

Confirm MBE + other reqs  
in MW-1 next sampling event.

REPORT OF WELL INSTALLATIONS

L&D SCAFFOLD, INC.  
1420 162<sup>ND</sup> AVENUE  
SAN LEANDRO, CA 94578

October 5, 2000

00 OCT 16 PM 4:04  
ENVIRONMENTAL  
PROTECTION

Prepared By:

ALLCAL Environmental  
27973 High Country Drive  
Hayward, CA 94542



John V. Mrazovich, Ph.D., R.G.



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## 1.0 INTRODUCTION

ALLCAL Environmental (ALLCAL) is pleased to submit this report of installation of three groundwater monitoring wells at 1420 162<sup>nd</sup> Avenue in San Leandro, California, (Figure 1) on behalf of Mr. Don Puckett and Ms. Betty Puckett (Client/property owners) of L&D Scaffold, Inc. Installation of the wells was conducted under a July 22, 2000, work plan written by John V. Mrakovich, a California registered geologist (No. 4665) for ALLCAL, and approved (with modification of the well locations) by the Alameda County Health Care Services Agency (ACHCSA) in a July 26, 2000, letter (APPENDIX A).

The project site is occupied by one two-story building used for office and shop space and a second single story building used for warehousing of scaffolding. The site is bounded to the southwest by an appliance parts distributor, to the northeast and southeast by apartment complexes and residential property, and to the northwest by 162<sup>nd</sup> Avenue.

Until recently, the site was used to operate a business that rented and erected scaffolding. The scaffolding business is now closed and the site is for rent.

## 2.0 HYDROGEOLOGIC SETTING

The following discussion of regional hydrogeology is taken in part from *GEOHYDROLOGY AND GROUNDWATER-QUALITY OVERVIEW, EAST BAY PLAIN AREA, ALAMEDA COUNTY, CALIFORNIA*, 205 (j) Report, Kelvin Hickenbottom and Kenneth Muir, June 1988, and *HYDROGEOLOGY OF CENTRAL SAN LEANDRO*, Woodward-Clyde Consultants, December, 1993.

### 2.1 Regional Hydrogeology

The site is located in the East Bay Plain of the Coast Ranges physiographic province. The East Bay Plain is an area of flat alluvial lowlands and bay and tidal marshes lying between the bedrock hills of the Diablo Range to the east and San Francisco Bay to the west. Near the site area, the eastern boundary of the plain is located along the Hayward fault which is at the base of the Diablo Range escarpment, about 2,000 feet to the northeast.

The East Bay Plain and San Francisco Bay are the result of a structural downwarp that received sediments for much of Pleistocene time, a period that extends from about 2 million years ago until about 10,000 years ago. The degree of downwarping has varied considerably across the two areas. Consequently, some local areas have a thin sedimentary fill and others have relatively thick sedimentary fill. In San Leandro, significant downwarping has occurred and sedimentary fill may exceed about 1,000 feet in thickness in some areas.

Beneath the sediments are consolidated bedrock whose upper surface is the floor of the structural downwarp. The bedrock is Jurassic, Cretaceous, and Tertiary in age and consists of sandstone.

conglomerate, shale, chert, and serpentine with some volcanic rocks. This bedrock also comprises the hills (East Bay Hills) east of the Hayward fault that are part of the Diablo Range.

Sedimentary fill in the San Leandro area was mostly derived from the East Bay Hills. Toward the bay, some fill consists of estuarine and marine deposits. Based on well driller's logs, the sedimentary fill has been divided into "older alluvium" and "younger alluvium." "Younger alluvium" in this report will include the Merritt Sand, bay mud, interfluvial basin deposits, and fluvial deposits.

In general, the "older alluvium" is present beneath all of the East Bay Plain and extends under San Francisco Bay. The "older alluvium" is Pleistocene in age and consists of clay, silt, sand, and gravel that was deposited as alluvial fans extending from the East Bay Hills. This sediment is a major groundwater reservoir in the East Bay Plain and may locally reach a thickness of about 1,000 feet. Wells in the "older alluvium" produce sufficient amounts of groundwater for irrigation, industrial, and municipal use.

The "younger alluvium" overlies the "older alluvium" and, with the exception of the Merritt Sand, is still being deposited. These sediments are Pleistocene, Holocene, and Recent in age and have been deposited as beach and near-shore sediments, peat beds, bay and estuarine deposits, and fluvial and flood plain deposits. They may locally reach a thickness of about 150 feet. These sediments are a minor source of groundwater, mostly sufficient for domestic use (lawn and garden irrigation and other non-potable uses) because much of the permeable "younger alluvium" lies above the zone of saturation.

Groundwater flow in aquifers of both the "older and younger alluvium" is generally westerly toward San Francisco Bay; the gradient may vary locally.

## **2.2 Site Geology and Hydrogeology**

The site is located in Township 3 South, Range 2 West, Section 6 of the Hayward, California 7.5-Minute Series, Topographic Quadrangle Map (Figure 1) at an elevation of about 33 feet above mean sea level (MSL). Surface sediments are "younger alluvium" and Holocene in age. Regional topographic gradient is southwesterly; however, at the site the local gradient is northwesterly with a slope of about .0056 feet per foot. San Lorenzo Creek is about 4,500 feet south of the site, San Francisco Bay, the nearest known topographically down-gradient surface water, is about 17,000 feet southwest of the site, and Lake Chabot is about 8,000 feet north-northeast of the site. No other significant bodies of nearby surface water are known.

Groundwater, at the site, was encountered during UST removal activities at a depth of about 8 feet below grade and in a soil boring conducted by ALLCAL (see 3.0 BACKGROUND) at a depth of about 12 feet below grade. During installation of the wells that are the subject of this report, groundwater was encountered in a range of 10 to 12 feet below grade. Direction of groundwater flow at the site on September 6, 2000, (as determined by work documented in this report) was north-northeasterly. Based on information provided by the ACHCSA on groundwater flow at nearby sites.

direction of groundwater flow in the site's vicinity is variable and can range from northwesterly to northerly.

### **3.0 BACKGROUND**

The following discussion is summarized from: (1) information provided by the Client, (2) a November 3, 1999, UST REMOVAL REPORT, L&D SCAFFOLD, INC., 1420 162<sup>ND</sup> AVENUE, SAN LEANDRO, CA, prepared by Environmental Bio-Systems, Inc. (EBS), and (3) an April 20, 2000, REPORT OF PRELIMINARY SITE ASSESSMENT, L&D SCAFFOLD, INC., 1420 162<sup>ND</sup> AVENUE, SAN LEANDRO, CA, prepared by ALLCAL.

#### **3.1 Site Ownership and UST History**

Mr. and Ms. Puckett have owned the subject property since about 1980. Prior to their ownership, they rented the property for about 25 years. During their occupancy, the property has been used as a business that stores, rents, and erects scaffolding.

A 7,500-gallon UST was installed in about 1979 to service company vehicles. The UST was used until Spring 1999.

#### **3.2 UST Closure**

On October 25, 1999, a 7,500-gallon, gasoline, single-walled steel UST; appurtenant piping; and dispenser were removed by EBS. The UST and dispenser were located outside the southwestern corner of the site's two-story building (Figure 2). Examination of the UST, after its removal, revealed the tank was in excellent condition with no rust or corrosion visible on the outer surface. The tank had an intact tar wrapping.

During removal of the piping, mild hydrocarbon odor was detected directly beneath a joint located between the dispenser and the UST.

Soil samples were collected for chemical analyses from the northerly sidewall and southwestern corner of the excavation immediately above groundwater; at a depth of about 7 feet below grade. A soil sample was also collected for analysis from beneath the apparent leaky pipe joint discussed above; at a depth of about 1.5 feet below grade. The soil sample collected from the northerly sidewall detected only total petroleum hydrocarbons as gasoline (TPHG), methyl tert-butyl ether (MTBE), and total lead [at concentrations of 2.5 parts per million (ppm), 2.5 ppm, and 10 ppm, respectively]. The soil sample collected from the southwesterly corner detected only MTBE and total lead (at a concentration of 0.037 ppm and 9.1 ppm, respectively). The soil sample collected from beneath the piping detected only TPHG, benzene, MTBE, and total lead (at concentrations of 28 ppm, 2.2 ppm, 28 ppm, and 11 ppm, respectively). The laboratory noted the TPHG concentration in the above samples included the MTBE concentration.

During tank removal activities, water was encountered in the excavation at a depth of about 8 feet below grade. The water was sampled twice for chemical analyses, once prior to UST removal on October 25, 1999, and once after the tank was removed and the excavation was de-watered for backfilling on October 26, 1999. For the second sampling event, only TPHG, toluene, xylenes, and MTBE were detected [at concentrations of 1,300 parts per billion (ppb), 2.1 ppb, 1.6 ppb, and 1,300 ppb, respectively]. The laboratory noted the TPHG concentration included the MTBE concentration. Because of the concentrations of TPHG and MTBE detected in the above soil and groundwater samples, the ACHCSA requested a Preliminary Site Assessment (PSA) to delineate the extent of soil and groundwater contamination at the site.

### 3.3 ALLCAL March 28, 2000, PSA

On March 28, 2000, ALLCAL drilled two Geoprobe soil borings (SB-1 and SB-2) to further investigate TPHG and MTBE contamination in the soil and groundwater (Figure 2).

Boring SB-1 was drilled at the location of the former dispenser to further evaluate soil contamination from the apparent leaky pipe joint observed at the time of the UST removal and to evaluate potential leakage of the dispenser.

Boring SB-2 was drilled about 15 feet in the estimated down-gradient direction (northwesterly) of groundwater flow from the former UST excavation to further evaluate the extent of groundwater contamination detected in water in the excavation at the time of UST removal. Also, this boring was used to further evaluate the extent of soil contamination detected beneath the leaky pipe joint near the dispenser at the time of the UST removal.

Results of soil chemical analyses detected TPHG and some BTEX chemicals only in boring SB-1 at the depth of 3 feet. TPHG, benzene, toluene, and xylenes were detected at concentrations of 1.0 ppm, 0.017 ppm, 0.005 ppm, and 0.12 ppm, respectively. MTBE was detected in soil of both borings and ranged up to 17 ppm in boring SB-1 (confirmed by EPA method 8260 at a concentration of 2.8 ppm) and was detected at the concentration of 0.35 ppm in boring SB-2.

Results of groundwater chemical analyses (groundwater collected only from boring SB-2) detected only MTBE and xylenes at concentrations of 16,000 ppb (confirmed by EPA method 8260 at a concentration of 18,000 ppb) and 6.1 ppb, respectively.

Because of the concentrations of MTBE detected in the above groundwater sample, the ACHCSA requested that permanent groundwater monitoring wells be installed on site to assess the MTBE plume. See May 23, 2000, letter in APPENDIX A.

### 4.0 GROUNDWATER MONITORING WELL INSTALLATIONS

Installation of the groundwater monitoring wells included the following work:

- Obtained well installation permits from the Alameda County Public Works Agency (ACPWA).
- Marked the location of each well on the ground with white paint and notified Underground Service Alert (USA). Subcontracted an underground utility locator to “clear” each location of underground utilities.
- Drilled 3 soil borings for installing groundwater monitoring wells.
- Collected soil samples from each boring at approximately 5-foot depth intervals for construction of boring logs. At the request of a representative of the ACHCSA during well installation activities, collected a soil sample from the boring of well MW-3, at a depth of five feet, for analyses of % moisture, porosity, bulk density, and total organic carbon (TOC).
- Converted each boring into a 2-inch diameter-casing, polyvinyl chloride (PVC), groundwater monitoring well.
- Surveyed the elevation of top-of-casing (TOC) of each well relative to MSL.
- Developed, purged, and sampled groundwater from each well.
- Analyzed the groundwater samples and 1 trip blank sample for TPHG, BTEX, and MTBE.
- Prepared this report.

Details of the above work are presented below.

#### **4.1 Pre-drilling Activities**

Before commencing drilling activities, ALLCAL: (1) obtained well installation permits from the ACPWA (APPENDIX B), (2) visited the site to mark the well locations in white paint, (3) contacted USA and subcontracted an underground utility locator to “clear” each location, and (4) notified the ACHCSA.

#### **4.2 Rationale for Well Locations**

Well locations (Figure 2) were based on estimated direction of groundwater flow and the location of the removed leaky piping which is the apparent source of MTBE contamination to the groundwater. Well MW-1 was installed near the location of former soil boring SB-2 which was estimated to be immediately down-gradient (with respect to direction of groundwater flow) of the removed leaky piping. Well MW-2 was installed at the northwesterly end of the driveway to



evaluate the on-site down-gradient extent of the MTBE groundwater plume. Well MW-3 was installed near the northerly corner of the site to evaluate the on-site down-gradient extent of the MTBE groundwater plume in the event groundwater gradient was more northerly than northwesterly.

#### **4.3 Soil Boring and Sampling Procedures**

The monitoring wells were installed on August 28, 2000, by Exploration Geoservices (C-57 License no. 424888) located in San Jose, California. The exploratory boring for each well was drilled by using 8-inch O.D., hollow-stem, auger drilling equipment. The augers were steam-cleaned before drilling each boring to minimize the potential of cross-contamination between borings or introducing offsite contamination to the initial boring. Representative soil samples were collected at approximately 5-foot depth intervals by advancing a 2-inch I.D., California modified, split-spoon sampler into the undisturbed soil beyond the tip of the augers. The sampling equipment was cleaned before each sampling event by washing with a non-phosphate solution and rinsing in tap water.

Drill cuttings are stored on site, contained in 55-gallon steel drums. The stored cuttings are labeled to show contents, date stored, suspected contaminant, date of removal, company name, contact person, and telephone number.

At the request of the onsite ACHCSA representative, a vadose zone soil sample was collected at about 5 feet below grade from the boring of well MW-3 for analysis of % moisture, porosity, bulk density, and TOC. This information may be useful for evaluating onsite health risk in determining if it is appropriate to request regulatory site closure. The soil sample was collected in a 2 inch by 6 inch brass tube. The ends of the tube were covered with foil followed by plastic end caps and the tube was immediately sealed and labeled to include: date, time, sample location, project number, and sampler name. The sample was stored in an iced-cooler for transport to Department of Health Services certified McCampbell Analytical Inc. laboratory, located in Pacheco, California, accompanied by chain-of-custody documentation.

#### **4.4 Occurrence of Groundwater, Aquifer Thickness, and Well Installation Procedures**

Groundwater was encountered at a depth of about 10 feet in well MW-1 and at a depth of about 12 feet in wells MW-2 and MW-3. The aquifer at this depth was observed only in the boring of well MW-1 and consisted of a brown sand about 1.5 feet thick. Although water was present at about 12 feet deep in wells MW-2 and MW-3, no aquifer was observed. Since this shallow aquifer appeared very thin and may be a perched aquifer, all borings were drilled deeper until a more prominent aquifer was encountered. The top of a deeper aquifer in the wells was located at the approximate depth of 18 feet in wells MW-1 and MW-2, and 22.5 feet in well MW-3. A clay, indicating the possible base of the aquifer, was observed at the approximate depth of 25 feet in wells MW-1 and MW-3; however, no indication of the base of the aquifer was observed in well MW-2. During well construction activities, depth to groundwater in all wells was observed to be about 6 feet below grade, indicating the groundwater is confined.

The borings of wells MW-1, MW-2, and MW-3 were drilled to total depths of 25, 26, and 25.3 feet, respectively. Each boring was converted into a groundwater monitoring well by installing 2-inch diameter, flush-threaded, schedule 40, PVC casing and 0.010-inch machine-slotted screen. In each well, the screen extended from near the bottom of the boring to above the top of the thin upper aquifer. A sand pack of no. 2/12 filter sand was placed in the annular space from total depth of the borings to about one foot above the top of the screened interval. Approximately one foot of bentonite was placed above the sand pack followed by a neat cement slurry seal. A traffic rated, bolt-locked, vault box was set in concrete to protect the wells. A water tight locking well cap with lock was installed on each well casing. See APPENDIX C for well construction details.

A California licensed professional engineer or land surveyor of Greenwood & Moore, Inc. surveyed the elevation of each well's TOC relative to MSL. The elevations were surveyed relative to Alameda County Benchmark BM A-162 (see APPENDIX D).

#### **4.5 Soil Profile**

Detailed boring logs were prepared from auger return cuttings and the soil contained in the split-spoon sampler. The soil was logged according to the Unified Soil Classification System by a California Registered Geologist. See APPENDIX C for exploratory boring logs.

All borings had similar soil profiles. Beginning at ground surface, a sand was observed in the borings of wells MW-1 and MW-3 to a depth of about two feet; a clay was present in this interval in the boring of well MW-2. Below two feet, a clay was observed to a depth of 8 feet in the boring of wells MW-1 and MW-2; in the boring of well MW-3, clay was observed to a depth of about 22.5 feet. In the borings of wells MW-1 and MW-2, sand and/or silt was observed from about 8 feet to 10 or 11 feet; this sand and/or silt was underlain by clay to about 18 feet deep in both borings. The bottom of all borings terminated in a sand aquifer. In the borings of wells MW-1 and MW-3, a clay was observed in the tip of sampler.

#### **4.6 Well Development Procedure**

The monitoring wells were developed on August 31, 2000. Before development, depth-to-water was measured from the TOC to the nearest .01 foot using an electronic water level meter. Each well was checked for floating product using a dedicated polyethylene bailer. No floating product was observed in any of the wells.

Each well was developed by bailing with a PVC bailer until free of sand and silt. Then, each well was further developed by using a development pump until no further improvement in visible turbidity could be achieved. Fifty five gallons of water were developed from each well.

Development water is stored onsite in 55-gallon steel drums labeled to show contents, date filled, contaminant, company name, contact person, and telephone number.

See APPENDIX E for field RECORDS OF WELL DEVELOPMENT.

#### 4.7 Groundwater Sampling Procedure

The monitoring wells were sampled on September 6, 2000. Prior to sampling, depth to stabilized water was measured in each well and recorded as discussed above under **4.6 Well Development Procedure**.

Each well was purged a minimum of about 3 wetted well volumes with a dedicated polyethylene bailer. Temperature, pH, and electrical conductivity were monitored and purging continued until they were stabilized. Nine gallons of groundwater were purged from each well. After purging was completed, water samples were collected in dedicated polyethylene bailers and decanted into laboratory provided, sterilized glass vials having Teflon-lined screw caps. The vials were immediately sealed and labeled to include: date, time, sample location, project number, and sampler name. The samples were immediately stored in an iced-cooler for transport to Department of Health Services certified McCampbell Analytical Inc. laboratory, located in Pacheco, California, accompanied by chain-of-custody documentation.

As a test for cross-contamination during sampling and analytical activities, a trip blank sample was handled as above and included for chemical analyses.

Purge water is stored on site in labeled 55-gallon drums.

See APPENDIX E for field RECORDS OF WATER SAMPLING.

#### 4.8 Groundwater Gradient

The groundwater gradient was evaluated by triangulation. The stabilized depth-to-water in the wells on September 6, 2000, when subtracted from their respective TOC's, provided the groundwater elevations relative to MSL. From this information, the groundwater flow direction and gradient was calculated. Groundwater flow direction was north-northwesterly with a gradient of 0.0038 ft/ft (Figure 2).

NNE

The following table summarizes groundwater elevation and gradient data.

Well Name	TOC Elevation (ft. MSL)	Date	Depth to Groundwater (ft.)	Groundwater Elevation (ft. MSL)	Groundwater Flow Direction	Gradient
MW-1	33.14	9/6/00	5.71	27.43	NNW	0.0038
MW-2	32.53	9/6/00	5.185	27.345		
MW-3	32.78	9/6/00	5.61	27.17		

#### 4.9 Results of Soil and Groundwater Chemical Analyses

##### *Soil:*

The soil sample collected from the boring of well MW-3 at a depth of about five feet was analyzed for weight % moisture by ASTM E3173, bulk density (calculated), volume % porosity (calculated), and TOC. TOC was determined by Alpha Analytical Laboratories Inc. located in Ukiah, California.

Results were: weight % moisture = 22%; bulk density = 1.7 grams/cc; volume % porosity = 48% assuming the specific gravity of soil is 2.65 grams/cc; and TOC = 3355 mg/kg.

##### *Groundwater:*

The water samples and trip blank sample were analyzed for TPHG by GCFID EPA method 5030/modified 8015 and for BTEX and MTBE by EPA method 8020.

The following table summarizes results of chemical analyses.

**SUMMARY OF GROUNDWATER CHEMICAL ANALYSES  
(ppb)**

Well	Date	Depth to Water(ft)	TPHG	MTBE	Benzene	Toluene	Ethyl-benzene	Xylenes
MW-1	9/6/00	5.71	110,b	3300	<0.5	<0.5	<0.5	<0.5
MW-2	9/6/00	5.185	<50	<5.0	<0.5	<0.5	<0.5	<0.5
MW-3	9/6/00	5.61	<50	<5.0	<0.5	<0.5	<0.5	<0.5
Trip Blank	9/6/00	-----	<50	<5.0	<0.5	<0.5	<0.5	<0.5

b = The laboratory interprets the TPH chromatogram to indicate that heavier gasoline range compounds are significant (aged gasoline?).

See the certified analytical report and chain-of-custody in APPENDIX F for detailed analytical results and quality assurance and quality control documentation.

#### 5.0 SUMMARY AND COMMENTS

On August 28, 2000, three onsite groundwater monitoring wells were installed to investigate the limits of gasoline/MTBE groundwater contamination and direction of groundwater flow at the subject property (Figure 2). Results of groundwater chemical analyses from the wells detected gasoline/MTBE contamination only in well MW-1: TPHG and MTBE were detected at concentrations of 110 ppb and 3300 ppb, respectively. No benzene chemicals were detected.

NNE

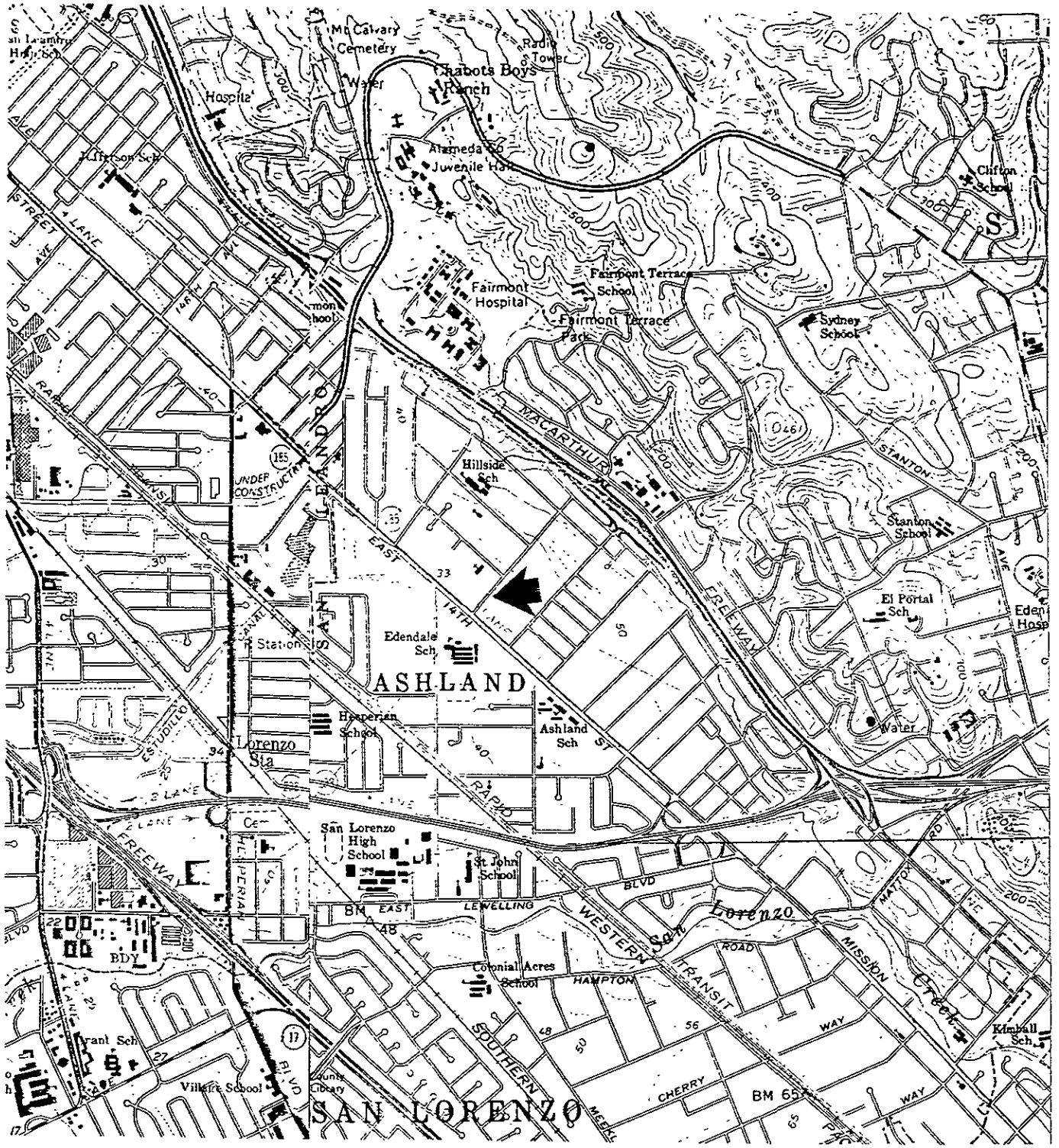
Direction of groundwater flow on 9/6/00 was north-northwesterly with a gradient of 0.0038 ft/ft.

## 6.0 LIMITATIONS

This report is based on results of drilling activities, observations of soil types, and laboratory analyses of groundwater samples. The results of drilling activities, observations of soil types, and chemical analyses are considered applicable to that horizontal and vertical location from which they were observed and/or collected. The conclusions contained herein are based on field observations, analytical data, and professional judgement which is in accordance with current standards of professional practice.

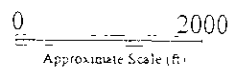
Representations made of soil and groundwater conditions between sample locations are extrapolations based on professional opinions and judgements and accepted industry practice. No warranty is expressed or implied. The extent of testing and data collection directly affects the statistical confidence level of all work performed. As a practical matter, to reach or even approach a 100 percent statistical level would be prohibitively expensive.

The findings and conclusions of this report are valid as of the present time; however, the passing of time could change the conditions of the subsurface due to natural processes or the influence of man. Accordingly, the findings of this report may be invalidated, wholly or partly, by changes beyond ALLCAL's control. Therefore, this report should not be relied upon after an extended period of time without being reviewed by a Civil Engineer or Registered Geologist.



**Legend**

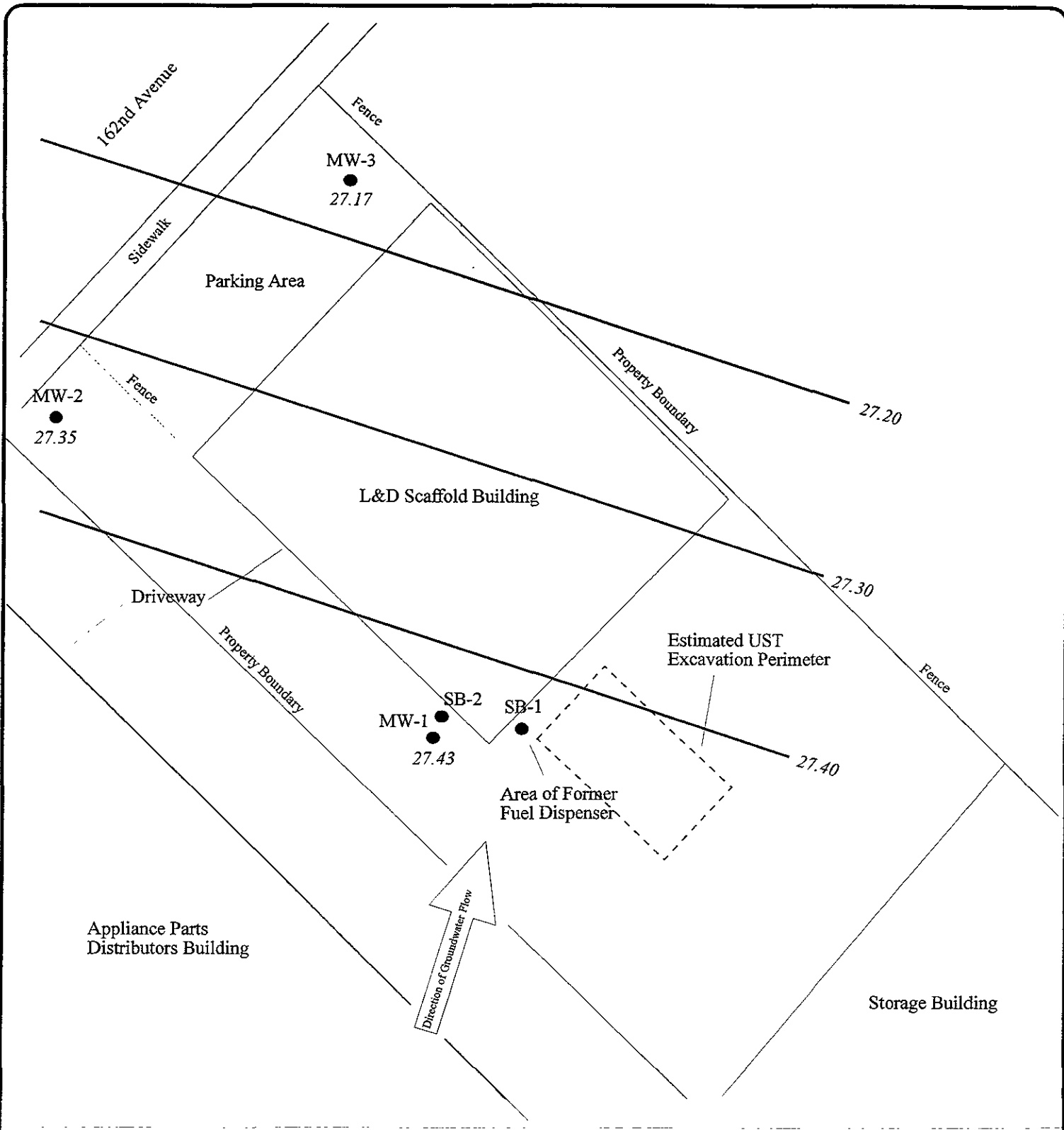
U S G S 7.5 Minute Series Topographic  
Map Hayward, California 1959,  
Photorevised 1980



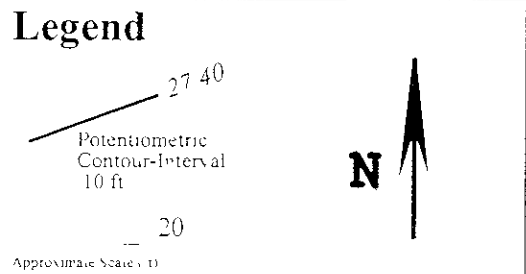
**ALLCAL ENVIRONMENTAL**

**FIGURE 1  
SITE LOCATION MAP**

L&D SCAFFOLD, INC  
1420 162nd AVENUE  
SAN LEANDRO, CA 94578



- SB-1  
● Name and Location of Soil Boring
- MW-1  
● Name and Location of Monitoring Well with Groundwater Elevation (MSL)  
27.43



**ALLCAL ENVIRONMENTAL**

**FIGURE 2**

GROUNDWATER GRADIENT MAP-9/6/00

L&D SCAFFOLD, INC  
1420 162nd AVENUE  
SAN LEANDRO, CA 94578

**APPENDIX A**

ALAMEDA COUNTY HEALTH CARE SERVICES LETTER



ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



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

StID 6645

July 26, 2000

Mr. Don Puckett  
P.O. Box 7237  
Clear Lake, CA 95422

Ms. Betty Puckett  
L&D Scaffold  
1420 162<sup>nd</sup> Avenue  
San Leandro, CA 94578

**RE: Work Plan Approval for 1420 162<sup>nd</sup> Avenue, San Leandro, CA**

Dear Mr. and Ms. Puckett:

I have completed review of AllCal Environmental's July 2000 *Groundwater Monitoring Well Installation Work Plan* prepared for the above referenced site. After my discussion with Mr. John Mrakovich, the well locations were modified slightly. The proposal to install three groundwater monitoring wells at the site is acceptable. Field work should commence within 90 days of the date of this letter, **or by October 30, 2000**. Please provide 72 hours notice prior to the start of field activities.

If you have any question, I can be reached at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

c: John Mrakovich, 27973 High Country Drive, Hayward, CA 94542-2530

## **APPENDIX B**

- ALAMEDA COUNTY PUBLIC WORKS AGENCY DRILLING PERMIT
- STATE OF CALIFORNIA WELL COMPLETION REPORTS

FROM : ALLCAL

PHONE NO. : 5105818490

Jul. 31 2000 02:52PM P1  
P. 03/03

JUN-13-00 TUE 02:03 PM ALAMEDA COUNTY PWA RM239 FAX NO. 5107821939



### ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCE SECTION  
399 ELMHURST ST. HAYWARD CA. 94544-2339  
PHONE (510) 870-8554  
FAX (510) 782-1939

#### DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT LED SCAFFOLD, INC.  
1426 162nd AVE.  
SAN LEANDRO, CA 94578

FOR OFFICE USE

PERMIT NUMBER W00-469  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

CLIENT  
Name AS ABOVE  
Address \_\_\_\_\_ Phone \_\_\_\_\_  
City \_\_\_\_\_ Zip \_\_\_\_\_

PERMIT CONDITIONS  
Circled Permit Requirements Apply

APPLICANT  
Name ALLCAL ENVIRONMENTAL  
Address 27475 HIGHWAY 25 Fax 510 881 0500  
City HAYWARD, CA Phone 510 213 1100  
Zip 94552

- 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
- 2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
- 3. Permit is void if project not begun within 90 days of approval date.

TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

- 2. WATER SUPPLY WELLS**
- Minimum surface seal thickness is two inches of cement grout placed by tremie.
  - Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

- 3. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
- Minimum surface seal thickness is two inches of cement grout placed by tremie.
  - Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input checked="" type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

**D. GEOTECHNICAL**  
Backfill bore hole by tremie with cement grout or equal ground mixture. Upper two-three feet replaced in kind or with completed casing.

DRILLER'S NAME PC EXPLORATION, INC.

**E. CATHODIC**  
Fill hole under seal with concrete placed by tremie.

DRILLER'S LICENSE NO. C57 26556

**F. WELL DESTRUCTION**  
See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

WELL PROJECTS

Drill Hole Diameter	<u>8</u> in.	Maximum Depth	<u>25</u> ft.
Casing Diameter	<u>2</u> in.	Owner's Well Number	<u>MW-1</u>
Surface Seal Depth	<u>12</u> ft.		<u>MW-2</u>
			<u>MW-3</u>

**G. SPECIAL CONDITIONS**

GEOTECHNICAL PROJECTS

Number of Borings	_____	Maximum Depth	_____ ft.
Hole Diameter	_____ in.		

NOTE: One application must be submitted for each well or well observation. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

ESTIMATED STARTING DATE 8/15/00  
ESTIMATED COMPLETION DATE 8/15/00

APPROVED \_\_\_\_\_ DATE 8-1-00

I hereby agree to comply with all requirements of the permit and Alameda County Ordinance No. 73-58

APPLICANT'S SIGNATURE John M. Prakovich DATE 7/31/00

PLEASE PRINT NAME JOHN M. PRAKOVICH Rev. 1-5-00

Monitoring Well #1

FROM : ALLCAL

PHONE NO. : 5125812498

JUL 31 2000 02:52PM P-  
P. 03/03

JUN-13-00 TUE 02:00 PM ALAMEDA COUNTY PWA RM239 FAX NO. 5107821939



**ALAMEDA COUNTY PUBLIC WORKS AGENCY**

**WATER RESOURCES SECTION**  
399 ELMHURST ST. HAYWARD, CA. 94544-1399  
PHONE (510) 470-8554  
FAX (510) 782-1939

**DRILLING PERMIT APPLICATION**

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT LED SCAFFOLD, INC  
1420 162ND AVE.  
SAN LEANRO, CA 94578

FOR OFFICE USE

PERMIT NUMBER W00-470  
WELL NUMBER \_\_\_\_\_  
APN \_\_\_\_\_

CLIENT  
Name AS ABOVE  
Address \_\_\_\_\_  
City \_\_\_\_\_ Phone \_\_\_\_\_  
Zip \_\_\_\_\_

APPLICANT  
Name ALLCAL ENVIRONMENTAL  
Address 27475 HIGH COUNTRY Fax 510 812 0240  
City HAYWARD, CA Phone 510 272 0  
Zip 94545

**TYPE OF PROJECT**

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Mechanizing	<input checked="" type="checkbox"/>	Well Destruction	<input type="checkbox"/>

**PROPOSED WATER SUPPLY WELL USE**

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other _____	<input type="checkbox"/>

**DRILLING METHOD:**

Mod Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input checked="" type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

DRILLER'S NAME PC EXPLORATION, INC.

DRILLER'S LICENSE NO. CS7 265556

**WELL PROJECTS**

Drill Hole Diameter 8 in. Maximum Depth 25 ft.  
Casing Diameter 6 in. Owner's Well Number MW-1  
Surface Seal Depth 12 ft. MW-2  
MW-3

**GEOTECHNICAL PROJECTS**

Number of Borings \_\_\_\_\_ Maximum Depth \_\_\_\_\_  
Hole Diameter \_\_\_\_\_ in.

ESTIMATED STARTING DATE 8/15/00  
ESTIMATED COMPLETION DATE 8/15/00

I hereby agree to comply with all requirements of the Alameda County Ordinance No. 23-88.

APPLICANT'S SIGNATURE John Mrazovich DATE 7/31/00

PLEASE PRINT NAME JOHN MRAZOVICH Ref 6-540

**PERMIT CONDITIONS**

Circled Permit Requirements Apply

**A. GENERAL**

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted activity: Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

**B. WATER SUPPLY WELLS**

1. Minimum surface seal thickness is 4 1/2 inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

**C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth piezocable or 20 feet.

**D. GEOTECHNICAL**

Backfill bore hole by tremie with cement grout or cement grout and mixture. Upper two-thirds feet placed in hand or with compacted fillings.

**E. CATHODIC**

Pit hole shade zone with concrete placed by tremie.

**F. WELL DESTRUCTION**

See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

**G. SPECIAL CONDITIONS**

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED \_\_\_\_\_

DATE 8-1-00

Monitoring Well #2

FROM : ALLCAL

PHONE NO. : 5105818490

Jul. 31 2000 02:52PM P1

JUN-13-00 TUE 02:03 PM

ALAMEDA COUNTY PWA RM239

FAX NO. 5107821939

P. 03/03



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION  
 399 ELMHURST ST. MAYWARD CA. 94544-1393  
 PHONE (510) 570-5554  
 FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT L&D SCAFFOLD, INC.  
1420 162ND AVE.  
SAN LEANARD, CA 94578

PERMIT NUMBER W00-471  
 WELL NUMBER \_\_\_\_\_  
 APN \_\_\_\_\_

CLIENT  
 Name AS ABOVE  
 Address \_\_\_\_\_ Phone \_\_\_\_\_  
 City \_\_\_\_\_ Zip \_\_\_\_\_

APPLICANT  
 Name ALLCAL ENVIRONMENTAL  
 Address 279 TAYLOR AVENUE Fax 510 581 8490  
 City MAYWARD, CA Phone 581 2320  
 Zip 94554

TYPE OF PROJECT  
 Well Construction  Geotechnical Investigation   
 Cathodic Protection  General   
 Water Supply  Contamination   
 Monitoring  Well Destruction

PROPOSED WATER SUPPLY WELL USE  
 New Domestic  Replacement Domestic   
 Municipal  Irrigation   
 Industrial  Other \_\_\_\_\_

DRILLING METHOD:  
 Mud Rotary  Air Rotary  Auger   
 Cable  Other

DRILLER'S NAME PC EXPLORATION, INC

DRILLER'S LICENSE NO. C57 26556

WELL PROJECTS  
 Drill Hole Diameter 8 in. Maximum Depth 25 ft.  
 Casing Diameter 8 in. Owner's Well Number MW-1  
 Surface Seal Depth 72 ft. MW-2  
MW-3

GEOTECHNICAL PROJECTS  
 Number of Borings \_\_\_\_\_ Maximum Depth \_\_\_\_\_ ft.  
 Hole Diameter \_\_\_\_\_ in.

ESTIMATED STARTING DATE 8/15/00  
 ESTIMATED COMPLETION DATE 8/15/00

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-58

APPLICANT'S SIGNATURE John Mrazovich DATE 7/31/00

PLEASE PRINT NAME JOHN MRAZOVICH Rev 6-5-00

PERMIT CONDITIONS  
 Cited Permit Requirements Apply

A. GENERAL

1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 30 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS

1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL

Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted earthen.

E. CATHODIC

Fill hole grade sent with concrete placed by tremie.

F. WELL DESTRUCTION

See attached requirements for destruction of shallow wells. Send a map of work site. A different permit application is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well of well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED \_\_\_\_\_

DATE 8-7-00

*[Signature]*  
 Monitoring Well #3

**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**



**APPENDIX C**

EXPLORATORY BORING LOGS AND WELL CONSTRUCTION DETAILS

# EXPLORATORY BORING LOG/ WELL CONSTRUCTION DETAIL

Project Number: 147  
 Project Name: 1420 162nd AVENUE  
 SAN LEANDRO, CALIFORNIA

Boring Number: MW-1  
 Page Number: 1 OF 1

By: ALLCAL ENVIRONMENTAL      Date: 8/28/00      Top of Casing Elevation: 33.14

RECOVERY (ft./ft.)	VAPORS (ppm)	PENETRATION (blows/ft.)	GROUND- WATER LEVEL	DEPTH (ft.)	SAMPLES	SOIL TYPE	DESCRIPTION	WELL DETAIL
				0		SC	0 - .33 ft. Asphalt	Use PC R
				.33		CL	.33 - 2.0 ft. CLAYEY SAND (SC): red-brown, fine to medium-grained, damp, no odor.	
				2.0		CL	2.0 - 4.0 ft. CLAY (CL): dark grey to black, sandy, soft to firm, damp, no odor.	Portland Cement
1.5/1.5		4		4.0		CL	4.0 - 8.0 ft. CLAY (CL): blue-grey, sandy, soft to firm, damp, no odor.	Ben- tonite
			▼	8.0		SP/ML	8.0 - 9.5 ft. SAND/SILT (SP/ML): grey-green, fine-grained, loose, damp, no odor.	No. 2/12 Sand Pack .010-Slotted, 2-inch, O.D., PVC Screen With End Cap
1.5/1.5		2		9.5		SP	9.5 - 11.0 ft. SAND(SP): brown, fine to medium-grained, very loose, saturated, no odor.	
				11.0		CL	11.0 - 13.5 ft. CLAY (CL): mottled dark grey and black, medium firm, damp, no odor.	
1.5/1.5		8		13.5		CL	13.5 - 18.0 ft. CLAY (CL): light grey, trace of fine gravel, medium firm to stiff, damp, no odor.	
1.5/1.5		2		18.0		SC	18.0 - 24.9 ft. CLAYEY SAND (SC): brown, fine to medium-grained, very loose, saturated, no odor.	
1.5/1.5		3		24.9		CL	24.9 - 25.0 ft. CLAY (CL): mottled light brown and rust brown, medium firm, damp, no odor.	
							Total depth of boring is 25 feet.	
							Total depth of well is 24.7 feet.	
				30				
				35				

BORING DETAIL Drilled with continuous-flight, 8-inch O D, hollow-stem auger. Samples collected in a California split-spoon sampler.  
 2-inch O D diameter well constructed inside boring.

# EXPLORATORY BORING LOG/ WELL CONSTRUCTION DETAIL

Project Number: 147  
 Project Name: 1420 162nd AVENUE  
 SAN LEANDRO, CALIFORNIA

Boring Number: MW-2  
 Page Number: 1 OF 1

By: ALLCAL ENVIRONMENTAL Date: 8/28/00

Top of Casing Elevation: 32.53

RECOVERY (ft./ft.)	VAPORS (ppm)	PENETRATION (blows/ft.)	GROUND-WATER LEVEL	DEPTH (ft.)	SAMPLES	SOIL TYPE	DESCRIPTION	WELL DETAIL
						CL	0 - .33 ft. Asphalt	Vault Box
						CL	.33 - 2.0 ft. CLAY (CL): red-brown, sandy, soft to firm, damp, no odor.	
1.5/1.5		8		5		CL	2.0 - 8.0 ft. CLAY (CL): blue-grey, very sandy, firm to medium, damp, no odor.  @ 5 - 6.5 ft. grey-green.	Portland Cement 2 inch O.D. PVC Bent Casing With Locking Cap
1.5/1.5		12	▼	10		SC	8.0 - 10.0 ft. CLAYEY SAND (SC): brown, medium to fine-grained, moist, no odor.	
1.5/1.5		12		15		CL	10.0 - 13.5 ft. CLAY (CL): dark grey to black, stiff, damp, no odor. @ 12 - 14 ft., saturated zone, unknown lithology.	
				20		CL	13.5 - 18.5 ft. CLAY (CL): mottled grey and white, stiff, sandy, trace of gravel to .25 inch diameter, damp, no odor.	No. 2/12 Sand Pack 010-Slotmed, 2-inch, O.D., PVC Screen With End Cap
---		---		25		SC	18.5 - 26.0 ft. CLAYEY SAND (SC): light brown, fine to medium-grained, loose, interlayered with above clay, gravelly seams, saturated, no odor.	
				30			Total depth of boring is 26 feet.  Total depth of well is 24 feet.	
				35				

BORING DETAIL. Drilled with continuous-flight, 8-inch O D hollow-stem auger. Samples collected in a California split-spoon sampler.  
  
2-inch O D diameter well constructed inside boring

# EXPLORATORY BORING LOG/ WELL CONSTRUCTION DETAIL

Project Number: 147  
 Project Name: 1420 162nd AVENUE  
 SAN LEANDRO, CALIFORNIA

Boring Number: MW-3  
 Page Number: 1 OF 1

By: ALLCAL ENVIRONMENTAL

Date: 8/28/00

Top of Casing Elevation: 32.78

RECOVERY (ft./ft.)	VAPORS (ppm)	PENETRATION (blows/ft.)	GROUND-WATER LEVEL	DEPTH (ft.)	SAMPLES	SOIL TYPE	DESCRIPTION	WELL DETAIL
						SP	0 - .33 ft. Asphalt	Vault Box
							.33 - 2.0 ft. SAND (SP): red-brown, fine to medium-grained, damp, no odor.	Portland Cement
1.0/1.5		8		5		CL	2.0 - 12.0 ft. CLAY (CL): dark grey, sandy, stiff, damp, no odor. @ 5 - 6.5 ft., sandy layers.	2-inch O.D. PVC Blank Casing With Locking Cap
			▼	10			@ 12 ft., Saturated. Lithology unknown.	Ben-tonite
1.5/1.5		7		12.5		CL	12.0 - 14.5 ft. CLAY (CL): mottled dark and light grey, stiff, sandy, damp, no odor.	No. 2/12 Sand Pack 010-Slotted, 2-inch, O.D., PVC Screen With End Cap
1.5/1.5		8		15.5		CL	14.5 - 16.0 ft. CLAY (CL): dark grey to black, stiff, sandy, damp, no odor.	
				17.5		CL	16.0 - 18.5 ft. CLAY (CL): light grey, stiff, sandy, damp, no odor.	
1.5/1.5		4		20.5		CL	18.5 - 22.5 ft. CLAY (CL): brown, sandy, firm, damp, no odor.	
1.0/1.0		7		24.5		SP	22.5 - 24.5 ft. SAND (SP): brown, fine to medium-grained, saturated, no odor.	
				25.3		CL	24.5 - 25.0 ft. CLAY (CL): brown, firm, sandy, damp, no odor.	
							Total depth of boring and well is 25.3 feet.	
				30				
				35				

BORING DETAIL Drilled with continuous-flight 8-inch O.D. hollow-stem auger. Samples collected in a California split-spoon sampler.  
 2-inch O.D. diameter well constructed inside boring

**APPENDIX D**

GREENWOOD AND MOORE, INC. SURVEY MAP

# Greenwood & Moore, Inc.

19131 REDWOOD ROAD, CASTRO VALLEY, CA 94546

OFFICE: 510-581-2772 FAX: 510-581-6913

PROJECT: ALL-CAL PROP. SERV.  
1420 162<sup>ND</sup> AVENUE  
SAN LEANDRO, CA.

JOB NO.  
00116

BY:  
G. Glenn

DATE:  
9/9/00

SHEET  
1 OF 1

REVISED:

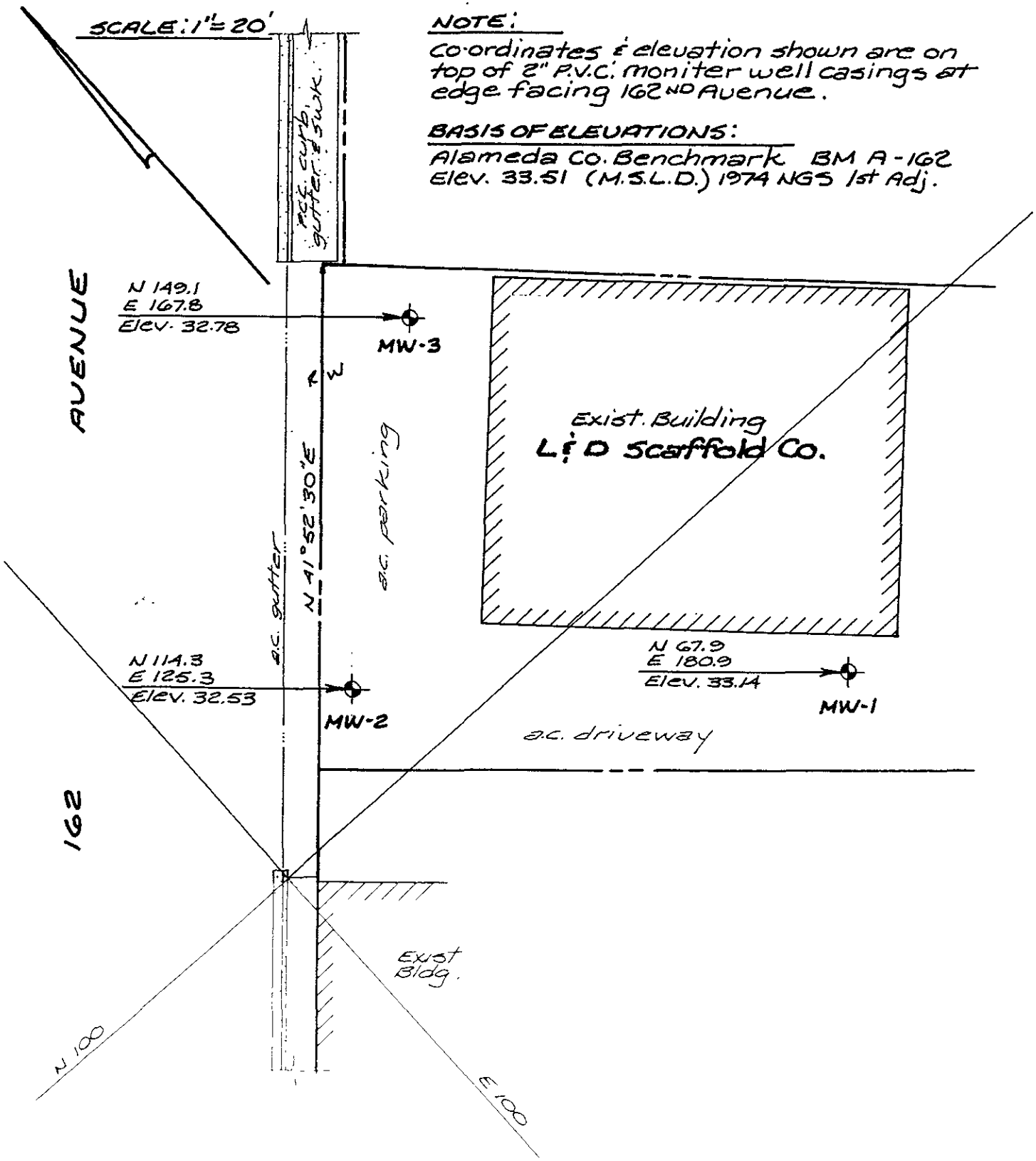
SCALE: 1" = 20'

**NOTE:**

Coordinates & elevation shown are on top of 2" P.V.C. monitor well casings at edge facing 162<sup>ND</sup> AVENUE.

**BASIS OF ELEVATIONS:**

Alameda Co. Benchmark BM A-162  
Elev. 33.51 (M.S.L.D.) 1974 NGS 1st Adj.



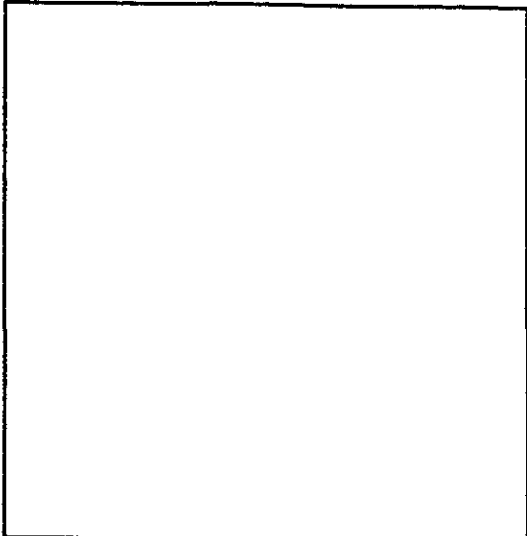
## **APPENDIX E**

- RECORDS OF WELL DEVELOPMENT
- RECORDS OF WATER SAMPLING

**RECORD OF WELL DEVELOPMENT**

PROJECT NO.: 147      DATE: 8/31/00  
 PROJECT NAME: LED SCAFFOLD, INC.  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE.  
 DEVELOPER: ALLCAL ENVIRON  
 WELL DEPTH (from construction detail): 25'  
 WELL DEPTH (measured): 24.7<sup>BS</sup>      SOFT BOTTOM?: Y  
 DEPTH TO WATER: 5.71 TOC      TIME: 945  
 PRESSURE (circle one):    YES OR **(NO)**  
 IF YES, WAS PRESSURE (circle one):    POSITIVE OR NEGATIVE?

WELL NO.: MW-1  
 WELL DIAMETER: 2"  
 TOC ELEV.: \_\_\_\_\_  
 LOCK NO.: DOLPHIN



LOCATION MAP

WATER VOLUME IN WELL: 3G  
 [2-INCH CASING = 0.16 GAL/FT]      [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT]      [1 GAL = 3.78L]

DEVELOPMENT METHOD: PVC BAILER & DEVELOPMENT PUMP

FLOATING PRODUCT PRESENT:      YES       NO   
 SHEEN PRESENT:                      YES       NO   
 ODOR PRESENT:                        YES       NO

**FIELD MEASUREMENTS**

Time	Depth to Water (FT)	Vol (Gal)	Clarity (NTU'S)	Remarks
1230		10		VERY TURBID - BROWN
1240		15		" " "
1300		40		VERY CLOUDY
1330		55		CLOUDY

TOTAL VOLUME DEVELOPED (GAL): 55 (L): \_\_\_\_\_      WATER VOL. IN DRUM: \_\_\_\_\_  
 SIGNATURE: J. M. [Signature]      NEED NEW DRUM?: \_\_\_\_\_



**RECORD OF WELL DEVELOPMENT**

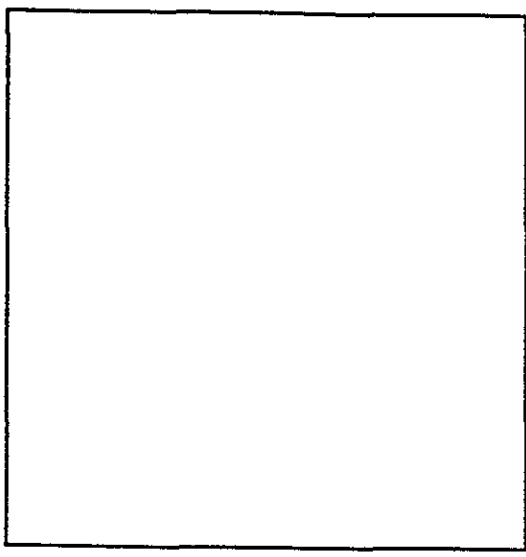
PROJECT NO.: 147 DATE: 8/31/00  
 PROJECT NAME: LED SCAFFOLD, INC.  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE  
 DEVELOPER: ALLIANCE ENVIRON.

WELL NO.: MW-2  
 WELL DIAMETER: 2"  
 TOC ELEV.: \_\_\_\_\_  
 LOCK NO.: DOLPHIN

WELL DEPTH (from construction detail): 24'  
 WELL DEPTH (measured): 24 BG SOFT BOTTOM?: X  
 DEPTH TO WATER: 5.185 TOC TIME: 9:40

PRESSURE (circle one): YES OR **(NO)**  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 3 GAL  
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]



LOCATION MAP

DEVELOPMENT METHOD: PVC BAKER & DEVELOPMENT PUMP

FLOATING PRODUCT PRESENT: YES  NO   
 SHEEN PRESENT: YES  NO   
 ODOR PRESENT: YES  NO

**FIELD MEASUREMENTS**

Time	Depth to Water (FT)	Vol (Gal)	Clarity (NTU'S)	Remarks
1120		10		VERY TURBID - BROWN
1137		20		" " "
1200		45		" " "
1215		55		VERY CLOUDY

TOTAL VOLUME DEVELOPED (GAL): 55 (L): \_\_\_\_\_

WATER VOL. IN DRUM: \_\_\_\_\_

SIGNATURE: J. Marshall

NEED NEW DRUM?: \_\_\_\_\_

# RECORD OF WELL DEVELOPMENT

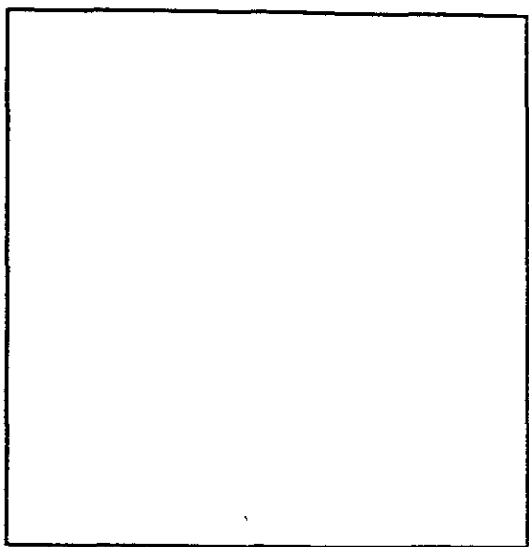
PROJECT NO.: 147 DATE: 8/31/00  
 PROJECT NAME: L&D SCAFFOLD, INC  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE  
 DEVELOPER: ALLCAL ENVIRON.

WELL NO.: MW-3  
 WELL DIAMETER: 2"  
 TOC ELEV: \_\_\_\_\_  
 LOCK NO.: DOLPHIN

WELL DEPTH (from construction detail): 25  
 WELL DEPTH (measured): 25.3<sup>BS</sup> SOFT BOTTOM?: Y  
 DEPTH TO WATER: 5.61 TOC TIME: 9:35

PRESSURE (circle one?): (YES) OR NO  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 3.15 G  
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]



LOCATION MAP

DEVELOPMENT METHOD: PVC BAILER & DEVELOPMENT PUMP

FLOATING PRODUCT PRESENT: YES  NO   
 SHEEN PRESENT: YES  NO   
 ODOR PRESENT: YES  NO

### FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (Gal)	Clarity (NTU'S)	Remarks
1010		10		VERY TURBID - BROWN
1025		25		" " "
1045		50		CLOUDY
1100		55		"

TOTAL VOLUME DEVELOPED (GAL): 55 (L): \_\_\_\_\_ WATER VOL. IN DRUM: \_\_\_\_\_  
 SIGNATURE: J. Mrakovic NEED NEW DRUM?: \_\_\_\_\_

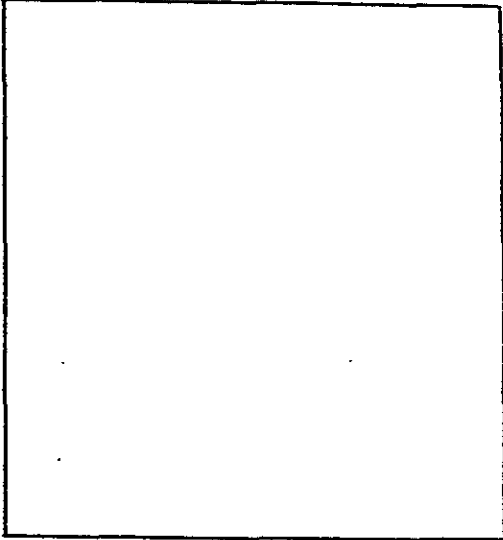
# RECORD OF WATER SAMPLING

PROJECT NO.: 147 DATE: 9/6/00  
 PROJECT NAME: L & D SCARFOLD, INC.  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE  
 SAMPLER: ALLCAL ENVIRON  
 ANALYSES: TRHG, BTEX, MTBE

WELL NO.: MW-1  
 WELL DIAMETER: 2"  
 TOC ELEV: \_\_\_\_\_  
 LOCK NO.: \_\_\_\_\_

WELL DEPTH (from construction detail): \_\_\_\_\_  
 WELL DEPTH (measured): 24.26<sup>TOC</sup> SOFT BOTTOM?: YES  
 DEPTH TO WATER: 5.68<sup>TOC</sup> TIME: 919  
 PRESSURE (circle one): YES OR  NO  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 3.0  
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 9.0 (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 9.0 (L): \_\_\_\_\_  
 PURGE METHOD: DISPOSABLE BAILER SAMPLE METHOD: DISPOSABLE BAILER

## FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (GAL)	Temp (Deg. F)	pH	EC (x1000)	Clarity	Turbidity (NTU)	Remarks
1137		2	72.1	7.98	1.17			TURBID-BROWN, NO ODOR
1142		3	71.4	7.57	1.18			
1147		4	70.2	7.39	1.13			
1150		5	70.0	7.34	1.14			
1155		6	70.6	7.28	1.17			
1200		7	70.6	7.25	1.14			
1205		8	70.5	7.22	1.14			
1208		9	70.6	7.20	1.19			V
1215	Sample							

SIGNATURE: J. M. [Signature]

WATER VOL. IN DRUM: \_\_\_\_\_  
 NEED NEW DRUM?: NO

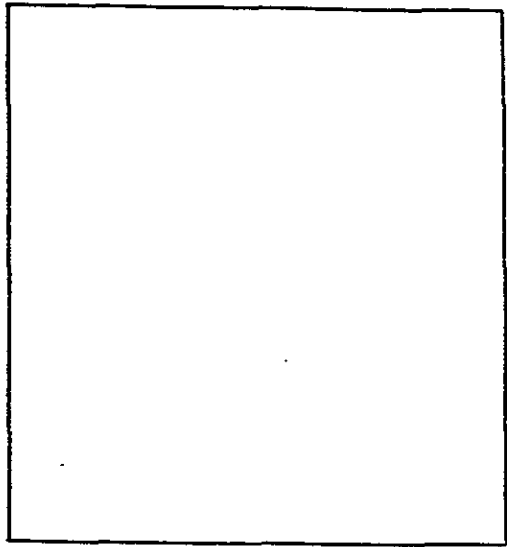
**RECORD OF WATER SAMPLING**

PROJECT NO.: 147 DATE: 9/6/00  
 PROJECT NAME: L&D SCAFFOLD, INC  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE  
 SAMPLER: ALLCAL ENVIRON  
 ANALYSES: TPHS, BTEX, MTBE

WELL NO.: MW-2  
 WELL DIAMETER: 2"  
 TOC ELEV: \_\_\_\_\_  
 LOCK NO.: \_\_\_\_\_

WELL DEPTH (from construction detail): \_\_\_\_\_  
 WELL DEPTH (measured): 23.785<sup>TOC</sup> SOFT BOTTOM?: NO  
 DEPTH TO WATER: 5.14<sup>TOC</sup> TIME: 9:12  
 PRESSURE (circle one): YES OR  NO  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 3.0 G  
 2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 9.0 (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 9.0 (L): \_\_\_\_\_  
 PURGE METHOD: DISPOSABLE BAILER SAMPLE METHOD: DISPOSABLE BAILER

**FIELD MEASUREMENTS**

Time	Depth to Water (FT)	Vol (G)	Temp (Deg. F)	pH	EC X1000	Clarity	Turbidity (NTU)	Remarks
1040		2	72.4	8.45	.95			TURBID-BROWN, NO ODOR
1044		3	70.7	8.10	.89			↓
1047		4	69.6	7.97	.92			
1053		5	69.2	7.81	.89			
1056		6	69.0	7.74	.90			
1101		7	69.0	7.68	.91			
1105		8	69.0	7.64	.89			
1110		9	69.0	7.58	.89			
1120	Sample							

SIGNATURE: J. Michael

WATER VOL. IN DRUM: \_\_\_\_\_  
 NEED NEW DRUM?: NO

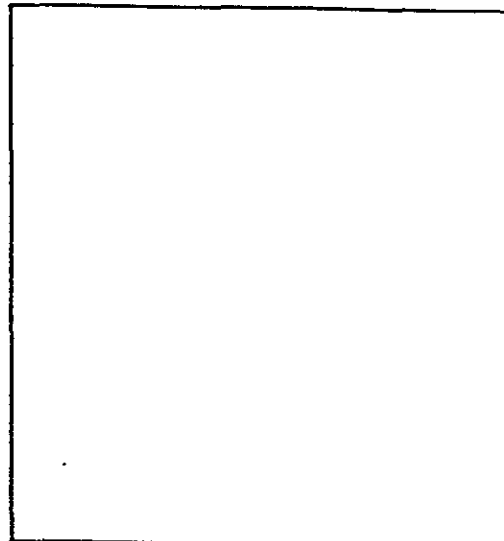
# RECORD OF WATER SAMPLING

PROJECT NO.: 147 DATE: 9/6/00  
 PROJECT NAME: LTD SCAFFOLD, INC.  
 PROJECT LOCATION: 1420 162<sup>ND</sup> AVE  
 SAMPLER: ALLCAL ENVIRON  
 ANALYSES: TPNS, BTEX, MTBE

WELL NO.: MW-3  
 WELL DIAMETER: 2'  
 TOC ELEV: \_\_\_\_\_  
 LOCK NO.: \_\_\_\_\_

WELL DEPTH (from construction detail): \_\_\_\_\_  
 WELL DEPTH (measured): 24.94<sup>TOC</sup> SOFT BOTTOM?: NO  
 DEPTH TO WATER: 5.51<sup>TOC</sup> TIME: 907  
 PRESSURE (circle one): YES OR (NO)  
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 3.1 G  
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]  
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 9.3 (L): \_\_\_\_\_ ACTUAL PURGE VOL. (GAL): 9.0 (L): \_\_\_\_\_  
 PURGE METHOD: DISPOSABLE BAILER SAMPLE METHOD: DISPOSABLE BAILER

## FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (G)	Temp (Deg. F)	pH	EC (x100)	Clarity	Turbidity (NTU)	Remarks
937		2	67.7	11.38	1.36			TURBID - BROWN, NO ODOR
941		3	67.1	10.24	1.02			↓
945		4	66.8	9.76	.97			
950		5	66.9	9.16	.96			
954		6	66.8	8.89	.96			
956		7	66.8	8.67	.94			
1000		8	66.8	8.50	.94			
1005		9	66.9	8.36	.94			
1015	Sample							

SIGNATURE: J. M. [Signature]

WATER VOL. IN DRUM: \_\_\_\_\_  
 NEED NEW DRUM?: NO

**APPENDIX F**

CERTIFIED ANALYTICAL REPORTS AND CHAINS-OF-CUSTODY



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

ALLCAL Environmental 27973 High Country Drive Hayward, CA 94542-2530	Client Project ID: #147; L&D Scaffold	Date Sampled: 09/06/00
		Date Received: 09/07/00
	Client Contact: John Mrakovich	Date Extracted: 09/07/00
	Client P.O:	Date Analyzed: 09/07/00

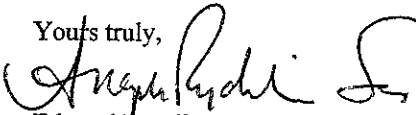
09/14/00

Dear John:

Enclosed are:

- 1). the results of 4 samples from your #147; L&D Scaffold project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,  
  
Edward Hamilton, Lab Director



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

ALLCAL Environmental 27973 High Country Drive Hayward, CA 94542-2530	Client Project ID: #147; L&D Scaffold	Date Sampled: 09/06/00
		Date Received: 09/07/00
	Client Contact: John Mrakovich	Date Extracted: 09/09-09/11/00
	Client P.O:	Date Analyzed: 09/09-09/11/00

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*, with Methyl tert-Butyl Ether\* & BTEX\***

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g) <sup>†</sup>	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	% Recovery Surrogate
46921	Trip Blank	W	ND	ND	ND	ND	ND	ND	103
46922	MW-1	W	110,b	3300	ND	ND	ND	ND	98
46923	MW-2	W	ND	ND	ND	ND	ND	ND	101
46924	MW-3	W	ND	ND	ND	ND	ND	ND	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit	W		50 ug/L	5.0	0.5	0.5	0.5	0.5	
	S		1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

\* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg and all TCLP and SPI P extracts in ug/L

† cluttered chromatogram, sample peak coelutes with surrogate peak

The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for the interpretation: a) unmodified or weakly modified gasoline is significant, b) heavier gasoline range compounds are significant (aged gasoline?), c) lighter gasoline range compounds (the most mobile fraction) are significant, d) gasoline range compounds having broad chromatographic peaks are significant, biologically altered gasoline?, e) TPH pattern that does not appear to be derived from gasoline (?), f) one to a few isolated peaks present, g) strongly aged gasoline or diesel range compounds are significant, h) lighter than water immiscible sheen is present, i) liquid sample that contains greater than ~5 vol. % sediment, j) no recognizable pattern

*Edward Hamilton* Edward Hamilton, Lab Director





McCAMPBELL ANALYTICAL INC.

110 2nd Ave. South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

### QC REPORT

Date: 09/08/00-09/09/00 Matrix: Water

Extraction: N/A

Compound	Concentration: ug/L			%Recovery		RPD
	Sample	MS	MSD	Amount Spiked	MS	

SampleID: 9800

Instrument: GC-3

Surrogate1	0.000	97.0	100.0	100.00	97	100	3.0
Xylenes	0.000	275.0	294.0	300.00	92	98	6.7
Ethyl Benzene	0.000	91.0	97.0	100.00	91	97	6.4
Toluene	0.000	94.0	101.0	100.00	94	101	7.2
Benzene	0.000	96.0	103.0	100.00	96	103	7.0
MTBE	0.000	101.0	102.0	100.00	101	102	1.0
GAS	0.000	828.2	853.0	1000.00	83	85	2.9

SampleID: 9700

Instrument: MB-1

Oil & Grease	0.000	19.6	19.4	20.00	98	97	1.0
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SampleID: 9600

Instrument: GC-2 A

Surrogate1	0.000	106.0	99.0	100.00	106	99	6.8
TPH (diesel)	0.000	286.0	247.0	300.00	95	82	14.6

( MS - MSD )  
 ( MS - MSD )  
 ( MS - MSD )  
 ( MS - MSD )  
 RPD means Relative Percent Deviation

21843 ZAC30

**McCAMBELL ANALYTICAL INC.**

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACIFICCO, CA 94553

Telephone (510) 798-1620

Fax: (510) 798-1622

**CHAIN OF CUSTODY RECORD**

TURN AROUND TIME

RUSH  24 HOUR  48 HOUR  5 DAY

Report To: JOHN MRAKOVICH Bill To: SANCO  
Company: ALLCAL ENVIRONMENTAL  
27973 HIGH COUNTRY DR.  
HAYWARD, CA 94542  
Tele (510) 5812320 Fax: (510) 5818490  
Project # 147 Project Name: LE'S SCAFFOLD  
Project Location: 1420 162<sup>ND</sup> AVE, SAN LEANDRO, CA  
Sampler Signature: J. Marakovich

Analysis Request

Other

Comments

SAMPL ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED				BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/742.1/239.2/6010)	RCI							
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other																						
IR210 BLANK	-	9/6/00	900	1	40 ML	X					X																									
MW-1	MW-1		1215	2							X																									46921
MW-2	MW-2		1120	2																															46922	
MW-3	MW-3		1015	2																															46923	
																																			46924	

Relinquished By: <u>J. Marakovich</u>	Date: <u>9/6/00</u>	Time: <u>1400</u>	Received By: <u>Bill Butts</u>
Relinquished By: <u>Bill Butts</u>	Date: <u>9/7</u>	Time: <u>13:24</u>	Received By: <u>Yen Cao</u> <u>9/7/00</u>
Relinquished By:	Date:	Time:	Received By:

Remarks: \_\_\_\_\_

ICE/NO  PRESERVATION APPROPRIATE CONTAINERS

GOOD CONDITION

HEAD SPACE ABSENT

VOAS  O&G  METALS  OTHER

L:YC



McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
Telephone : 925-798-1620 Fax : 925-798-1622  
<http://www.mccampbell.com> E-mail: [main@mccampbell.com](mailto:main@mccampbell.com)

ALLCAL Environmental 27973 High Country Drive Hayward, CA 94542-2530	Client Project ID: #147; L & D Scaffold	Date Sampled: 08/28/00
		Date Received: 08/29/00
	Client Contact: John Mrakovich	Date Extracted: 08/29/00
	Client P.O:	Date Analyzed: 08/29/00

09/05/00

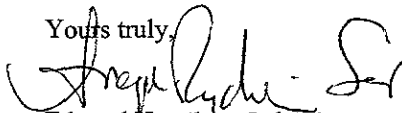
Dear John:

Enclosed are:

- 1). the results of 1 samples from your #147; L & D Scaffold project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,



Edward Hamilton, Lab Director





# Alpha

Alpha Analytical Laboratories Inc.

860 Waugh Lane, H-1, Ukiah, California 95482

e-mail: clientservices@alpha-labs.com • Phone: (707) 468-0401 • Fax: (707) 468-5267

## CHEMICAL EXAMINATION REPORT

Page 1 of 2

McC Campbell Analytical, Inc.  
110 2nd Ave. South, #D7  
Pacheco, CA 94553  
Attn: Ed Hamilton

Date Printed  
09/05/00  
Project No: 21721  
Project Id: ALLCAL ENV

Order Number	Receipt Date/Time	Client	Client P.O.	Send Via
A00083007	08/30/00 11:50AM	MCCLAB		MAIL

METHOD	EXTRACTED	TEST DATE	RESULT	UNITS	PQL
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Order A00083007 consisted of 1 Samples and 1 Tests.

Sample 1 MW3-5.0

Sample Type: Soil

Sampled By: Client

Sampled: 08/28/00

Total Organic Carbon	9060	09/05/00	3365	mg/kg	1
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PQL - Practical Quantitation Limit

ND - None Detected

Bruce L. Gove  
Laboratory Director

Date Printed: 09/05/00



Alpha

Alpha Analytical Laboratories Inc.

860 Waugh Lane, H-1, Ukiah, California 95482

e-mail: [clientservices@alpha-labs.com](mailto:clientservices@alpha-labs.com) • Phone: (707) 468-0401 • Fax: (707) 468-5267

Order Number: A00083007

September 05, 2000

Page 2 of 2

Sample Notes:

Bruce L. Gove  
Laboratory Director

Date Printed: 09/05/00

# McCAMPBELL ANALYTICAL INC.

110 2<sup>nd</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553-5560

Telephone: (925) 798-1620

Fax: (925) 798-1622

## CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH  24 HOUR  48 HOUR  5 DAY  ROUTINE

Report To: ELISA VENEGAS Bill To: MAI  
Project #: 21721 Project Name: ALLCAL ENV  
Project Location:

### ANALYSIS REQUEST

### OTHER

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX						METHOD PRESERVED			Asbestos	BOD	Sulfide	Cyanide	Chlorine Residual RL < 5 mg/L	Color (True Apparent)	DOC	TOC	Ammonia	TKN	Alkalinity	Turbidity	Nitrate	Fish Bioassay	Flouride	Coliform	Chloride	General Minerals	EPA	COMMENTS			
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other																							
MW 3-50		8/28		1	VOA	X						X									X																4648

Relinquished By: <u>[Signature]</u>	Date: <u>8/29</u>	Time: <u>—</u>	Received By: <u>CA LOVERNIGHT</u>
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

21721 ZAC29 DOE

McCAMBELL ANALYTICAL INC.

110 2<sup>ND</sup> AVENUE SOUTH, #D7  
PACHECO, CA 94553

Telephone: (510) 798-1620

Fax: (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME

RUSH  24 HOUR  48 HOUR  5 DAY

Report To: JOHN MRAKOVICH Bill To: SAME  
Company: ALLCAL ENVIRONMENTAL  
27973 HIGH COUNTRY DRIVE  
HAYWARD, CA 94542  
Tele: (510) 5812320 Fax: (510) 5818490  
Project #: 147 Project Name: LEAD SCAFFOLD  
Project Location: 1420 162<sup>ND</sup> AVENUE, SAN LEANDRO, CA  
Sampler Signature: John Mrahovich

Analysis Request

Other

Comments

SAMPLE ID	LOCATION	SAMPLING		# Containers	Type Containers	MATRIX					METHOD PRESERVED										
		Date	Time			Water	Soil	Air	Sludge	Other	Ice	HCl	HNO <sub>3</sub>	Other							
MW-3-5.0	MW-3	8/29/00	1150	2	GRAS SLURRY	X					X										

BTEX & TPH as Gas (602/8020 + 8015) MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/739.2/6010)	RCI	BULK DENSITY, POROSITY	% MOISTURE	TOC
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46148

Relinquished By: <u>John Mrahovich</u>	Date: <u>8/29/00</u>	Time: <u>1100</u>	Received By: <u>ME Jy UVA 234</u>
Relinquished By: <u>ME Jy</u>	Date: <u>8/29/00</u>	Time: <u>1315</u>	Received By: <u>UVA UVA</u>
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/GOOD HEAD SPACE PRESERVATION APPROPRIATE CONTAINERS

VOAS/O&G/METALS/OTHER

TS:SV