Garlow (Delta) at 408-826-1880 or Denis Brown (Shell) at 707-865-0251 if you have any questions regarding the contents of this letter.

Sincerely,
DELTA CONSULTANTS, INC.



Abhik Dutta
Staff Geologist

Richard A. Garlow, MS, PG
Project Manager

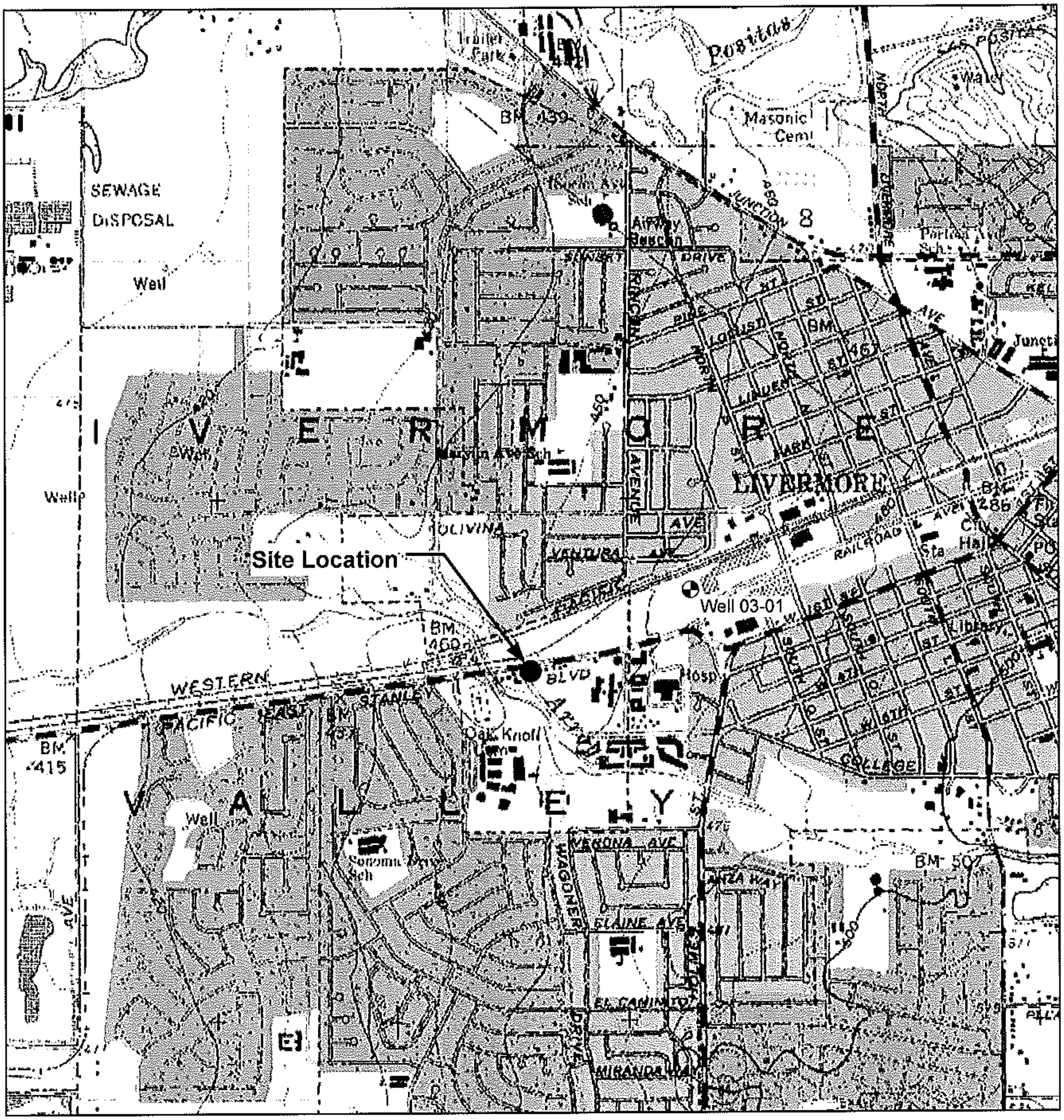
Attachments:

Figure 1 – Site Location Map
Figure 2 – Site Map
Figure 3 – Sensitive Receptor Location Map
Table 1 – Sensitive Receptor within 2,000 ft
Attachment A – Soil Sampling Report by Kaprealian Engineering, Inc., December 4, 1986
Attachment B – Tank Removal Closure Report by Weiss Associates, April 29, 1996

Attachment C – Response for Case Closure Letter, May 9, 2007
Attachment D – Well Completion Reports

cc: Denis Brown, Shell Oil Products US, Carson
Betty Graham, RWQCB – Oakland

FIGURES



GENERAL NOTES:
Base Map from: DeLorme Yarmouth, ME 04096 Source Data: USGS

QUADRANGLE LOCATION

North

0 — 1,800
Scale, Feet

FIGURE 1

SITE LOCATION MAP

Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

PROJECT NO. SJ80-9ST-1.2005	DRAWN BY VF 12/01/03
FILE NO. SJ80-9ST-1.2005	PREPARED BY VF
REVISION NO. 1	REVIEWED BY DA

Delta
Environmental Consultants, Inc.

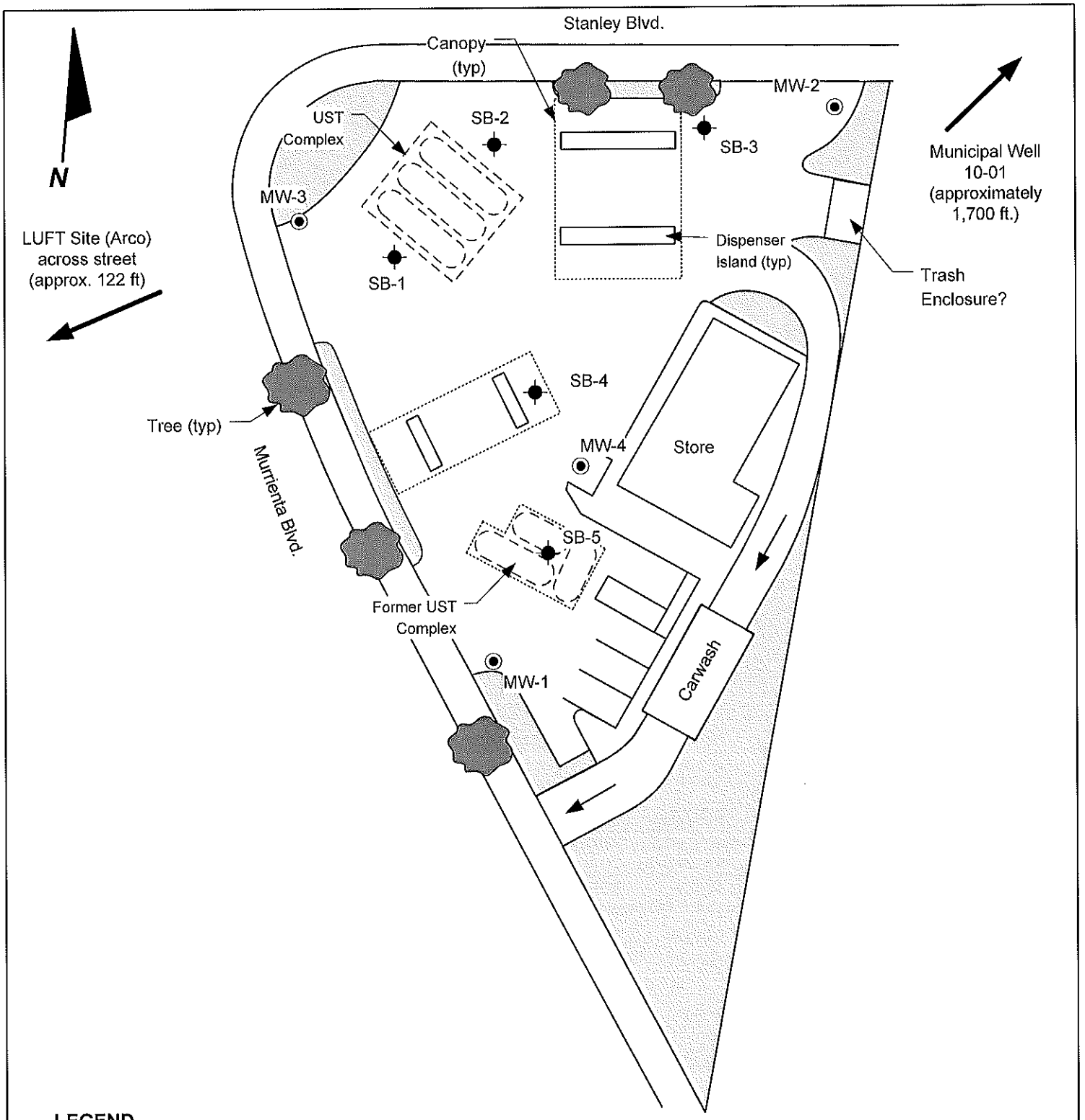


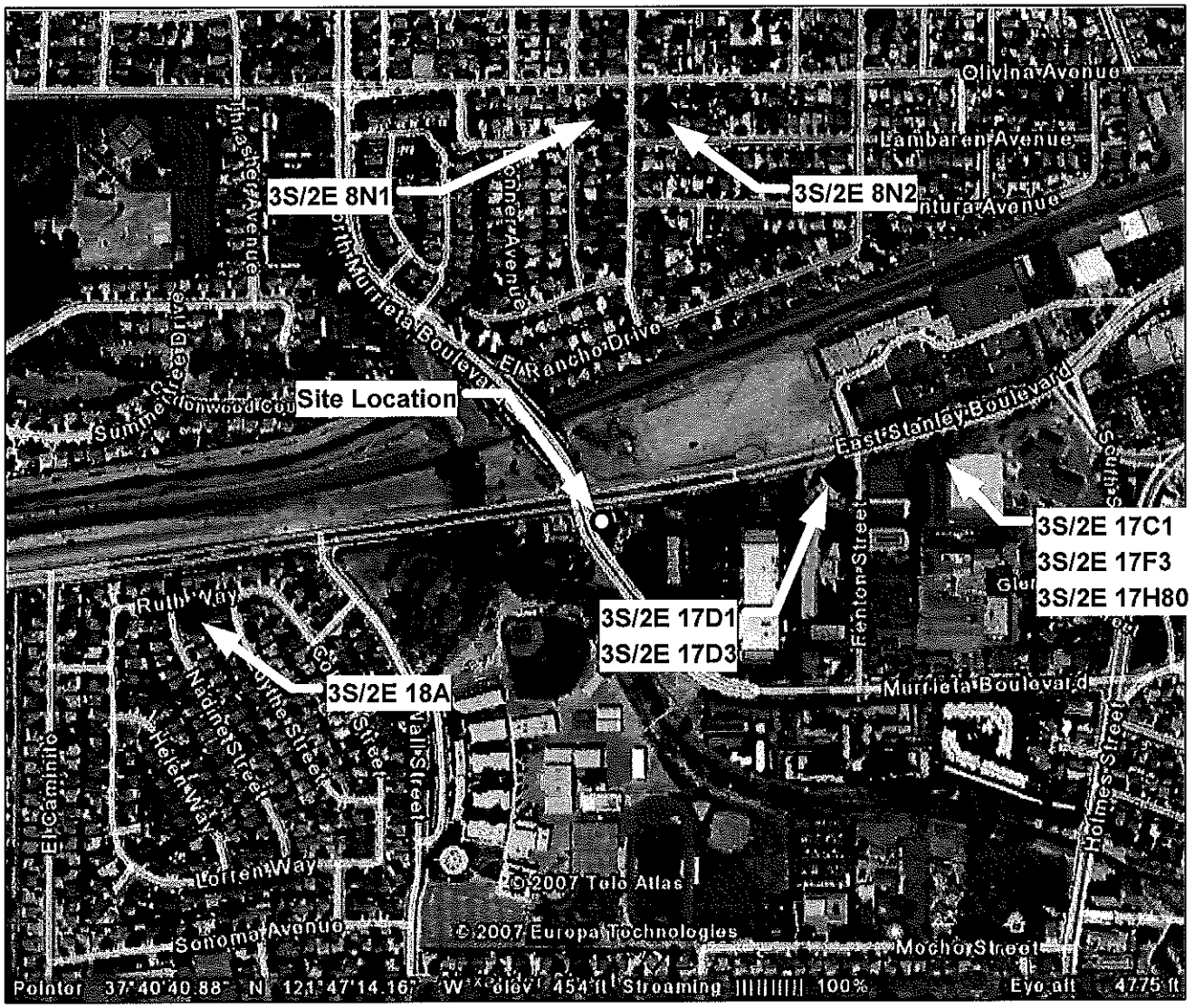
FIGURE 2

SITE MAP

Shell-branded Service Station
809 East Stanley Ave.
Livermore, California

PROJECT NO. SJ80-9ST-1.2005	DRAWN BY JL 09./15/05
FILE NO. SJ8-09ST-1.2005	PREPARED BY HB
REVISION NO. 2	REVIEWED BY DA

Delta Environmental Consultants, Inc.



GENERAL NOTES:
Base Map from: DeLorme Yarmouth, ME 04096 Source Data: USGS

North

0 1,800
Scale, Feet

QUADRANGLE LOCATION

FIGURE 3
SENSITIVE RECEPTOR LOCATION MAP
SENSITIVE RECEPTORS WITHIN 2,000

Shell-branded Service Station
809 East Stanley Blvd.
Livermore, California

PROJECT NO. SJ80-9ST-1.2005	DRAWN BY AD 8/27/07
FILE NO. SJ80-9ST-1.2005	PREPARED BY AD
REVISION NO. 1	REVIEWED BY RG

Delta Environmental Consultants, Inc.

TABLE

SENSITIVE RECEPTORS WITHIN 2,000 FEET OF SITE

Table 1
809 E. Stanley Blvd
Livermore, CA
Sensitive Receptors Within 2,000 feet of Site

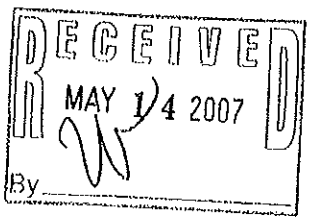
Well	Date Installed	Date Destroyed	Type	Status	Screened Interval (feet bgs)	Depth (feet bgs)
3S/2E 17C1	9/3/1943	NA	NA	NA	62-72 104-109 122-125 137-142 158-162 169-173 228-232 241-253 262-269 286-291 309-316 324-347 397-410	412
3S/2E 17D1	10/20/1961	5/27/1981	Irrigation	Destroyed	256-264 271-278 302-307 322-350	380
3S/2E 17D3	NA	5/27/1981	NA	Destroyed	5-15	50
3S/2E 17F3	10/26/1951	NA	Domestic	NA	112-136 136-142 156-160 166-172 190-196 208-214 220-244 256-268 280-286 292-316 334-346 356-394 418-424 460-472 478-490 496-508 520-568 580-592 604-610	658
3S/2E 17H80	NA	NA	NA	NA	165-282	282
3S/2E 18A	7/21/1960	NA	Test	NA	175-525	546
3S/2E 8N1	1/16/1958	NA	Municipal	NA	140-515	530
3S/2E 8N2	1/16/1958	NA	Municipal	Active	140-515	526

ATTACHMENT A

RESPONSE FOR CASE CLOSURE LETTER FROM ALAMEDA COUNTY HEALTH CARE SERVICES
MAY 9, 2007

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



May 9, 2007

Mr. Denis Brown
Shell Oil Products US
20945 S. Wilmington Ave.
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002524 and Geotracker Global ID T0600162519, Shell#13-5442, 809 East Stanley Boulevard, Livermore, CA 94550

Dear Mr. Brown:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site, including the recently submitted reports entitled, "Semi-Annual Fourth Quarter 2006 Groundwater Monitoring Report,' dated January 15, 2007 and "Request for Case Closure Letter," dated April 2, 2007. Both reports were prepared on Shell's behalf by Delta Environmental Consultants, Inc. The Quarterly Monitoring Report presents the results from groundwater sampling conducted on November 7, 2006. During a previous semi-annual groundwater sampling event on January 10, 2006, tert-butyl alcohol (TBA) was detected in wells MW-1 and MW-2 at concentrations of 1,000 and 24 micrograms per liter (µg/L), respectively. TBA was not detected in site wells during the November 7, 2007 groundwater sampling event. No further groundwater monitoring is required at this time.

The "Request for Case Closure Letter," concludes that there are no apparent releases of petroleum hydrocarbons at the site, no impacts to groundwater, and there are no known nearby sensitive receptors. The report requests closure of the fuel leak case for the site. Based on our review of the case file and "Request for Case Closure Letter," further documentation on the removal of the former fuel USTs in the southern portion of the site and additional information on water supply wells is required prior to considering case closure. We request that you address the technical comments below, perform the proposed work, and send us the reports described below.

TECHNICAL COMMENTS

1. **Tank Removals in Southern Portion of Site.** Sometime after 1989, the fuel USTs were apparently relocated from the southern portion of the site to their current location near the corner of Murletta and Stanley Boulevards. The "Request for Case Closure Letter," indicates that no reports that describe removal and location of the fuel USTs after 1989 could be located. We request that you review your files and files from Livermore-Pleasanton Fire Department in order to confirm the removal of these tanks and provide information on the conditions encountered during removal. As requested below, please submit this information along with a copy of the Kaprealian Engineering, Inc. report that describes the fuel and waste oil UST removal in November 1986.

2. **Fuel Releases at the Site.** There is evidence of fuel releases at the site prior to 1986 in the area of the former USTs. Product odors were noted in boring logs for all three soil borings advanced in 1986 in the area of the former UST (Emcon Associate September 8, 1986); however, no soil samples were collected from the intervals where product odors were observed. Analytical results from soil boring SB-5 which was advanced in the area of the former USTs on June 23, 2006 indicate that the petroleum hydrocarbons are present in soil between depths of 25 to greater than 68.5 feet bgs with total petroleum hydrocarbons as gasoline being detected at concentrations up to 1,460 milligrams per kilogram (mg/kg).

3. **Detailed Well Survey.** Previous well surveys for the site appear to only include public drinking water supply wells located on Geotracker. Consideration of only public supply wells is not sufficient to assess whether there are receptors for the site. We request that you conduct a well survey to locate all water supply wells (active, inactive, standby, decommissioned, and abandoned wells) within a 2,000-foot radius of the site. Submittal of maps showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Please provide a table that includes the well designation, location, total depth, diameter, screen interval, date of well installation, current status, historic use, and owner of the wells. In addition, please provide well logs and completion records for any wells downgradient from the site that are potential receptors for the site. We recommend that you obtain well information from the Zone 7 Water Agency and State of California Department of Water Resources, at a minimum. Please report your results in the Well Survey Report requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **July 30, 2007** – Tank Removal Reports and Detailed Well Survey Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program ftp site are provided on the attached "Electronic Report Upload (ftp) Instructions." Please do not submit reports as attachments to electronic mail.

Submission of reports to the Alameda County ftp site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB).

Geotracker website. Submission of reports to the Geotracker website does not fulfill the requirement to submit documents to the Alameda County ftp site. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitor wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, electronic submittal of a complete copy of all necessary reports was required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety

Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

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

Sincerely,

Jerry Wickham
Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Danielle Stefani
Livermore-Pleasanton Fire Department
3560 Nevada Street
Pleasanton, CA 94566

Colleen Winey, QIC 80201
Zone 7 Water Agency
100 North Canyons Parkway
Livermore, CA 94551

R. Lee Dooley
Delta Environmental Consultants, Inc.
175 Bernal Road
San Jose, CA 95119

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

ATTACHMENT B

SOIL SAMPLING REPORT BY KAPREALIAN ENGINEERING, INC. DECEMBER 4, 1986

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
535 Main Street
Martinez, Ca. 94553
(415) 372-5444

KEI-J86-1116
December 4, 1986

Shell Oil Corporation
P.O. Box 7004
Lafayette, CA 94549

Attn: Ms. D. Lundquist

Re: Soil Sampling Report for
Shell Service Station Located at
809 Stanley Blvd.
Livermore California

Dear Ms. Lundquist:

This report summarizes Kaprealian Engineering, Inc. (KEI) findings at the referenced site.

On November 10, 1986 KEI conducted tank inspection and soil sampling during the removal of four (4) underground tanks from the site. The underground tanks consisted of three (3) fuel tanks, and one (1) waste oil tank. The purpose of the inspection and sampling was to comply with regulatory agencies requirements. The attached sketch shows the approximate location of the removed tanks and the locations where the soil samples were taken.

KEI's activities included the following:

1) Soil sample collection from the site

2) Tank inspection

3) Chemical analyses of the soil samples by a certified laboratory

4) Technical report preparation

FIELD INVESTIGATION

KEI's field investigation was conducted on November 10 and 11, 1986, and consisted of visual inspection of the tanks and soil sampling.

The tanks were removed prior to soil sampling. The tanks appeared to be in good condition. The depth of excavation of the fuel tank pit was approximately eleven (11) feet. A total of eight (8) soil samples were taken. Six (6) samples were taken beneath the fuel tanks, one (1) sample from the waste oil tank pit, and one composite sample from stockpiled soil. (Composite soil sample consisted of four (4) individual grab samples taken at various depths and composited as comp.-1). Except the composite soil sample, all samples were taken at a minimum depth of two feet below the tanks. The locations where the samples were taken are identified on the attached sketch. The soil samples were placed in clean brass tubes; sealed with aluminium foil, plastic caps and tape, and stored in a cooled ice chest for delivery to the laboratory.

The subsurface soil exposed in the excavation consisted primarily of sand. No odor was noted in the soil.

ANALYTICAL RESULTS

The six (6) soil samples (A-1, A-2, B-1, B-2, C-1, and C-2) from the fuel tank pit and composite sample (comp.-1) from the stockpiled soil were analyzed for Total Hydrocarbons (THC), and Benzene, Toluene and Xylene (BTX) concentrations. Sample W.O.-1, taken from beneath the waste oil tank, was analyzed for THC and EPA 8240 constituents. The laboratory results are attached to this report.

CONCLUSIONS AND RECOMMENDATIONS

Based on the analytical results (concentrations of THC, BTX and volatile organic compound being below the detection limits), visual inspection, and no evidence of shallow groundwater, KEI recommends no further investigation.

This report, consisting of professional opinions and recommendations, has been prepared in accordance with generally accepted professional principles and practices existing for such work. This acknowledgement is in lieu of all warranties either express or implied. It should be noted that environmental changes, either naturally-occuring or artificially-induced, may cause changes in groundwater levels and flow paths and hence, the extent and concentration of any contaminants may change with time.

Copies of this report and the attachments should be sent to the Alemeda County Department of Public Health and the California Regional Water Quality Control Board.

Should you have any questions on this report please do not hesitate to contact me at (415) 372-5444.

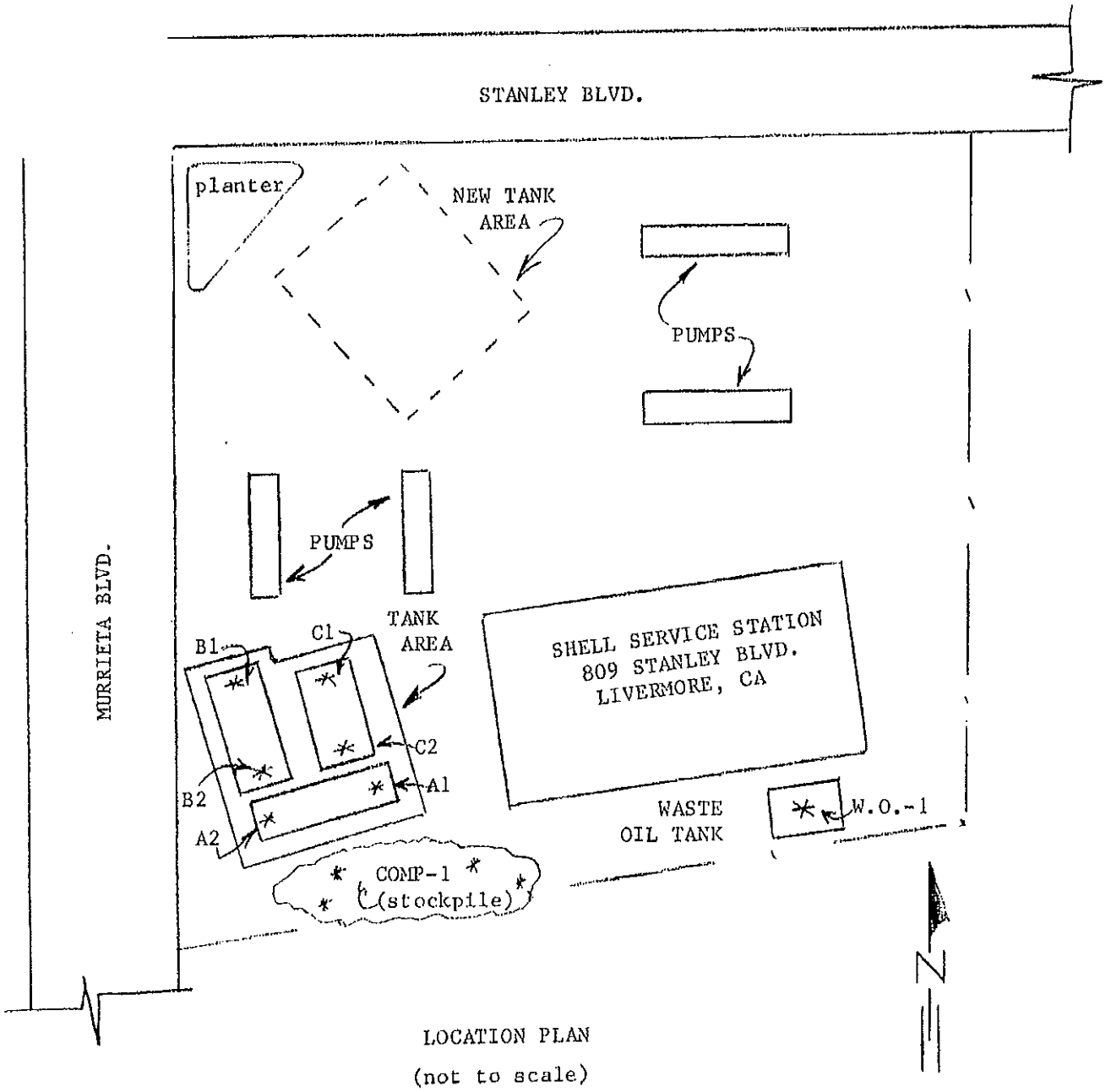
Sincerely,

Kaprealian Engineering, Inc.

Mardo Kaprealian

Attachments: Table-1 Analytical Results
Location Plan
Laboratory Analyses

KAPREALIAN ENGINEERING, INC.
Consulting Engineers
535 Main Street
Martinez, Ca. 94553
(415) 372-5444



LOCATION PLAN

(not to scale)

* soil sample

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110591

Sample Description
Soil, A-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110592

Sample Description
Soil, A-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110593

Sample Description
Soil, B-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110594

Sample Description
Soil, B-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110595

Sample Description
Soil, C-1
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/11/86
Date Received: 11/11/86
Date Reported: 11/25/86

Sample Number
6110596

Sample Description
Soil, C-2
Shell-Livermore

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/10/86
Date Received: 11/11/86
Date Reported: 11/12/86

Sample Number
6110581

Sample Description
Shell - Livermore, Soil
Comp. #1

ANALYSIS

	Detection Limit ppm	Sample Results ppm
Total Hydrocarbons	1	< 1.0
Benzene	0.1	< 0.1
Toluene	0.1	< 0.1
Xylenes	0.1	< 0.1

NOTE: Analysis was performed using EPA methods 5020 and 8015 with method 8020 used for BTX distinction.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/13/86
Date Received: 11/13/86
Date Reported: 11/20/86

Sample Number	Sample Description	Detection Limit ppm	Total Hydrocarbons as Gasoline ppm
6110770	Shell - Livermore, Soil W.O. #1	1.0	< 1.0

NOTE: Analysis was performed using EPA methods 5020 and 8015.

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Laboratory Director

sem

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Kaprealian Engineering, Inc.
535 Main Street, Suite 309
Martinez, CA 94553
Attn: Mardo Kaprealian, P.E.
President

Date Sampled: 11/13/86
Date Received: 11/13/86
Date Extracted: 11/17/86
Date Reported: 11/20/86

Sample Number
6110770

Sample Description
Shell - Livermore,
Soil W.O. #1

PRIORITY POLLUTANTS

VOLATILE ORGANIC COMPOUNDS
results in ppb

Acrolein	< 10,000	trans-1,2-Dichloroethene	< 50
Acrylonitrile	< 10,000	1,2-Dichloropropane	< 50
Benzene	< 50	1,3-Dichloropropene	< 50
Bromomethane	< 50	Ethylbenzene	< 50
Bromodichloromethane	< 50	Methylene chloride	< 50
Bromoform	< 50	1,1,2,2-Tetrachloroethane	< 50
Carbon tetrachloride	< 50	Tetrachloroethene	< 50
Chlorobenzene	< 50	1,1,1-Trichloroethane	< 50
Chloroethane	< 50	1,1,2-Trichloroethane	< 50
2-Chloroethylvinyl ether	< 50	Trichloroethene	< 50
Chloroform	< 50	Toluene	< 50
Chloromethane	< 50	Vinyl chloride	< 50
Dibromochloromethane	< 50	1,2-Dichlorobenzene	< 50
1,1-Dichloroethane	< 50	1,3-Dichlorobenzene	< 50
1,2-Dichloroethane	< 50	1,4-Dichlorobenzene	< 50
1,1-Dichloroethene	< 50		

SEQUOIA ANALYTICAL LABORATORY

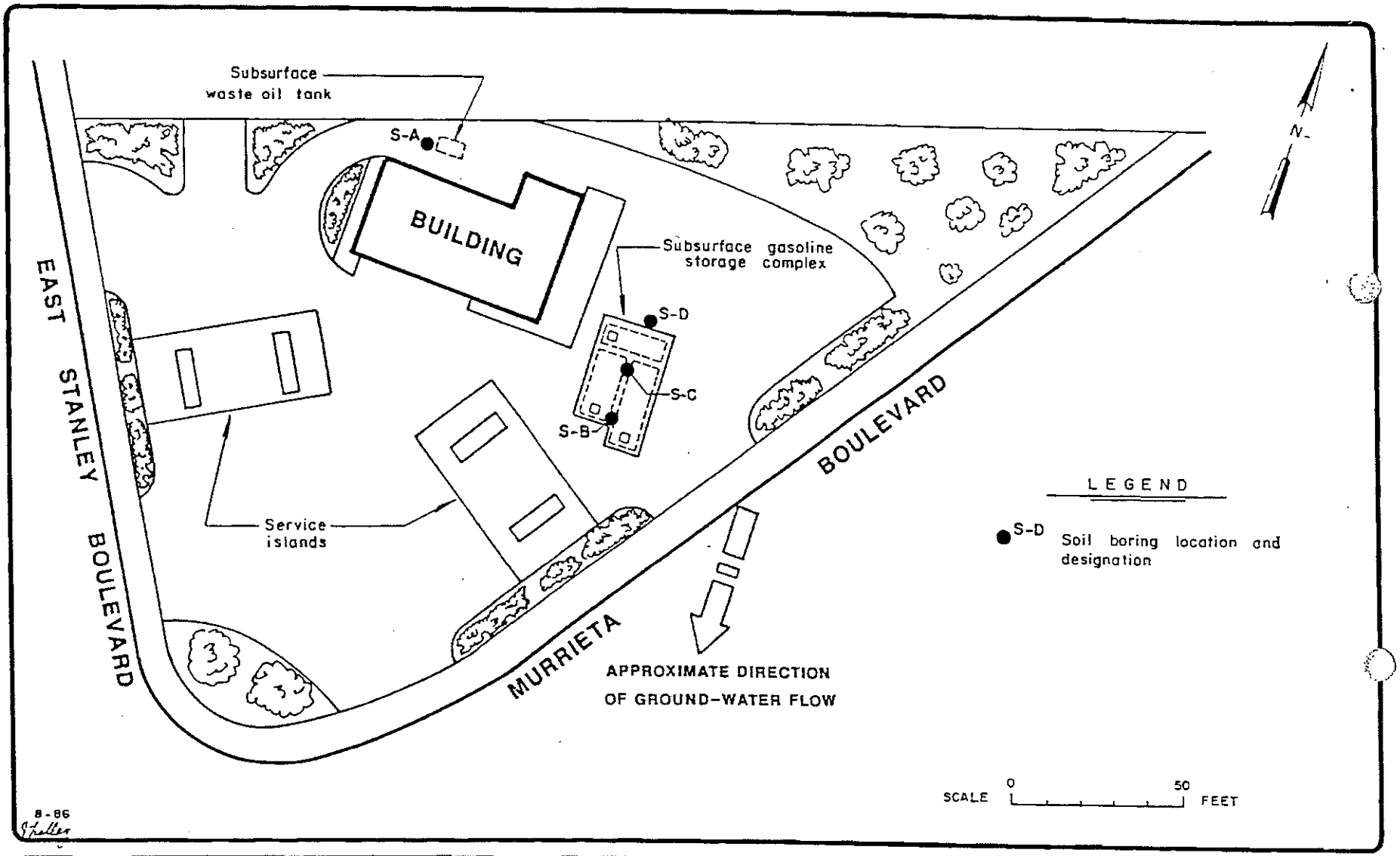
Arthur G. Burton
Laboratory Director

sls

NOTE: Methods 8010 & 8020 of the EPA were used for this analysis.

ATTACHMENT C

SITE PLAN FROM EMCON ASSOCIATES LETTER REPORT FOR SHELL SERVICE STATION, EAST STANLEY BLVD. AND MURRIETA BLVD., LIVERMORE, CALIFORNIA
SEPTEMBER 8, 1986



EMCON Associates

GETTLER-RYAN, INC.
SUBSURFACE HYDROGEOLOGIC INVESTIGATION
SHELL STATION, EAST STANLEY BLVD. AND MURRIETA BLVD.
LIVERMORE, CALIFORNIA

SITE PLAN

FIGURE 1

PROJECT NO. 800-70.01

ATTACHMENT D

WELL COMPLETION REPORTS

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

24/822
35/28-8N2

(11) WELL LOG CONT'D.

From 503 ft. to 516 ft. Gravel (possibly with gas)
" 516 " " 530 " Yellow Clay & Gravel

FOR OFFICIAL USE ONLY

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Well log continued...

from (ft.)	to (ft.)	Formation
425	437	Yellow clay.
437	447	Gravel and Boulders.
447	465	Hard sandy clay.
465	470	Clay and gravel.
470	503	Yellow clay and gravel.
503	516	Gravel (possibly with gas).
516	530	Yellow clay and gravel.

Gravel pack continued:

from (ft.)	to (ft.)	Diameter of bore (in.)
0	55	36
55	526	28

Information from original Western Well Water Well Drillers Report.

WH 5 Nov 90

35/2E-8N3

Carl Smith's No. 334
DWR Form No. 24822

1927

01-2005

Station 14-01

Loc: 40' S/O OLIVINA St.
200' W/O ALBATROSS

LOG OF WELL FOR CALIFORNIA WATER SERVICE CO.
LIVERMORE, CALIFORNIA

195 · Perf: 140-515
Grav. pack 0-526
GPM 1600 @ 67' drdn

Drillers: H. B. Autrey
K. E. Thomason
Western Well Drilling

				THICKNESS	
Nov.	14	0 to	6	6 Ft.	Clay & Gravel
	14	6	10	4	Coarse Sand
	14	10	20	10	Hard Sandy Clay
	14	20	31	11	Sandy Clay & Gravel
	15	31	33	2	Yellow Sandy Clay & Gravel
	15	33	35	2	Gravel
	15	35	44	9	Clay & Gravel
	15	44	51	7	Coarse Sand & Gravel
	15	51	64	13	Brown Sandy Clay
	15	64	78	14	Dry Sandy Clay & Gravel
	15	78	84	6	Clay & Gravel with Boulders
	15	84	89	5	Gravel & Boulders
	15	89	105	16	Heavy Gravel & Boulders with some Clay
	15	105	111	6	Clay & Heavy Gravel
	16	111	119	8	Clay & Gravel
	16	119	140	21	Heavy Gravel with Clay
	16	140	146	6	Sand & Gravel
	16	146	156	10	Clay & Gravel
	18	156	163	7	Sandy Clay & Gravel
	18	163	175	12	Large Gravel
	18	175	201	26	Sandy Clay & Gravel
	19	201	208	7	Clay & Gravel with Boulders
	19	208	220	12	Clay
	19	220	240	20	Heavy Gravel with Clay
	19	240	250	10	Gravel & Sand
	19	250	271	21	Clay & Gravel
	19	271	285	14	Gravel
	19	285	291	6	Blue Sandy Clay & Gravel
	19	291	303	12	Gray Sandy Clay & Gravel
	19	303	308	5	Gravel
	19	308	315	7	Yellow Sandy Clay
	19	315	330	15	Yellow Sandy Clay & Gravel
	19	330	337	7	Gravel with Coarse Sand
	19	337	356	19	Yellow Clay & Gravel
	19	356	358	2	Yellow Clay
	20	358	369	11	Soft Clay
	20	369	420	51	Brown Sticky Clay
	20	420	425	5	Tight Gravel
	20	425	437	12	Yellow Clay
	20	437	447	10	Gravel & Boulders
	20	447	465	18	Hard Sandy Clay
	20	465	470	5	Clay & Gravel
	20	470	503	33	Yellow Clay & Gravel
	20	503	516	13	Gravel (possibly with gas)
	20	516	530	14	Yellow Clay & Gravel

35/2E-8N

01-1714

3S/2E-17C1 C

1943 32E-29

LOG OF WELL FOR FRED HOLDEMER
Livermore, California
985 E. STANLEY BLVD.
Driller: Adolph Hummel (195)

Western Well Drilling Co.

			THICKNESS		
Aug. 6	0	8	8 Ft.	Gravel & Boulders	15
	8	22	14	Clay Yellow	3
Aug. 7	22	44	22	Clay Yellow	3
	44	51	7	Gravel - Water	20
	51	52	1	Clay Yellow	3
Aug. 9	52	62	10	Clay Yellow	3
	62	72	10	Gravel	20
	72	102	30	Clay Yellow	3
Aug. 10	102	104	2	Clay Yellow	3
	104	109	5	Gravel & Sand	20
	109	122	13	Clay Yellow	3
	122	125	3	Gravel	20
	125	137	12	Clay Yellow	3
	137	142	5	Gravel	20
	142	150	8	Clay Yellow	3
Aug. 11	150	158	8	Clay Yellow	3
	158	162	4	Gravel	20
	162	168	6	Clay Yellow - Sticky	3
	168	173	5	Sand & Gravel	20
	173	190	17	Clay	3
Aug. 12	190	225	35	Clay Yellow - Sticky	3
Aug. 13	225	228	3	Clay Yellow - Sticky	3
	228	232	4	Gravel	20
	232	241	9	Clay Yellow - Sticky	3
	241	253	12	Gravel	20
Aug. 14	253	262	9	Clay	3
	262	269	7	Gravel	20
	269	271	2	Clay	3
Aug. 16	271	276	5	Clay Yellow	3

(Continued on next page)

Perforations

62 Ft	72 Ft
104	109
122	125
137	142
158	162
169	173
228	232
241	253
262	269

Water Level 37 Ft.

35/2E-17C1

01-1714

Aug. 27	276	286	10 Ft.	Yellow clay 3
	286	291	5	Gravel 20
	291	305	14	Yellow clay
28	305	309	4	Yellow clay 3
	309	310	1	Gravel
30	310	316	6	Gravel 20
	316	324	8	Yellow clay 3
	324	327	3	Gravel 20
	327	345	18	Yellow sticky clay
31	345	380	35	Yellow sticky clay 3
Sept. 1	380	385	5	Yellow sticky clay
2	385	397	12	Yellow sticky clay
	397	400	3	Sand & gravel 20
3	400	402	2	Clay & gravel, cemented 40
	402	412	10	Gravel & clay 5

CASING DIAM. - 12"

Perforations

286 - 291
309 - 316
324 - 327
397 - 410

Water Level 46 Ft.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

62005 35/2E-17D1

WESTERN

WESTERN Gravel Envelope Wells • Percussion Type Wells
Specially Contracting and Designing • Test Boring
Sampling • Coring • Well Development and Testing
Water Well Consultants

WELL DRILLING CO., LTD.

WESTERN GRAVEL ENVELOPE WELLS

P. O. BOX 47
TELEPHONE CYpress 8-4330

Holdener Dairy
985 E. Stanley Blvd.
Livermore, Calif.

SAN JOSE, CALIF. October 26, 1961

Our Invoice No. 3414

Your Order No.

Well Cont. No. #2

TERMS: Net

Interest will be charged at 8% per annum on overdue accounts.

QUANTITY	DESCRIPTION	PRICE	AMOUNT
200 Ft.	Completed well equipped with 10" x .219 wall casing, necessary starter ring, and perforated opposite water-bearing formations		1,658.00
44 Ft.	14" diameter conductor pipe cemented in place with 20 sacks cement	7.76	341.44
[redacted] Ft.	Additional completed well (200-300')	8.55	855.00
80 Ft.	Additional completed well (300-380')	9.05	724.00
			$ 3,578.44

Claims for any shortage must be made within five days after receipt of goods.

1961
#2

35/2E-17D1

Log # 62005 attached

LOG OF WELL FOR FRED HOLDENER
LIVERMORE, CALIF.

Drillers: J. Rodgers
W. T. Berry

Sept.	30	0 to	38	38 Ft.	Brown Clay & Gravel
Oct.	2	38	48	10	Yellow Clay
	2	48	51	3	Fine Gravel
	3	51	62	11	" "
	3	62	122	60	Yellow Clay
	4	122	210	88	" "
	5	210	253	43	" "
	6	253	256	3	" "
	6	256	264	8	Cemented Gravel
	6	264	271	7	Yellow Clay
	6	271	278	7	Cemented Gravel
	6	278	300	22	Yellow Clay
	7	300	307	7	Cemented Gravel
	7	307	325	18	Yellow Clay
	13	325	328	3	Brown Clay & Gravel
	13	328	330	2	Brown Sandy Clay
	13	330	332	2	Sand & Gravel
	13	332	335	3	Sandy Clay & Gravel
	14	335	348	13	Gravel & Little Clay
	17	348	380	32	Yellow Clay & Gravel

379 Ft. 10" x 7/32" Casing (.219)
44 Ft. 14" x 1/4" Conductor Pipe

Perforated: 256 to 264' - 8 Ft.
271 to 278' - 7
302 to 307' - 5
322 to 350' - 28

48 Ft.

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

3S/2E - 17F3

1951 01-172-1

This is new Kaiser well
Located 150' S/O old Kaiser well

LOG OF WELL FOR VETERANS ADMINISTRATION HOSPITAL
LIVERMORE, CALIFORNIA

DRILLERS: John Coker & Bob Varnell 195

				THICKNESS	
Sept.	4	0	10	10 Ft.	Light Sandy Clay
	4	10	16	6	Boulders (Hard)
	4	16	20	4	Boulders & Cemented Sand
	5	20	50	30	Boulders & Loose Gravel
	5	50	55	5	Hard Clay
	5	55	64	9	Boulders & Gravel (Hard)
	5	64	70	6	Free Gravel
	6	70	74	4	Clay
	6	74	86	12	Gravel
	6	86	92	6	Loose Gravel & Boulders
	6	92	97	5	Hard Cemented Gravel & Clay
	6	97	100	3	Clay
	6	100	109	9	Boulders & Loose Gravel
	7	109	117	8	Cemented Gravel & Clay
	7	117	121	4	Loose Gravel & Boulders
	7	121	124	3	Clay
	7	124	134	10	Loose Gravel & Boulders
	7	134	151	17	Cemented Gravel & Clay
	7	151	160	9	Gravel
	7	160	163	3	Boulders
	7	163	167	4	Clay
	7	167	178	11	Gravel & Streaks Sandstone
	7	178	193	15	Clay & Gravel (Tight)
	7	193	208	15	Sandy Clay & Gravel
	7	208	213	5	Sand & Gravel
	7	213	218	5	Clay & Gravel
	7	218	232	14	Gravel
	7	232	258	26	Clay & Gravel (Hard Streaks)
	7	258	269	11	Sandy Clay & Gravel, Gravel Streaks
	7	269	277	8	Sandy Clay & Gravel
	7	277	289	12	Sticky Clay
	8	289	301	12	Sticky Clay & Gravel
	8	301	312	11	Hard Rock
	8	312	329	17	Cemented Gravel
	8	329	368	39	Sticky Clay & Gravel
	8	368	379	11	Sand & Gravel
	8	379	381	2	Cemented Clay & Gravel
	10	381	385	4	Extra Hard Cemented Clay & Gravel
	11	385	389	4	" " " " " "
	11	389	400	11	Hard Clay & Gravel
	11	400	424	24	Sticky Blue Clay (Hard Streaks)
	12	424	436	12	Blue Clay & Light Sand
	12	436	460	24	Sticky Blue Clay
	12	460	466	6	Gravel
	12	466	481	15	Cemented Gravel
	12	481	486	5	Gravel
	12	486	491	5	Cemented Gravel
	12	491	513	22	Sticky Blue Clay
	12	513	539	26	Dry Blue Sandy Clay
	12	539	549	10	Sand & Rotton Wood } RONINGER SAYS IT WAS REDWOOD

3S/2E - 17F3

1951

01-1721

LOG OF WELL FOR VETERANS ADMINISTRATION HOSPITAL Page 2.

Sept.	12	549	561	12 Ft.	Sandy Clay & Gravel
	12	561	570	9	Gravel & Boulders
	12	570	571	1	Cemented Gravel
	13	571	581	10	Cemented Gravel & Clay (Hard)
	15	581	588	7	" " " " "
	15	588	594	6	Gravel
	15	594	626	32	Cemented Gravel & Clay
	15	626	629	3	Cemented Clay & Gravel (Hard)
		629-632		3	Cemented gravel & Rock (Hard)
		632-633		1	Rock
		633-649		16	Cemented gravel
		649-650		1	Rock Hard
		650-656		6	Rock Hard

In error

copied from original log at V.A. Hosp.

633-649	Cemended Grav.
649-652	Hard Rk.
652-655	Extra Hard Cem. Cl. & Gr.
655-656	Hard Rk.
656-657	Rk. Very Hard.
657-658	Hard Rock

This well will be abandoned in 1962 and pump removed — would make a good recorder well.

WELL FIRST SEALED TO 512' AFTER DRILLING } ?
THEN CEMENTED TO 374'

3S/2E-17F3

SETTING CHART

01-1721

Veterans Administration Hospital Western Gravel Envelope Well Well No. _____

Livermore, California

John Colcey & Bob Vernall
Well Driller

64 FT CONDUCTOR PIPE - 34" Bore

640 FT. 12"x1/4" CASING - 26" Bore

TAPER

CASING

649 FT. TOTAL FINISHED WELL

YARDS OF GRAVEL

468 FT 16" TREMIE

CASING SET BY

DATE

WELL COMPLETED

DATE

649 Perforated

9

640'

SETTING

34 Perforated

610

34 Bottom 6'Blank, 6' Perf., 12' Blank

592

24 Bottom 12' Perf., 6'Blank,6' Perf.

568

24 Perforated

544

24 Perforated

520

24 Bottom 12' Perforated,12' Blank

496

24 Bottom 6'Blank,12' Perf.,6' Blank

472

24 Bottom 12' Perforated, 12' Blank

448

24 Blank

424

24 Bottom 6' Perforated, 18' Blank

400

24 Bottom 6' Blank, 18' Perforated

376

24 Bottom 18' Perforated,6' Blank

352

24 Bottom 6' Blank,12' Perf.,6' Blank

328

24 Bottom 12' Blank,12'Perforated

304

24 Bottom 12' Perf., 6' Blank,6' Perf.

280

24 Bottom 12' Blank,12' Perforated

256

24 Bottom 12' Blank, 12' Perforated

232

24 Bottom 12' Perf.,6'Blank,6' Perf.

208

SETTING CONT'D

208'

24 Bottom 12' Blank,6'Perforated,6'Blank

184

24 Bottom 12'Blank,6'Perforated,6'Blank

160

24 Bottom 6'Perf.,12' Blank,6' Perf.

136

24 Perforated

112

24 Blank

88

24 Blank

64

24 Blank

40

24 Blank

16

16 Blank

2 Ft. to Set

35/2E-17F3

2N-17H80

118

DELUCCHI WELL & PUMP, INC
27177 MISSION BLVD.
HAYWARD, CALIF.
NOV. 10, 1965

01-1722

DE PAOLI
761 SOUTH N STREET
LIVERMORE, CALIF.

LOCATION: Next to Veteran's Home
Livermore

LOG OF WELL

FEET	DESCRIPTION	
0-3	soil	5
3-13	tight pack sandy yellow clay	5
13-70	cemented sand & gravel	10
70-165	yellow sandstone	10
165-190	cemented sand & gravel	10
190-265	blue cemented sand & gravel	10
265-282	grey cemented sand & gravel	10

perforations: 165-282

water level 155feet

tested well at 40 gal per minute, lowered water fromm 155'to 165'

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED