

*Reviewed 8/95 O'Keefe,  
see letter dated 8/15/95*

ENVIRONMENTAL  
SEP 11 1995  
AM 8:59

# Ultramar

Ultramar, Inc.  
P.O. Box 466  
525 W. Third Street  
Hanford, CA 93232-0466  
(209) 582-0241

Telecopy: 209-585-5685 Credit  
209-583-3330 Administrative  
209-583-3302 Information Services  
209-583-3358 Accounting

July 14, 1995

Ms. Juliet Shin  
Hazardous Materials Program  
Department of Environmental Health  
Alameda County Health Care Services  
80 Swan Way, Room 200  
Oakland, CA 94612

**SUBJECT: BEACON STATION NO. 721, 44 LEWELLING BLVD., SAN LORENZO,  
CALIFORNIA**

Dear Ms. Shin:

Enclosed is a copy of the workplan for the installation of air sparging wells at the above-referenced Ultramar facility.

Please call if you have any questions regarding this project.

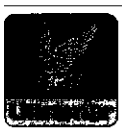
Sincerely,

**ULTRAMAR INC.**

*Terrence A. Fox*  
Terrence A. Fox  
Senior Project Manager  
Marketing Environmental Department

Enclosures

cc w/encl: Mr. Steven Ritchie, San Francisco Bay Region, RWQCB



A Member of the Ultramar Group of Companies

**BEACON**  
#1 Quality and Service



ENVIRONMENTAL  
RECORDS  
3 AUG - 1 10 09

3164 Gold Camp Drive  
Suite 200  
Rancho Cordova, CA 95670  
916/638-2085  
FAX: 916/638-8385

July 11, 1995

Mr. Terrence A. Fox  
Ultramar Inc.  
525 West Third Street  
Hanford, California 93230

Subject: *Work Plan for Air Sparging Well Installation*  
Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California  
Delta Project No. D093-936

Dear Mr. Fox:

Delta Environmental Consultants, Inc. (Delta), has been authorized by Ultramar Inc. (Ultramar) to install an air sparging well to be utilized for remedial testing at Beacon Station No. 721, located at 44 Lewelling Boulevard, San Lorenzo, Alameda County, California. If feasible, an air sparging system will assist the existing soil vapor extraction and ground water treatment system in remediation of petroleum hydrocarbon constituents in soil and ground water underlying the site. The location of the site is shown in Figure 1 and a site map is included as Figure 2.

### Project Background

Previous work performed at the site has included the installation of three monitoring wells MW-1, MW-2, and MW-3 by Applied GeoSystem (AGS) in May 1987. DuPont Environmental Services (DuPont) installed six additional monitoring wells and one soil boring (MW-4 through MW-9, and B-1) in December 1988 through September 1989. Quarterly ground water monitoring and sampling was performed at the site by both AGS and Dupont from May 1987 to December 1990.

In October 1991, RESNA Industries (RESNA) installed two off-site monitoring wells (MW-10 and MW-11) and one 6-inch recovery well (RW-1) on-site. RESNA conducted quarterly ground water monitoring and sampling at the site, prior to February 18, 1992.

In February 1993, Delta installed a soil vapor extraction and ground water treatment system utilizing a four stage air stripper and catalytic oxidizer on-site. Delta has performed operation and maintenance of the ground water treatment system at the site since April 1993. Treated ground water is discharged to the Oro Loma Sanitary District sanitary sewer.

Historically, ground water elevations have ranged from 13.37 to 22.18 feet below the tops of the well casings at the site. Cumulative ground water elevations are included in Table 1 and the first quarter 1995 ground water contour map is included as Figure 3.

Mr. Terrence A. Fox  
Ultramar Inc.  
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Page 2

### Scope of Work

Delta proposes to install three air sparging wells (AS-1 through AS-3) to depths of 27 feet below surface grade (bsg). The three soil borings will be drilled by a licensed drilling contractor using a continuous flight hollow-stem augers. Soil samples will be collected at 5-foot intervals and obvious changes in lithology, geologically logged, and retained for possible chemical analyses. Locations of proposed air sparging well locations AS-1 through AS-3 are shown in Figure 2. A minimum of two soil samples from each boring will be submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes, and total petroleum hydrocarbons as gasoline using EPA Methods 8020 and 8015 Modified, respectively. The methods proposed to drill and sample the soil borings are presented in Enclosure A.

After drilling and sampling the soil borings, the boring will be completed as air sparging wells. The wells will be constructed of 1-inch diameter, flush threaded, Schedule 40 PVC casing. The screen interval will consist of a sparge point, screened from 27 feet to 24.5 feet bsg. The annular space will be filled with Lonestar No. 3 sand to approximately 1-foot above the top of the screen interval. A 1-foot thick bentonite annular seal will be placed above the filter pack, and the remaining annular space will be filled with a cement containing 5 percent bentonite. The proposed well construction details are presented in Enclosure B.

Following installation, the sparge wells will be developed in accordance to procedures described in Enclosure A. Ground water samples will not be collected for laboratory analysis.

### Remarks/Signatures

The recommendations contained in this report represent our professional opinions, and are based in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

Delta recommends that a copy of this letter be forwarded to:

Ms. Juliet Shin  
Alameda County Environmental  
Health Department  
470 27th Street, Room 322  
Oakland, California 94612

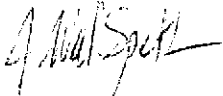
Mr. Steven Ritchie  
California Regional Water Quality Control  
Board, Region 2  
2101 Webster Street  
Oakland, California 94612

Mr. Terrence A. Fox  
Ultramar Inc.  
July 11, 1995  
Page 3

If you have any questions regarding this project, please call Todd Galati at (916) 638-2085.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



J. William Speth  
Staff Scientist



Todd M. Galati  
Project Manager



Eric J. Holm, R.G.  
California Registered Geologist No. 5880

JWS (LRP504.SJS)  
Enclosures

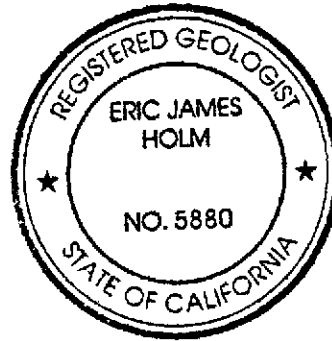


TABLE 1

## GROUND WATER ELEVATIONS

Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)*</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
MW-1	02/18/92	43.67	16.42	27.25	
	05/14/92		17.28	26.39	
	08/27/92		19.48	24.19	
	11/19/92		20.57	23.10	
	02/03/93		15.91	27.76	
	06/23/93		16.21	27.46	No free product or sheen
	09/22/93		17.85	25.82	No free product or sheen
	01/24/94		17.91	25.76	
	04/07/94		16.94	26.73	No free product or sheen
	06/07/94		17.20	26.47	No free product or sheen
	09/28/94		18.73	24.94	No free product or sheen
	12/14/94		17.56	26.11	Product sheen
	03/15/95		14.92	28.75	Product sheen
MW-2	02/18/92	43.09	16.65	26.44	
	05/14/92		16.64	26.45	
	08/27/92		16.61	26.28	
	11/19/92		19.91	23.18	
	02/03/93		15.23	27.86	
	06/23/93		15.55	27.54	No free product or sheen
	09/22/93		17.22	25.87	No free product or sheen
	01/24/94		17.20	25.89	
	04/07/94		16.26	26.83	No free product or sheen
	06/07/94		16.46	26.63	No free product or sheen
	09/28/94		18.06	25.03	No free product or sheen
	12/14/94		16.86	26.23	No free product or sheen
	03/15/95		14.08	29.01	No free product or sheen
MW-3	02/18/92	43.10	16.89	26.21	
	05/14/92		16.60	26.50	
	08/27/92		18.96	24.14	
	11/18/92		20.38	23.01	
	02/03/93		15.43	27.67	
	06/23/93		15.67	27.43	Product sheen
	09/22/93		17.20	25.90	No free product or sheen
	01/24/94		17.35	25.75	
	04/07/94		14.48	28.62	No free product or sheen
	06/07/94		13.37	29.73	Product sheen
	09/28/94		18.05	25.05	No free product or sheen
	12/14/94		16.92	26.18	Product sheen
	03/15/95		14.22	28.88	Product sheen

TABLE 1-Continued

## GROUND WATER ELEVATIONS

Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)*</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
MW-4	02/18/92	44.66	18.51	26.15	
	05/14/92		18.22	26.44	
	08/27/92		20.47	24.19	
	11/19/92		21.58	23.08	
	02/03/93		16.98	27.68	
	06/23/93		17.23	27.43	No free product or sheen
	09/22/93		18.83	25.83	No free product or sheen
	01/24/94		18.86	25.80	
	04/07/94		17.90	26.76	No free product or sheen
	06/07/94		18.08	26.58	No free product or sheen
	09/28/94		19.70	24.96	No free product or sheen
	12/14/94		18.55	26.11	No free product or sheen
	03/15/95		16.14	28.52	No free product or sheen
MW-5	02/18/92	43.79	17.37	26.42	
	05/14/92		17.29	26.50	
	08/27/92		22.18	21.61	
	11/19/92		20.68	23.11	
	02/03/93		15.91	27.88	
	06/23/93		16.24	27.55	No free product or sheen
	09/22/93		17.93	25.86	No free product or sheen
	01/24/94		17.82	25.97	
	04/07/94		16.91	26.88	No free product or sheen
	06/07/94		17.10	26.69	No free product or sheen
	09/28/94		18.73	25.06	No free product or sheen
	12/14/94		17.53	26.26	No free product or sheen
	03/15/95		14.96	28.88	No free product or sheen
MW-6	02/18/92	42.47	15.87	26.60	
	05/14/92		16.04	26.43	
	08/27/92		18.17	24.30	
	11/19/92		19.30	23.17	
	02/03/93		14.60	27.87	
	06/23/93		15.00	27.47	No free product or sheen
	09/22/93		16.66	25.81	No free product or sheen
	01/24/94		16.52	25.95	
	04/07/94		15.70	26.77	No free product or sheen
	06/07/94		15.88	26.59	No free product or sheen
	09/28/94		17.51	24.96	No free product or sheen
	12/14/94		16.27	26.20	No free product or sheen
	03/15/95		13.52	28.95	No free product or sheen

TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721  
 44 Lewelling Boulevard  
 San Lorenzo, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)*</u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
MW-7	02/18/92	41.54	15.51	26.03	
	05/14/92		15.41	26.13	
	08/27/92		17.45	24.09	
	11/19/92		18.54	23.00	
	02/03/93		14.10	27.44	
	06/23/93		14.33	27.21	No free product or sheen
	09/22/93		15.92	25.62	No free product or sheen
	01/24/94		16.07	25.47	
	04/07/94		15.10	26.44	
	06/07/94		15.16	26.38	No free product or sheen
	09/28/94		16.82	24.72	No free product or sheen
	12/14/94		15.75	25.79	No free product or sheen
03/15/95	14.00	27.54	No free product or sheen		
MW-8	02/18/92	42.26	16.57	25.69	
	05/14/92		16.24	26.02	
	08/27/92		18.28	23.98	
	11/19/92		19.32	22.94	
	02/03/93		14.87	27.39	
	06/23/93		15.18	27.08	No free product or sheen
	09/22/93		18.79	23.47	No free product or sheen
	01/24/94		17.06	25.20	
	04/07/94		15.95	26.31	No free product or sheen
	06/07/94		15.10	27.16	No free product or sheen
	09/28/94		17.63	24.63	No free product or sheen
	12/14/94		16.66	25.60	No free product or sheen
03/15/95	14.30	27.96	No free product or sheen		
MW-9	02/18/92	44.94	18.87	26.07	
	05/14/92		18.55	26.39	
	08/27/92		20.80	24.14	
	11/19/92		21.90	23.04	
	02/03/93		17.25	27.69	
	06/23/93		17.61	27.33	No free product or sheen
	09/22/93		19.18	25.76	No free product or sheen
	01/24/94		19.17	25.77	
	04/07/94		18.23	26.71	No free product or sheen
	06/07/94		18.40	26.54	No free product or sheen
	09/28/94		20.01	24.93	No free product or sheen
	12/14/94		18.88	26.06	No free product or sheen
03/15/95	16.24	28.70	No free product or sheen		

TABLE 1-Continued

## GROUND WATER ELEVATIONS

Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)<sup>a</sup></u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
MW-10	02/18/92	42.34	16.63	25.71	
	05/14/92		15.25	27.09	
	08/27/92		18.35	23.99	
	11/19/92		19.43	22.91	
	02/03/93		15.01	27.33	
	06/23/93		15.30	27.04	No free product or sheen
	09/22/93		16.90	25.44	No free product or sheen
	01/24/94		NM <sup>b</sup>	NM	
	04/07/94		15.97	26.37	No free product or sheen
	06/07/94		16.04	26.30	No free product or sheen
	09/28/94		17.69	24.65	No free product or sheen
	12/14/94		16.65	25.69	No free product or sheen
	03/15/95		14.08	28.26	No free product or sheen
MW-11	02/18/92	45.00	17.00	28.00	
	05/14/92		19.02	25.98	
	08/27/92		21.13	23.87	
	11/19/92		17.91	27.09	
	02/03/93		17.91	27.09	
	06/23/93		18.14	26.86	No free product or sheen
	09/22/93		19.63	25.37	No free product or sheen
	01/24/94		19.79	25.21	
	04/07/94		18.78	26.22	No free product or sheen
	06/07/94		18.88	26.12	No free product or sheen
	09/28/94		20.45	24.55	No free product or sheen
	12/14/94		19.45	25.55	No free product or sheen
	03/15/95		17.32	27.68	No free product or sheen



TABLE 1-Continued

GROUND WATER ELEVATIONS

Beacon Station No. 721  
 44 Lewelling Boulevard  
 San Lorenzo, California

<u>Monitoring Well</u>	<u>Date</u>	<u>Top of Riser Elevation (ft)<sup>a</sup></u>	<u>Depth to Water (ft)</u>	<u>Ground Water Elevation (ft)</u>	<u>Physical Observation of Free Product or Sheen</u>
RW-1	05/14/92	43.17	16.88	26.29	
	08/27/92		19.05	24.12	
	11/19/92		21.11	22.07	
	02/03/92		15.48	27.69	
	06/23/93		28.25	14.92	No free product or sheen
	09/22/93		17.83	25.34	No free product or sheen
	01/24/94		24.00	19.17	
	04/07/94		16.05	27.12	No free product or sheen
	06/07/94		16.00	27.17	No free product or sheen
	09/28/94		18.35	24.82	No free product or sheen
	12/14/94		19.50	23.67	No free product or sheen
	03/15/95		17.00	26.17	No free product or sheen

<sup>a</sup> All top of riser elevations surveyed by Aegis Environmental, and are assumed relative to mean sea level.

<sup>b</sup> Not measured.

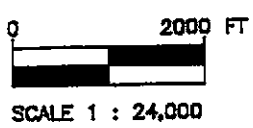
Note: Aegis Environmental, Inc., collected data prior to 06/23/93.



GENERAL NOTES:  
 BASE MAP FROM U.S.G.S.  
 HAYWARD, CA.  
 7.5 MINUTE TOPOGRAPHIC  
 PHOTOREVISED 1980



QUADRANGLE LOCATION



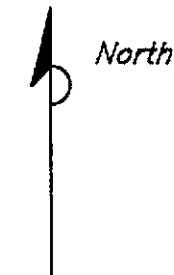
R.2 W.

FIGURE 1  
 SITE LOCATION MAP  
 BEACON STATION NO. 721  
 44 LEWELLING BOULEVARD  
 SAN LORENZO, CA.

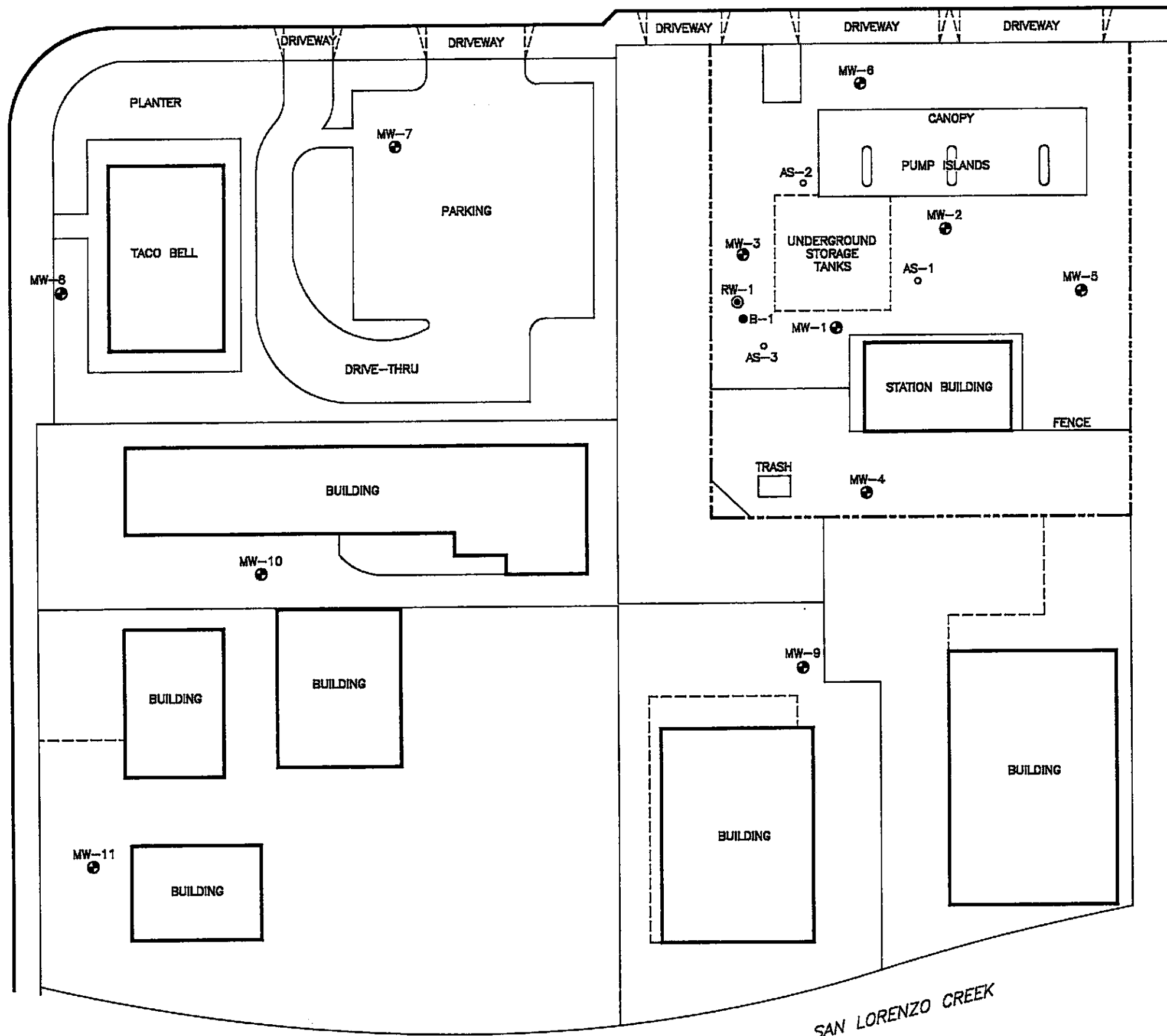
PROJECT NO. 40-93-936	DRAWN BY LH. 11/2/92
FILE NO.	PREPARED BY TMG
REVISION NO. 1	REVIEWED BY <i>[Signature]</i>

**Delta  
Environmental  
Consultants, Inc.**

LEWELLING BOULEVARD



VIA GRANADA



LEGEND:

- B-1 SOIL BORING LOCATION
- ⊙ RW-1 RECOVERY WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION
- AS-1 PROPOSED AIR SPARGING WELL LOCATION

NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE DATED 1/9/92  
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED



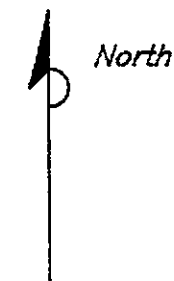
**FIGURE 2**  
**SITE VICINITY MAP**  
**BEACON STATION NO. 721**  
**44 LEWELLING BOULEVARD**  
**SAN LORENZO, CA.**

PROJECT NO. D083-838	DRAWN BY L.H. 4/10/98
FILE NO. 83-838-1	PREPARED BY JWS
REVISION NO. 2	REVIEWED BY <i>[Signature]</i>

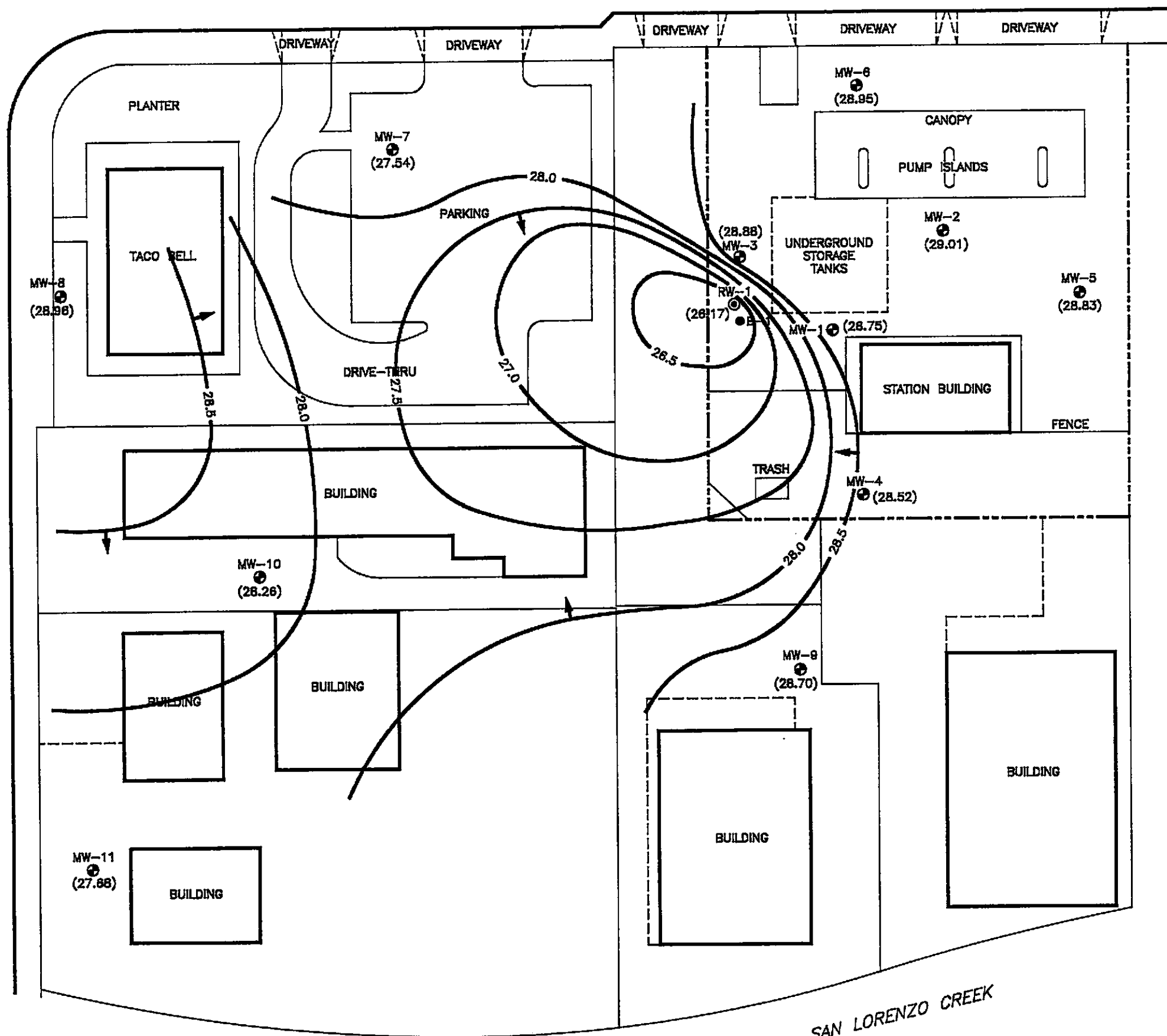
Delta  
Environmental  
Consultants, Inc.

SAN LORENZO CREEK

LEWELLING BOULEVARD



VIA GRANADA



LEGEND:

- B-1 SOIL BORING LOCATION
- ⊙ RW-1 RECOVERY WELL LOCATION
- ⊕ MW-1 MONITORING WELL LOCATION
- (28.75) GROUND WATER ELEVATION ASSUMED RELATIVE TO MEAN SEA LEVEL
- 27.5 — WATER TABLE CONTOUR ASSUMED RELATIVE TO MEAN SEA LEVEL
- ← GROUND WATER FLOW DIRECTION

NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE DATED 1/9/92  
SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED



FIGURE 3  
 WATER TABLE CONTOUR MAP - 3/15/95  
 BEACON STATION NO. 721  
 44 LEWELLING BOULEVARD  
 SAN LORENZO, CA.

PROJECT NO. D083-838	DRAWN BY LH. 4/27/85
FILE NO. 83-838-1	PREPARED BY WLB
REVISION NO. 2	REVIEWED BY <i>[Signature]</i>



SAN LORENZO CREEK

**ENCLOSURE A**

Field Methods and Procedures

## **FIELD PROCEDURES**

The following section describes field procedures that will be completed by Delta personnel in the performance of the tasks involved with this project.

### **1.0 HEALTH AND SAFETY PLAN**

Fieldwork performed by Delta and subcontractors at the site will be conducted according to guidelines established in a Site Health and Safety Plan (SHSP). The SHSP is a document describing the hazards that may be encountered in the field and specifies protective equipment, work procedures, and emergency information. A copy of the SHSP will be at the site and available for reference by appropriate parties during work at the site.

### **2.0 LOCATING UNDERGROUND UTILITIES**

Prior to commencement of work on site, the location of underground utilities will be researched with the assistance of Underground Service Alert (USA). USA will contact the owners of the various utilities in the vicinity of the site to have the utility owners mark the locations of their underground utilities. Work associated with the boring and monitoring well installation will be preceded by manual hand augering to a minimum depth of 5 feet below grade to avoid contact with underground utilities.

### **3.0 SOIL BORING AND SOIL SAMPLING PROTOCOL**

Soil borings and soil sampling will be performed under the supervision of a Delta geologist. The soil borings will be advanced using a truck-mounted hollow-stem auger drilling rig.

To reduce the chances of cross-contamination between boreholes, all downhole drilling equipment will be steam-cleaned between each boring. To reduce cross-contamination between samples, the split-barrel sampler will be washed in a soap solution and double-rinsed between each sampling event.

Soil sampling will be conducted in accordance with ASTM 1586-84. Using this procedure, a 2-inch diameter, split-barrel sampler (California-type sampler) lined with three 2-inch by 6-inch long brass sample tubes is driven into the soil at approximately 5-foot intervals by a 140-pound weight falling 30 inches. The number of blow counts required to advance the sample 18 inches will be recorded at each sample interval.

Upon recovery, a portion of the soil sample will be placed in a plastic bag and sealed for later screening with an hNu type organic vapor meter. Another portion of the soil sample will be used for classification and description. The lower-most sample will be sealed in the brass tube using teflon sheeting and tight fitting plastic caps and stored at approximately 4°C for transport to the laboratory. Each sample submitted for analysis will have a labeled affixed to identify the job number, sampler, date and time of sample collection, and a sample number unique to that sample. This information, in addition to a description of the sample, field measurements made, sampling methodology, names of on-site personnel, and any other pertinent field observations, will be recorded on the borehole log or in the field records. Samples will be analyzed by a California-certified laboratory.

A chain-of-custody form will be used to record possession of the sample from time of collection to its arrival at the laboratory. When the samples are shipped, the person in custody of them will relinquish the samples by signing the chain-of-custody form and noting the time. The sample-control officer at the laboratory will verify sample integrity and confirm that it was collected in the proper container, preserved correctly, and that there is an adequate volume for analysis.

If these conditions are met, the sample will be assigned a unique log number for identification throughout analysis and reporting. The log number will be recorded on the chain-of-custody form and in the legally-required log book maintained by the laboratory in the laboratory. The sample description, date received, client's name, and other relevant information will also be recorded. After the soil samples have been placed in plastic bags they will be allowed to warm, inducing volatilization of petroleum hydrocarbon vapors. The headspace vapors will be screened with the organic vapor meter. The highest observed reading will be recorded on the boring logs.

### **3.1 SOIL CUTTINGS**

Drill cuttings generated during the drilling of the soil borings will be placed on plastic sheeting onsite and covered with plastic sheeting. Four soil samples will be collected from the soil and composited into one by the analyzing laboratory for chemical analyses. Based on the analytical results, the soil will be properly remediated or disposed of.

#### **4.0 ANALYTICAL PROCEDURES**

Selected soil samples submitted to the laboratory will be analyzed for BTEX and TPH as gasoline using EPA Methods 8020 and 8015 Modified, respectively. A minimum of two soil samples will be analyzed from each boring. One of the soil samples will be collected from just above the top of the saturated zone. The second sample analyzed will be based on the highest positive field readings using the PID, soil type, or the presence of visual contamination.

#### **5.0 SPARGING WELL DEVELOPMENT**

After the sparge well has been installed, the well will be developed with a surge block and bailer (or pump) until the water produced is relatively sediment-free and until the conductivity, pH, and temperature stabilize. If the well is pumped dry during the development process, recharge rates will be recorded. No water or chemicals will be introduced into the sparging wells during well development. All developed water will run through the onsite remediation system.

#### **6.0 GROUND WATER DEPTH DETERMINATION**

Depth to ground water will be measured to the nearest 0.01 foot using an electronic hand held water level indicator. The tip of the probe will be examined to determine whether a product sheen is present.



**ENCLOSURE B**

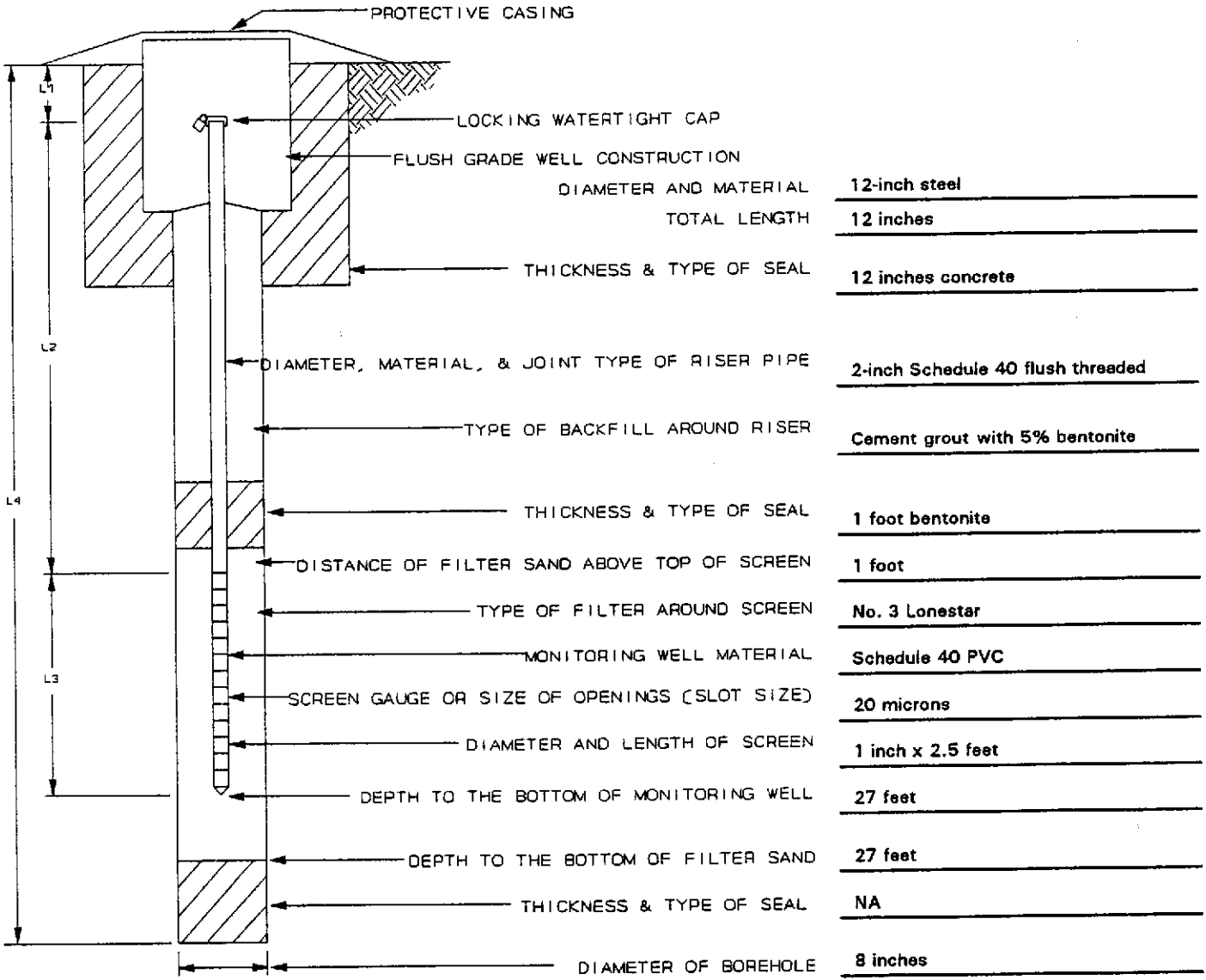
Proposed Construction Details

# PROPOSED AIR SPARGING CONSTRUCTION DETAILS

Project Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

Delta No. D093-936

Air Sparging No. AS-1



L1 = 0.5 FT  
 L2 = 24.0 FT  
 L3 = 2.5 FT  
 L4 = 27.0 FT

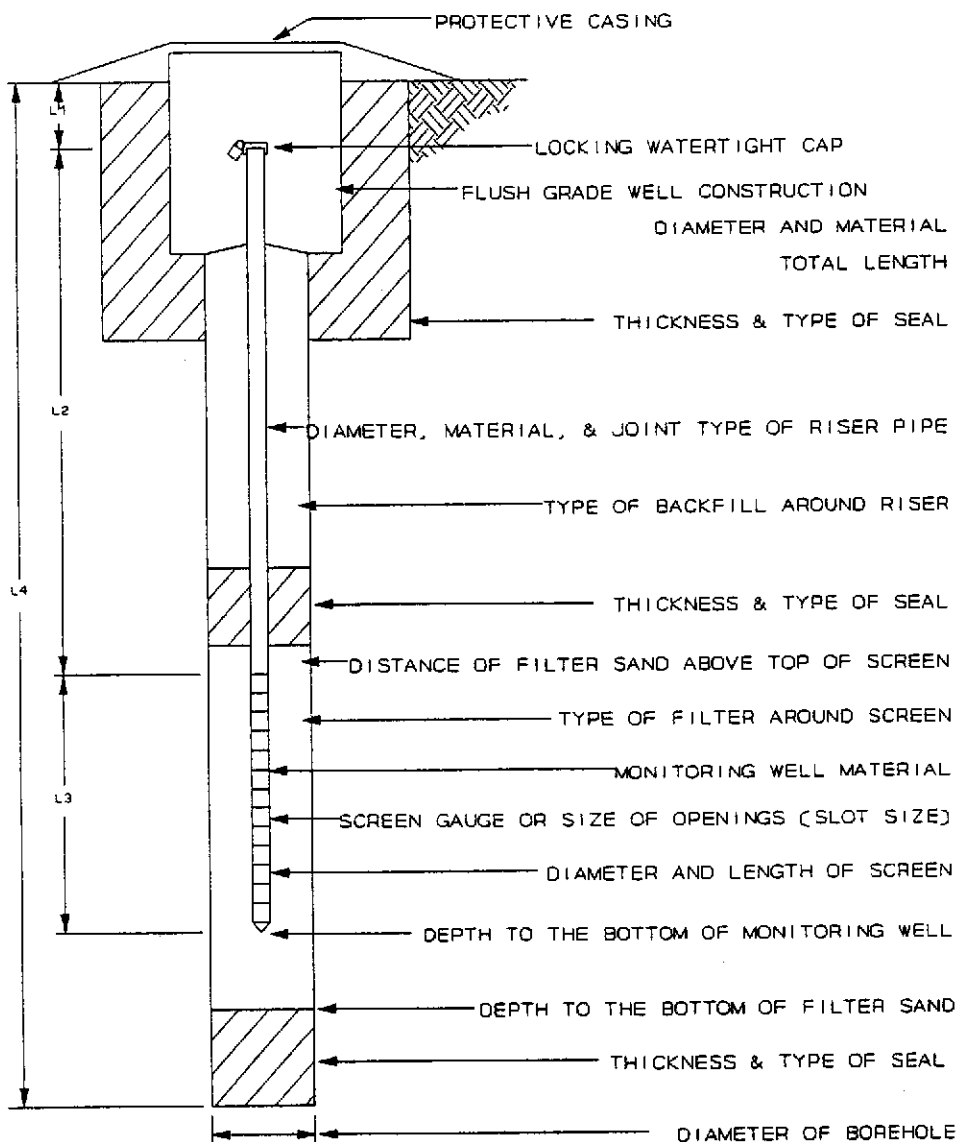


# PROPOSED AIR SPARGING CONSTRUCTION DETAILS

Project Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

Delta No. D093-936

Air Sparging No. AS-2



DIAMETER AND MATERIAL	<u>12-inch steel</u>
TOTAL LENGTH	<u>12 inches</u>
THICKNESS & TYPE OF SEAL	<u>12 inches concrete</u>
DIAMETER, MATERIAL, & JOINT TYPE OF RISER PIPE	<u>2-inch Schedule 40 flush threaded</u>
TYPE OF BACKFILL AROUND RISER	<u>Cement grout with 5% bentonite</u>
THICKNESS & TYPE OF SEAL	<u>1 foot bentonite</u>
DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN	<u>1 foot</u>
TYPE OF FILTER AROUND SCREEN	<u>No. 3 Lonestar</u>
MONITORING WELL MATERIAL	<u>Schedule 40 PVC</u>
SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE)	<u>20 microns</u>
DIAMETER AND LENGTH OF SCREEN	<u>1 inch x 2.5 feet</u>
DEPTH TO THE BOTTOM OF MONITORING WELL	<u>27 feet</u>
DEPTH TO THE BOTTOM OF FILTER SAND	<u>27 feet</u>
THICKNESS & TYPE OF SEAL	<u>NA</u>
DIAMETER OF BOREHOLE	<u>8 inches</u>

L1 = 0.5 FT  
 L2 = 24.0 FT  
 L3 = 2.5 FT  
 L4 = 27.0 FT

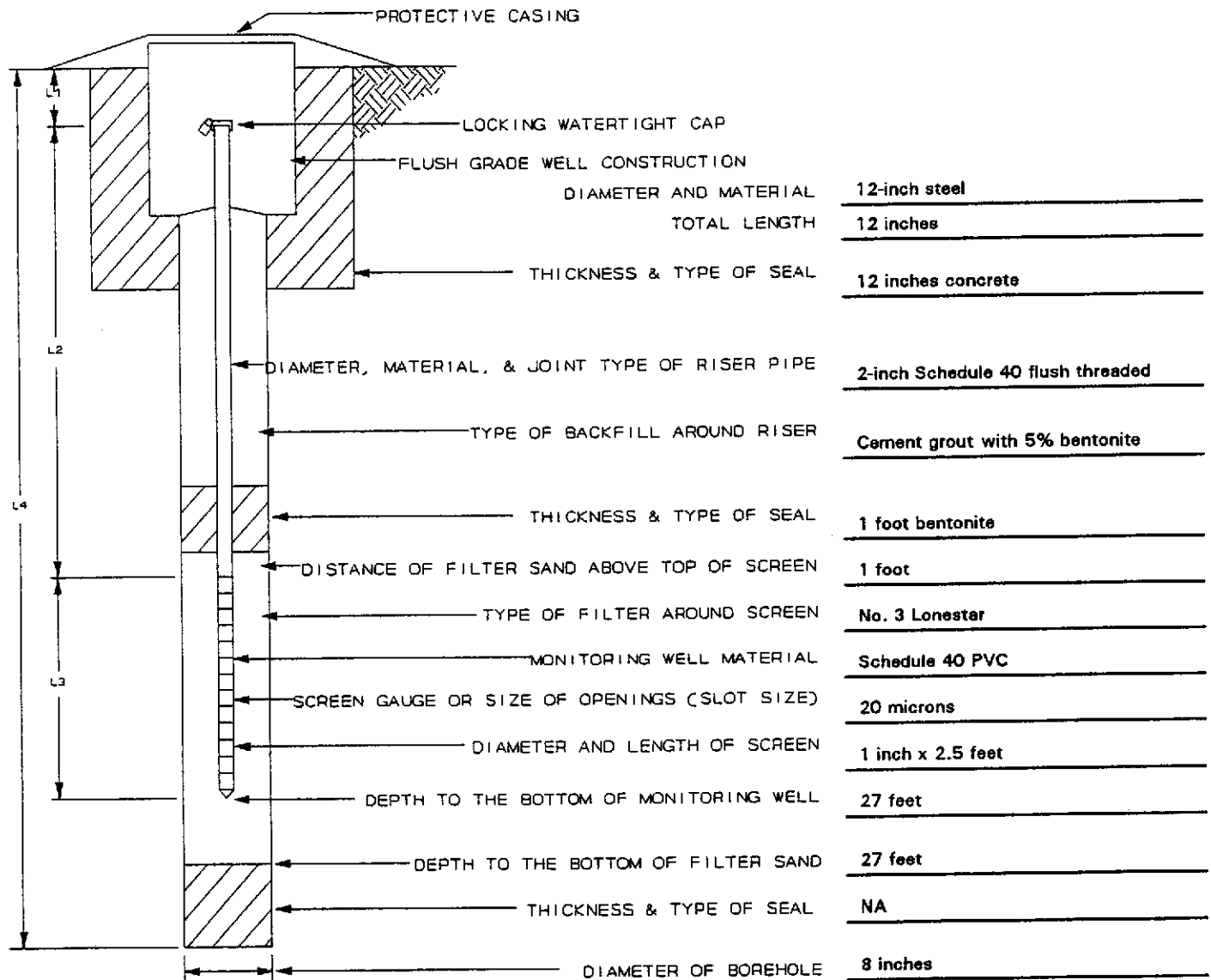


# PROPOSED AIR SPARGING CONSTRUCTION DETAILS

Project Beacon Station No. 721  
44 Lewelling Boulevard  
San Lorenzo, California

Delta No. D093-936

Air Sparging No. AS-3



L1 = 0.5 FT  
 L2 = 24.0 FT  
 L3 = 2.5 FT  
 L4 = 27.0 FT