SLIC # 0997
WC

# TARGHEE, INC.

ENVIRONMENTAL CONSULTING

February 20, 2002

Ms. Wendy Liu
California Regional Water Quality Control Board,
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

2002 FEB 21 P 3:37

Re: Groundwater Investigation and
Quarterly Monitoring Report
Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, California 90293
SLIC No. 997

Dear Ms. Liu:

Targhee, Incorporated is pleased to provide you with the attached Groundwater Investigation and Quarterly Monitoring Report for the above-referenced property.

Please contact the undersigned if you have any questions or comments regarding the enclosed report.

Sincerely,

Debra Bechtold
Project Manager
Registered Environmental Assessor II
No. 20172

REGISTERED GEOLOGIST
PAUL N. McCARTER
No. 5243
STATE OF CALIFORNIA

Paul N. McCarter
Registered Geologist #5243
Certified Hydrogeologist #HG 543

cc: Mr. Barry Moeschel
Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, California 90293

110 Pine Avenue, Suite 925 • Long Beach, CA 90802-4426 • (562) 435-8080 FAX (562) 590-8795

# GROUNDWATER INVESTIGATION AND QUARTERLY MONITORING REPORT

Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, California 90293
SLIC No. 997

February 20, 2002

Submitted by:

Targhee, Incorporated
110 Pine Avenue, Suite 925
Long Beach, California 90802
(562) 435-8080

TABLE OF CONTENTS

TARGHEE, INC.
ENVIRONMENTAL CONSULTING

**GROUNDWATER INVESTIGATION AND QUARTERLY MONITORING REPORT**
Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, California 90293

## INTRODUCTION

This report details Targhee, Incorporated's activities, findings, and conclusions with respect to Del Rey Cleaners located at 310 Culver Boulevard, Playa Del Rey, California 90293 (Attachment A). The California Regional Water Quality Control Board ("CRWQCB") requested a groundwater investigation to define the extent of groundwater contamination at the subject property.

The following activities were conducted pursuant to Targhee's Groundwater Investigation Workplan, dated October 31, 2001, for the subject site and in accordance with CRWQCB correspondence dated November 6, 2001.

This report has been prepared using the CRWQCB "General Requirements for Subsurface Investigations (Well Investigation Program)" and "Requirements for Groundwater Investigation (Well Investigation Program)".

## SITE INFORMATION

The responsible party and property owner for the site is Mr. Barry Moeschel, 310 Culver Boulevard, Lomita, California 90293, phone number (310)823-0206. The subject site is an existing dry cleaners. The dry cleaning equipment at the facility is a self-contained unit which has been in use since about 1984. Prior to 1984, other methods of dry cleaning were utilized.

## BACKGROUND

The subject property has operated as a dry cleaners for approximately 30 years. Results of previous soil investigations have been documented in reports prepared by other consultants and previously submitted to the CRWQCB. The soil sample results identified concentrations of Perchloroethene ("PCE") ranging up to 2,300 micrograms per kilogram (ug/kg, or parts per billion) at five feet below ground surface ("bgs"). Groundwater was reported by this consultant to be at approximately ten feet bgs.

A facility map is provided as Attachment B. This map depicts the equipment location and includes a north arrow, property lines, and adjacent streets. Dates of completion of buildings or pavings are unknown.

## SITE HEALTH AND SAFETY PLAN

A site-specific Health and Safety Plan, commensurate with the scope and nature of work was prepared and was provided as Attachment C to Targhee's October 2001 Workplan. A meeting was held with all field personnel prior to initiation of field work. Documentation of the meeting is provided as Attachment C of this report.

## REGISTERED PERSONNEL

Mr. Paul McCarter of Targhee, a California Registered Geologist and Certified Hydrogeologist, was on site to direct the investigation and personally supervised and/or actually conducted the work associated with this project. The report contains a wet ink signature by the registered geologist.

## HYDROGEOLOGY

The hydrogeology of the site and vicinity was determined from available published literature, regulatory agency data, and observations made during the well installation operations. The geologist's report provided in Attachment D describes the hydrology of the site and vicinity.

## SCOPE OF WORK

On January 8, 2002, three groundwater monitoring wells were completed at the subject site. The October 2001 workplan describes the construction of the three onsite monitoring wells. The locations of the groundwater monitoring wells are depicted on Attachment B.

Prior to the initiation of this workplan, permits were obtained from the Los Angeles County Department of Health Services and the Los Angeles County Department of Public Works. Copies of the permits are provided as Attachment E.

The drilling, sampling, well installation and development were performed under the direct supervision and/or were personally supervised by Mr. Paul McCarter of Targhee. A complete description of the soil boring and well construction procedures is provided as the geologist's report which is contained in Attachment E.

**Drilling and Sampling**

The drilling was completed using a hollow-stem auger drill rig. Undisturbed soil samples were collected from each boring beginning at a depth of 5 feet below ground surface ("bgs") and continuing to the final completed depth of the boring for logging purposes. The boring logs are complete and legible and include a description of earth materials, conditions, and classifications per the Unified Soil Classification System ("USCS"); lithographic column with USCS abbreviations and symbols; sample depth in feet; blow counts and percentage of sample recovered; and, vapor readings of samples using a photoionization detector. A complete description of the drilling and sampling proceedures is provided in the geologist's report contained in Attachment D.

**Monitoring Well Construction**

Following soil sampling procedures, each of the soil borings was converted to a groundwater monitoring well. The geologist's report provided in Attachment D describes the monitoring well construction.

**Well Development**

Prior to initiating well development, each well was gauged to determine the static water level. Following gauging, each of the wells was subjected to development procedures consisting of a combination of surging and pumping. Good recharge was observed in the wells.

All development equipment was steamed cleaned and rinsed between wells. The well development waste water was disposed in accordance with regulatory requirements.

**Well Surveying**

On January 29, 2002, each of the wells was surveyed to a common datum plane by a licensed surveyor, Psomas of Los Angeles. A copy of the survey is provided as Attachment F.

**Groundwater Sampling**

Groundwater sampling occurred on January 15, 2002. Prior to purging and sampling, the monitoring wells were measured to determine the water levels. Water-level measurements were completed in each of the wells using a Keck Interface Probe. No free product was present in any of the wells. The water levels were used to determine the volume of water present in the wells as well as the direction and gradient of the groundwater flow at the site.

Following the completion of water level measurements and prior to the collection of groundwater samples, approximately 55 gallons of water were purged from each of the wells using a submersible pump. The temperature, pH, conductivity, and turbidity were obtained by Targhee after the removal of each well volume. Each of the testing instruments (Hanna Temperature-Conductivity-pH Tester and LaMotte Model 2008 Turbidity Meter) were calibrated prior to use. The measurements of these parameters are shown on the Well Sampling Data Logs contained in Attachment H. Measurements were within 10% of each other following the removal of five well volumes in each of the wells.

Groundwater samples were collected from each well using a clean PVC disposable bailer. A new bailer was used for each well. The sample was transferred from the bailer to laboratory supplied containers and stored in an iced cooler at 4°C for transportation to a State-certified laboratory.

Standard Chain-of-Custody procedures were maintained on all samples. The Chain-of-Custody Record with a request-for-analysis was initiated in the field by Targhee. Each time responsibility for custody of the samples changed, the receiving and relinquishing custodians signed the record and entered the date and time of transfer of the samples. The laboratory signed for the receipt of the samples and returned a copy of the Chain-of-Custody Record to Targhee.

## ANALYTICAL RESULTS

Soil and groundwater samples were analyzed by American Scientific Laboratories, California DHS ELAP #2200.

**Soil Analytical Data**

All of the soil samples were prepared for analysis and were analyzed using EPA Method 8260B for Volatile Organic Compounds

("VOCs"). The positive results, in parts per billion ("µg/kg") are presented in the following table. The laboratory report for the soil sampling analyses are included as Attachment G.

**Soil Sample Results in ppb**

| Sample No. | PCE | DCE | Benzene | Ethyl-benzene | Xylenes | Naphtha-lene | Toluene |
|---|---|---|---|---|---|---|---|
| MW1-6.5' | ND | 18 | ND | 7 | ND | ND | ND |
| MW2-6.5' | 3,590 | ND | ND | ND | ND | ND | ND |
| MW2-10.5' | 3,110 | ND | ND | ND | ND | ND | ND |
| MW3-6.5' | ND | ND | ND | ND | ND | ND | ND |
| MW3-10.5' | ND | ND | 16 | 5 | 7 | 130 | 4 |
| MW3-15.5' | ND | ND | ND | ND | ND | ND | ND |

ND - None Detected

Sample MW3-10.5 also contained acetone at 71 ug/kg, sec-butylbenzene at 45 ug/kg, isopropylbenzene at 79 ug/kg, and n-propylbenzene at 128 ug/kg.

**Groundwater Analytical Data**

Each groundwater sample was analyzed for VOCs using EPA Method 8260B. The groundwater samples were also analyzed for sulfate, nitrate, ferrous iron, dissolved oxygen, Redox potential, and methane. The analytical results for VOCs are presented in the following table. The laboratory report for the groundwater sampling event is provided as Attachment I. An isoconcentration contour map of PCE is included as Attachment J.

**January 15, 2002 Results**
(µg/L)

| Sample No. | PCE | TCE | MCL |
|---|---|---|---|
| MW1 | 2,440 | 134 | 5 |
| MW2 | 160 | ND | 5 |
| MW3 | 43,500 | ND | 5 |

TCE - Trichloroethene
MCL - Maximum Contaminant Level
ND - None Detected

The groundwater monitoring wells were also sampled and analyzed for General Minerals Content. The results are presented below.

| Analyte | Sample No. MW1 | MW2 | MW3 |
|---|---|---|---|
| Alkalinity, Total | 190 | 100 | 170 |
| Bicarbonate | 190 | 100 | 170 |
| Carbonate | ND | ND | ND |
| Hydroxide | ND | ND | ND |
| Chloride | 108 | 99.2 | 83.6 |
| Conductivity | 944 | 953 | 838 |
| Fluoride | 10.8 | 2.54 | 9.77 |
| Hardness | 179 | 57.4 | 149 |
| Nitrate | 9.78 | 11.4 | 9.84 |
| pH | 7.60 | 7.56 | 7.72 |
| Sulfate | 110 | 142 | 103 |
| Surfactants | 0.08 | 0.08 | 0.30 |
| Total Dissolved Solids | 572 | 574 | 501 |
| Calcium | 34.8 | 7.44 | 25.9 |
| Copper | ND | ND | ND |
| Iron | 1.05 | 0.13 | 1.55 |
| Magnesium | 22.4 | 9.42 | 20.4 |
| Manganese | 0.023 | 0.017 | 0.039 |
| Potassium | 6.8 | 7.81 | 6.82 |
| Sodium | 117 | 156 | 114 |
| Zinc | ND | ND | ND |

## DISPOSAL OF NON-HAZARDOUS WASTE

During the coarse of this investigation, soil cuttings and purged groundwater were removed from the site on a daily basis. The drummed waste was handled by Prime Environmental Services of El Monte, California. The non-hazardous waste manifests are included as Attachment K.

## DISCUSSION OF RESULTS

Targhee conducted a groundwater investigation at Del Rey Cleaners, 310 Culver Boulevard, Playa Del Rey, California to determine the impact to groundwater from the use of PCE at the facility. The investigation consisted of installation of three groundwater monitoring wells and groundwater sampling. The monitoring results indicate that the depth to water ranges from

about 4 to 13 feet bgs from north to south across the property and that the groundwater gradient is directed to the southeast.

As depicted on the Site Plot Plan, the monitoring wells were located to the north, south, and west of the facility. Monitoring well MW2 is located in close proximity to the equipment and former

PCE storage area inside the building. Soil samples collected at 6.5 and 10.5 feet bgs at boring MW2 contained concentrations of PCE of 3,590 and 3,110 ug/kg, respectively.

PCE was not encountered in the soil samples collected from monitoring wells MW1 and MW3.

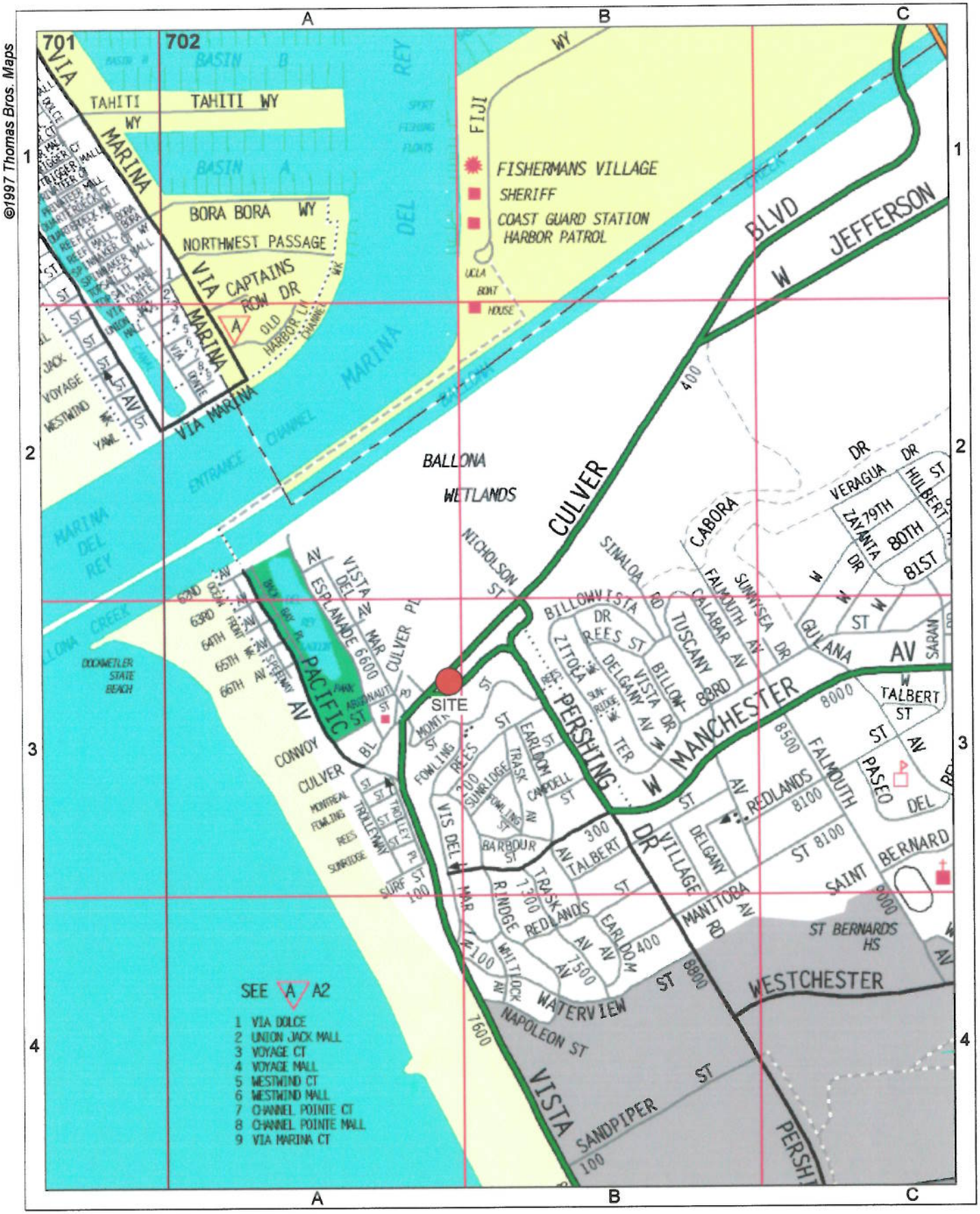
Minor concentrations of aromatic petroleum hydrocarbons were identified in several of the soil samples. Aromatic hydrocarbons at these low concentrations do not pose an impact to human health or the environment. However, the presence of the aromatic hydrocarbons is an indication of historic uses that have not been clearly defined at this time.

The groundwater analytical results identified elevated concentrations of PCE at monitoring well MW1, upgradient of the possible source area. The concentrations of PCE encountered in wells MW2 and MW3 are significant and represent a major impact to groundwater. However, the highest concentration was identified at monitoring well MW3 which is cross-gradient to well MW2. Based on the gradient and PCE concentrations the source area(s) cannot be fully determined at this time.

The General Minerals analyses indicates that there is very little, if any, influence on the groundwater due to the sites proximity to the coast.

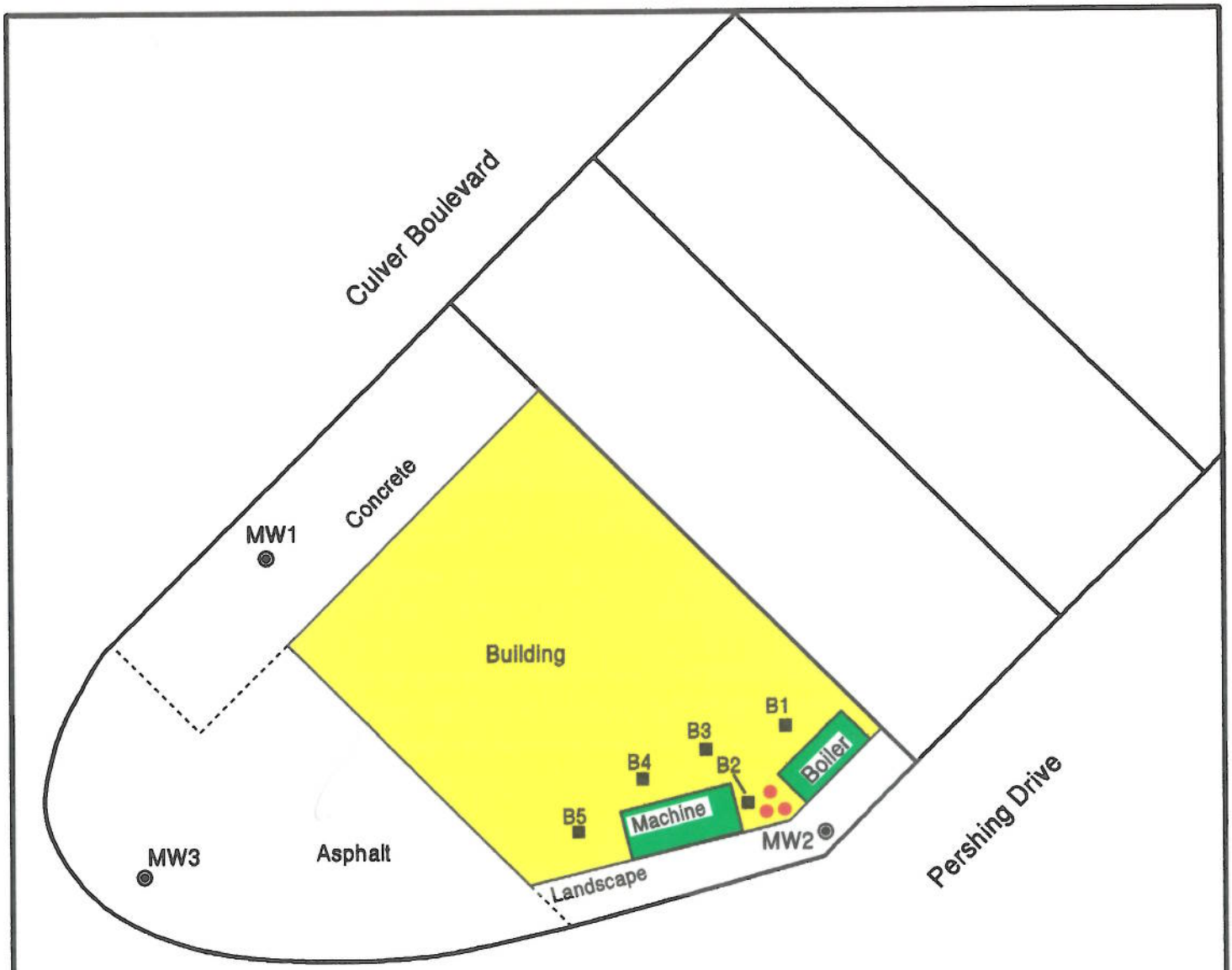
The next groundwater monitoring event is scheduled for late March 2002.

ATTACHMENT A




SITE: 310 Culver Boulevard, Playa Del Rey, CA, 90293, Page & Grid 702 A3

ATTACHMENT B




## SYMBOLS

B4 — Previous soil boring

Drum storage area

MW1 — Groundwater monitoring well

N

0 20

FEET

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

# FACILITY MAP

DEL RAY CLEANERS
310 CULVER BOULEVARD
PLAYA DEL RAY, CALIFORNIA 90293

ATTACHMENT B | FEBRUARY 20, 2002

ATTACHMENT C

1-8-2002

| Print | Sign |
| --- | --- |
| Debra Bechtold | Debra Bechtold |
| Jesse Costa | |
| Ismael Leanos | Ismael Leanos |
| Refugio Zavala | Refugio Zavala |
| Paul McCarter | |

ATTACHMENT D

# GROUNDWATER WELL INSTALLATION REPORT

Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, California 90293

February 20, 2002


Paul N. McCarter
Registered Geologist #5243
Certified Hydrogeologist #HG 543

Submitted by:

Targhee, Incorporated
110 Pine Avenue, Suite 925
Long Beach, California 90802
(562) 435-8080

TABLE OF CONTENTS

TARGHEE, INC.
ENVIRONMENTAL CONSULTING

# GROUNDWATER WELL INSTALLATION REPORT

**Del Rey Cleaners**
**310 Culver Boulevard**
**Playa Del Rey, California 90293**

## INTRODUCTION

On January 8, 2002, Targhee, Incorporated performed a groundwater monitoring well installation program at the Del Rey Cleaners property at 310 Culver Boulevard in Playa Del Rey, California. The program consisted of the installation of three off-site monitoring wells (MW1, MW2, and MW3) at the site.

The installation of the wells was performed by Gregg Drilling and Testing of Signal Hill, California. The procedures were performed under the supervision of a California Registered Geologist/Certified Hydrogeologist. Well construction details are contained on the well logs in Attachment A.

## METHODOLOGY

Wells MW1, MW2, and MW3 were installed on the site as 2-inch diameter wells. Well MW1 was located in the parking lot north of the building, well MW2 was located in the planter south of the building, and well MW3 was located in the parking lot west of the building. The locations of the wells are shown on Attachment B.

Each of the wells was completed using a Marl M5T limited-access drill rig. The methodology involved with obtaining soil samples from the initial borings and the installation of the wells is contained in the following sections.

### Soil Sampling Methodology

Each of the wells was initially drilled as a soil boring using a Marl M5T limited-access hollow-stem auger drill rig equipped with 6-inch outside-diameter augers. Soil samples were obtained at 5-foot depth intervals throughout the initial well borings until heaving sands in groundwater prevented the collection of viable samples.

Soil samples were obtained at interval lengths of 1.5 feet through the hollow-stem augers using a modified California split-spoon sampler. The split-spoon sampler was advanced into the ground using a hydraulic hammer. Samples were numbered with

respect to the boring number and the sample depth. The bottom of the sample interval in each case corresponded to the depth portion of the sample number. For example, sample MW2-10.5 was collected from a depth of 10.5 feet bgs in the initial boring of MW2.

Following collection of the samples from each of the initial borings, the brass sampling rings were removed from the sampler. The lowermost of the brass sampling rings was retained for sampling purposes. Soil samples designated for analysis for volatile organic compounds ("VOCs") were obtained using the sampling methodology detailed in SW-846 Method 5035. A 5-gram sample was collected and placed in a pre-weighed, labeled 40 ml VOA vial with a septum sealed screw cap. The vial, which contained a stirring bar and a sodium bisulfate preservative solution, was sealed immediately upon the soil being placed into it. The vials were immediately stored in an iced cooler at 4°C prior to transport within 24 hours to a laboratory certified by the California Department of Health Services.

Standard Chain-of-Custody procedures were maintained on all samples. The Chain-of-Custody Record with a request for analysis was initiated in the field by Targhee, Incorporated. Each time responsibility for custody of the samples changed, the receiving and relinquishing custodians signed the record and entered the date and time of transfer of the samples. The laboratory signed for the receipt of the samples and returned a copy of the Chain-of-Custody Record to Targhee.

A portion of each soil interval was used for soil classification purposes and for field estimation of VOCs using a MiniRAE Plus Photoionization Detector ("PID"). The PID, which contains a 10.6 eV lamp, was calibrated prior to field use. To perform this field test, approximately one cubic inch of soil was taken from the remaining brass rings and placed into an air-tight plastic bag for approximately five minutes. The bag was subsequently perforated, the tip of the PID was inserted into the perforation, and the value of the VOCs in parts per million ("ppm") was read directly from the instrument. It should be noted, however, that this field screening technique is a qualitative measurement only, and it is not a substitute for laboratory analyses.

All samples were collected by a California Registered Geologist/Certified Hydrogeologist who entered the information concerning the soil sampling intervals, PID readings, and soil lithology onto the well logs. Well logs are contained in Attachment A.

## Well Installation Methodology

Following the completion of the drilling and sampling procedures, each of the initial borings was converted into a 2-inch diameter groundwater monitoring well. Each of the borings was overdrilled using 8-inch outside-diameter hollow-stem augers.

Wells MW1 and MW3 were initially drilled to a total depth of 30.5 feet below ground surface (bgs"), and the wells were set at a total depth of 30 feet bgs. Well MW2 was initially advanced to a depth of 35.5 feet bgs; however, the lithology in this well indicated that a clay layer was present between 30 and about 33 feet bgs. As a result, the portion of the boring between 30 and 35.5 feet bgs in well MW2 was backfilled with bentonite through the 6-inch diameter augers concurrent with their removal from the boring. Well MW2 was ultimately set at a depth of 29.5 feet bgs.

Due to the topographic variation of the surface of the site and the levels at which groundwater was encountered in the initial borings, wells MW1 and MW3 were screened between a depth of 5 and 30 feet bgs. Groundwater was initially encountered at a depth of 7 feet bgs in MW1 and 19 feet bgs in MW3. Prior to overdrilling of well MW3, however, it was noted that the water level had risen above a partially confining clay layer to a level of about 8 feet bgs, and it was determined that the top of the screened interval should be placed at a depth of 5 feet bgs. The water level in well MW2 was encountered at a depth of 14 feet bgs, and the top of the screened interval in this well was set at 9.5 feet bgs. Well MW2 is located at an elevation of about 9 feet higher than well MW1.

Upon completion of the well drilling procedures, 2-inch, Schedule 40, slotted PVC casing (0.02" slot size) was placed inside the augers within the lower portion of the wells, and the upper portion of the wells was completed with 2-inch Schedule 40, blank PVC casing.

Clean, kiln-dried No. 2/12 sand was used as a filter pack and was placed in the annular space between the augers and the casing as the augers were sequentially removed from the boring. The sand was placed to a depth of approximately one to two feet above the top of the slotted casing. Hydrated bentonite chips (Enviroplug Medium) were placed in the annular space above the filter pack to a depth of about 1.5 feet bgs. A concrete surface seal with a flush-mounted well box was placed in the upper portion of the well above the bentonite. The materials schedule for each of the wells in feet bgs is as follows:

| MATERIALS | MW1 | MW2 | MW3 |
|---|---|---|---|
| Slotted Casing | 5 - 30 | 9.5 - 29.5 | 5 - 30 |
| Blank Casing | 0 - 5 | 0 - 9.5 | 0 - 5 |
| Filter Pack | 4 - 30 | 7.5 - 29.5 | 4 - 30 |
| Bentonite Seal | 1.5 - 4 | 1.5 - 7.5 | 1.5 - 4 |
| Surface Completion | 0 - 1.5 | 0 - 1.5 | 0 - 1.5 |

## HYDROGEOLOGY

The hydrogeology of the site and vicinity was determined from available published literature, regulatory agency data, and observations made during the well installation operations.

### Regional Hydrogeology

The regional geology of the vicinity of the site is contained in the following publications:

- California Department of Water Resources, 1961 (Reprinted 1990): Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A Ground Water Geology, Bulletin No. 104.
- Poland, J.F., Garrett, A.A., and Sinnott, Allen, 1959: Geology, Hydrology, and Chemical Character of Groundwaters in the Torrance-Santa Monica Area, California, U.S. Geological Survey Water-Supply Paper 1461, 425 p.
- U.S. Geological Survey, 1964 (Photorevised 1981): Venice, California 7½ Minute Topographic Quadrangle, 1:24,000.

According to the above-referenced publications, the site is located in the southwestern corner of the Ballona Gap along the margin of the El Segundo Sand Hills. Based on information contained on the "Venice, California 7½ Minute Topographic Quadrangle", which was published by the U.S. Geological Survey in 1964 and photorevised in 1981, the site is at an approximate elevation ranging from less than 5 feet above mean sea level ("msl") in the north to more than 15 feet above msl in the south.

The land surface at the site slopes to the north at a gradient of about 250 feet/mile.

The site is underlain by Older Dune Sand deposits of Upper Pleistocene age which directly overlie gravels, sands, silts, and clays of the San Pedro Formation of Lower Pleistocene age. Alluvial deposits of Recent age may be present along the northern margin of the site. The site is located in an area where the Ballona Aquifer, which is located in the Recent-aged alluvial sediments, and the underlying Silverado Aquifer, which is located in the San Pedro Formation, become merged and are close to the land surface. The groundwater in this aquifer has been subjected to salt-water intrusion.

Groundwater data for the general area were obtained from the County of Los Angeles Department of Public Works. Well #1243B, which is located approximately 1,500 feet northwest of the site, encountered groundwater at a depth of 11.7 feet bgs which is equivalent to an elevation of 1.4 feet above msl during the gauging event on April 27, 1999.

## Site Hydrogeology

The soils in the upper 35 feet of the subsurface at the site can be subdivided into three general units which appear to be dipping toward the east. These units appear to be gradational with each other and are described as follows:

- Silty Sand and Sand

  This unit directly underlies the parking lot and consists partly of reworked natural fill materials within the uppermost 3 feet. It is thickest in MW2 which is located at a higher elevation than the other two wells. It is about 8 feet thick in MW1 which is the well at the lowest elevation. This unit is characterized by a yellowish brown fine- to medium-grained silty sand and sand. A clay lens was noted in this unit between 4 and 5 feet bgs in MW1.

- Clay and Clayey Sand

  This unit is approximately 8 to 12 feet in thickness and directly underlies the Silty Sand and Sand Unit. It is grayish brown to dark gray in color and has been impacted by hydrocarbons in MW1 and MW3. The sand content of this

unit increases toward the south. This unit is saturated in MW1 and MW2; however, it appears to act as a partial confining layer in MW3.

- Sand

  This unit underlies the Clay and Clayey Sand unit and extends to the bottom of each of the wells. It consists of a yellowish brown, fine- to coarse-grained sand. It is gray in color where it has been impacted by hydrocarbons in MW1. This unit is saturated in all of the wells. A partly confining clayey silt lens was noted in MW2 at 30 feet bgs; however, this lens is less than 5 feet thick and is not continuous.

PID readings obtained from the soil samples indicated the presence of hydrocarbons in the soil. Readings as high as 37 ppm were noted in the soils which were visibly impacted by hydrocarbons.

Groundwater was encountered within the Clay and Clayey Sand Unit and the underlying Sand Unit. The Clay and Clayey Sand Unit is saturated in MW1 and MW2. This unit is dryer in MW3 and appears to act as a partially confining layer to the underlying groundwater as evidenced by the upward directed head of the water table once this well was installed. The Clay and Clayey Sand Unit does not appear to be an effective barrier to groundwater movement across the site, however, and is clearly the host to the groundwater in MW1 and MW2. The lowermost portion of the upper Silty Sand and Sand Unit in MW1 and MW2 is within the groundwater zone.

Groundwater elevations were measured in monitoring wells MW1, MW2, and MW3 on January 14, 2002, and the groundwater parameters of the wells are as follows:

| Well No. | Surface Elevation (feet above msl) | Water Depth (feet bgs) | Water Elevation (feet above msl) |
|---|---|---|---|
| MW1 | 8.40 | 3.990 | 4.410 |
| MW2 | 16.99 | 12.955 | 4.035 |
| MW3 | 11.64 | 7.300 | 4.340 |

The groundwater conditions beneath the site were calculated on the basis of the above groundwater parameters and are shown on the map contained in Attachment B. On January 14, 2002, groundwater at the site was flowing S 50° E at a gradient of 0.005 feet/foot or about 26 feet/mile. This direction of groundwater flow is toward the hillside and may represent regional flow conditions or possible tidal influence.

ATTACHMENT A - WELL LOGS

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:** Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293

**PAGE** 1

**WELL NUMBER:** MW1

**LOGGER:** Paul McCarter

**DRILLER:** Jesse Costa

**DATE:** January 8, 2002

**DRILLING COMPANY:** Gregg Drilling & Testing, Inc.
Signal Hill, California 90806

**WELL LOCATION:** North of building in parking lot.

**DRILL:** Marl M5T Limited Access

**SAMPLING METHOD:** 1.5" X 18" California Modified Split Spoon Sampler

**ELEVATION:** TOC = 8.40 msl

**BORING DEPTH:** 30.5

**WELL DEPTH:** 30'

| DEPTH (feet) | SOIL/LITHOLOGY LOG | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | AIR PID READING (ppm) | WELL DATA |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | CONCRETE: 6". | | | | | | | | | Flush-mounted well cover with concrete surface seal |
| | SAND WITH SILT: dark yellowish brown (10YR, 4/4), probably fill, fine- to medium-grained, up to 10% fines, slightly moist. | SP SM | | | | | | | | Concrete |
| | SANDY CLAY: yellowish brown (10YR, 5/4), natural, up to 30% fine- to medium-grained sand, somewhat plastic, slightly moist. | CL | | | | | | | | 2" Schedule 40 PVC blank casing |
| 5 | SILTY SAND: brown (10YR, 4/3) changing to very dark gray (2.5Y, N3/) @ 6.5 feet, fine- to medium-grained, moderate hydrocarbon odor at color change, medium-dense, slightly moist. | SM | | MW1-6.5 | | NA | 0 | 100 | | Bentonite Enviroplug Medium |
| | CLAY: gray (2.5Y, N5/), plastic, moderate gasoline/ hydrocarbon odor, soft, wet (saturated), water @ 7'. | CL | | | | NA | 22 | 100 | | |
| 10 | | | | | | | | | | |
| | SILTY CLAY: dark gray (2.5Y, N4/), somewhat plastic, moderate gasoline/fetid odor, soft, wet. | CL ML | | | | NA | 12 | 100 | | 2" Schedule 40 PVC slotted casing (0.02") |
| 15 | | | | | | | | | | |
| | CLAYEY SILT: very dark gray (2.5Y, N3/), moderate hydrocarbon/fetid odor, very soft, wet. | ML CL | | | | | | | | |
| 20 | SAND WITH SILT: dark gray (2.5Y, N4/), fine- to medium-grained, up to 10% fines, moderate hydrocarbon/fetid odor, medium-dense, wet. | SP SM | | | | NA | 7 | 100 | | Monterey #2/12 sand filter pack |
| | medium-dense, wet. | | | | | NA | 10 | 100 | | |

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:**

Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293

**PAGE 2**

**WELL:**

# MW-1

| DEPTH (feet) | SOIL/LITHOLOGY LOG | | SAMPLE DATA | | | | | AIR | WELL DATA |
|---|---|---|---|---|---|---|---|---|---|
| | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | PID READING (ppm) | |
| 25 | | | | | | | | | Monterey #2/12 sand filter pack; 2" Schedule 40 PVC slotted casing (0.02"); End cap |
| 30 | heaving sand in boring, no recovery. | | | | | | | | |
| 35 | | | | | | | | | |
| 40 | | | | | | | | | |
| 45 | | | | | | | | | |
| 50 | | | | | | | | | |
| 55 | | | | | | | | | |

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:** Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293

**PAGE** 1

**WELL NUMBER:** MW2

**LOGGER:** Paul McCarter

**DRILLER:** Jesse Costa

**DATE:** January 8, 2002

**DRILLING COMPANY:** Gregg Drilling & Testing, Inc.
Signal Hill, California 90806

**WELL LOCATION:** South of building in planter.

**DRILL:** Marl M5T Limited Access

**SAMPLING METHOD:** 1.5" X 18" California Modified Split Spoon Sampler

**ELEVATION:** TOC = 16.99 msl

**BORING DEPTH:** 36.5

**WELL DEPTH:** 29.5'

| DEPTH (feet) | SOIL/LITHOLOGY LOG | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | SAMPLE DATA: INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | AIR: PID READING (ppm) | WELL DATA |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | SILTY SAND: dark yellowish brown (10YR, 4/4), fine- to medium-grained, up to 15% fines, possibly fill, slightly moist. | SM | | | | | | | | Flush-mounted well cover with concrete surface seal |
| | brown (10YR, 4/3), possibly natural. | | | | | | | | | Concrete |
| 5 | dark yellowish brown (10YR, 4/4), medium-grained, loose to medium-dense, very moist. | | | MW2-6.5 | | NA | 8 | 85 | | 2" Schedule 40 PVC blank casing; Bentonite Enviroplug Medium |
| 10 | up to 20% fines, loose to medium-dense, very moist. | | | MW2-10.5 | | NA | 3 | 75 | | |
| | water @ 14'. | | | | | | | | | 2" Schedule 40 PVC slotted casing (0.02") |
| 15 | very little recovery, brown (10YR, 4/3), loose, wet. | | | | | NA | NA | <1 | | |
| | SAND WITH SILT: dark gray (2.5Y, N4/), fine- to medium-grained, up to 10% fines, roots, medium-dense, wet. | SP SM | | | | NA | 2 | 80 | | Monterey #2/12 sand filter pack |
| 20 | CLAYEY SAND: grayish brown (2.5Y, 5/2), fine- to medium-grained, up to 40% fines (mostly clay), medium-dense, wet. | SC | | | | NA | 2 | 30 | | |

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:**

Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293



**WELL:**

# MW-2

| DEPTH (feet) | SOIL/LITHOLOGY LOG | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | AIR PID READING (ppm) | WELL DATA |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | SAND: light olive brown (2.5Y, 5/3), medium- to coarse-grained, up to 5% fines, medium-dense, wet. | SP | | | | | | | | Monterey #2/12 sand filter pack; 2" Schedule 40 PVC slotted casing (0.02"); End cap |
| 30 | CLAYEY SILT: light olive brown (2.5Y, 5/4), micaceous, up to 5% very fine-grained sand, very stiff, slightly moist. | ML CL | | | | | | | | Bentonite Enviroplug Medium |
| 35 | SAND: pale yellow (2.5Y, 7/3), fine- to coarse-grained, medium-dense, wet. | SW | | | | NA | 0 | 50 | | |
| 40 | | | | | | | | | | |
| 45 | | | | | | | | | | |
| 50 | | | | | | | | | | |
| 55 | | | | | | | | | | |

TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:** Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293

**PAGE 1**

**WELL NUMBER:** MW3

**LOGGER:** Paul McCarter

**DRILLER:** Jesse Costa

**DATE:** January 8, 2002

**DRILLING COMPANY:** Gregg Drilling & Testing, Inc.
Signal Hill, California 90806

**DRILL:** Marl M5T Limited Access

**WELL LOCATION:** West of building in parking lot.

**SAMPLING METHOD:** 1.5" X 18" California Modified Split Spoon Sampler

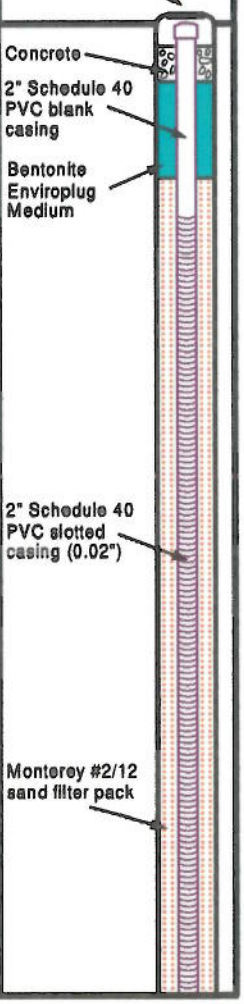
**ELEVATION:** TOC = 11.64 msl

**BORING DEPTH:** 30.5

**WELL DEPTH:** 30'

| DEPTH (feet) | SOIL/LITHOLOGY LOG | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | AIR PID READING (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | ASPHALT: 3". | | | | | | | | |
| | SILTY SAND: yellowish brown (10YR, 5/4), fine- to medium-grained, up to 20% fines, glass fragment @ 3', fill, very slightly moist. | SM | | | | | | | |
| 5 | dark yellowish brown (10YR, 4/4), up to 15% fines, natural (?), medium-dense, slightly moist to moist. | | | MW3-6.5 | | NA | 0 | 75 | |
| | brown (2.5, 3/2), up to 25% fines, slight hydrocarbon odor, medium-dense, moist to very moist. | | | | | | 2 | | |
| 10 | CLAY: very dark gray (2.5Y, N3/), trace very fine-grained sand, micaceous, moderatedhydrocarbon odor, medium-stiff, moist. | CL | | MW3-10.5 | | NA | 37 | 80 | |
| | CLAYEY SAND: dark gray (2.5Y, N3/), fine- to medium-grained up to 30% fines, moderate hydrocarbon/fetid odor, medium-dense, very moist, but not saturated. | SC | | MW3-15.5 | | NA | 2 | 90 | |
| 15 | SAND: very little recovery, sand remnant in sampler, fine- medium-grained, water @ 19', wet. | SP | | | | | | | |
| 20 | no recovery, heaving sands, wet. | | | | | | | | |

**WELL DATA**



TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

**PROJECT:**

Del Rey Cleaners
310 Culver Boulevard
Playa Del Rey, CA 90293



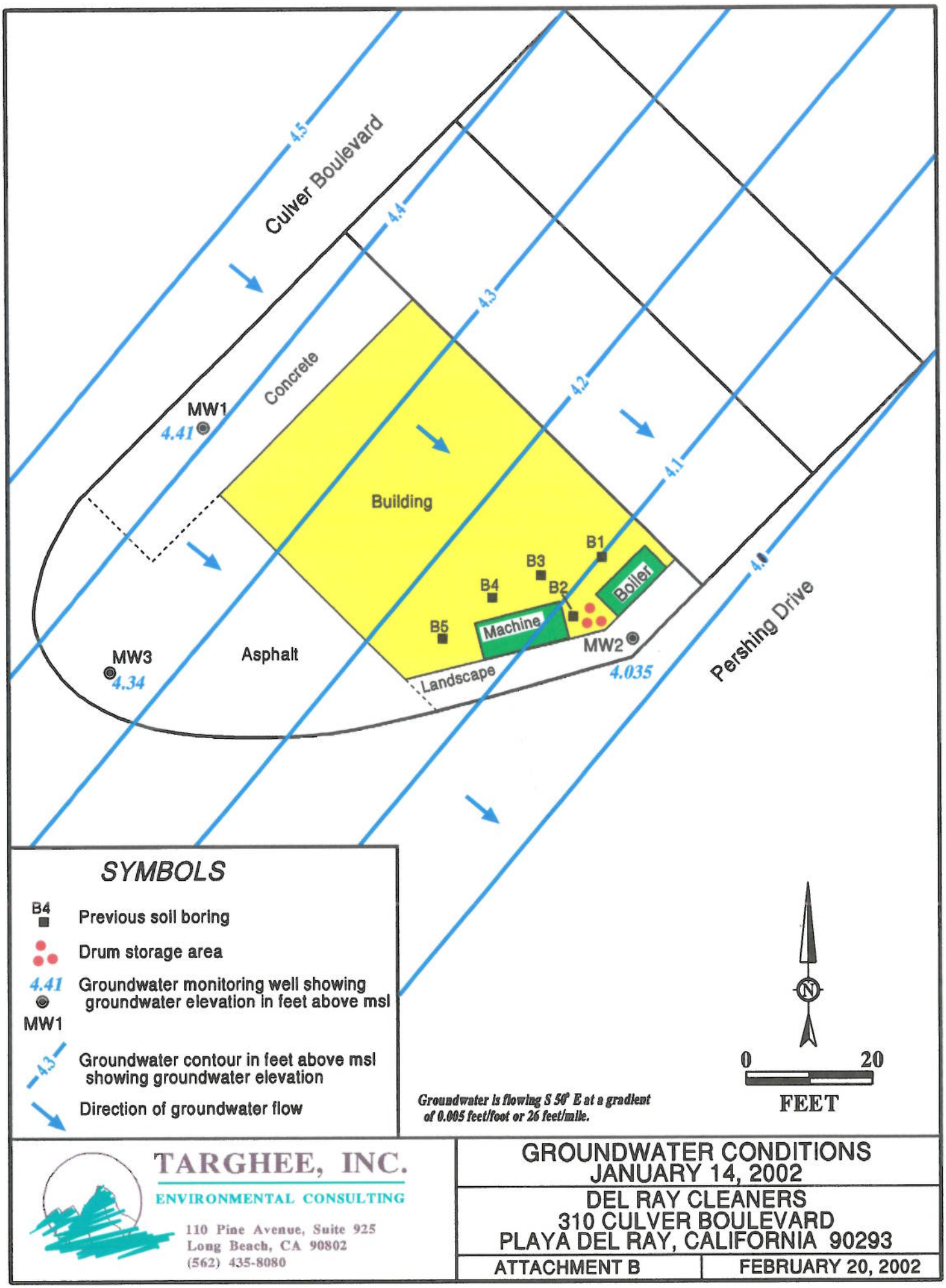
**WELL:**

# MW-3

| DEPTH (feet) | SOIL/LITHOLOGY LOG | | SAMPLE DATA | | | | | AIR | WELL DATA |
|---|---|---|---|---|---|---|---|---|---|
| | U.S.C.S. UNIT | GRAPHIC | SAMPLE NUMBER | INTERVAL | BLOW COUNT | PID READING (ppm) | % RECOVERY | PID READING (ppm) | |
| 25 | SW | | | | NA | 6 | 30 | | Monterey #2/12 sand filter pack; 2" Schedule 40 PVC slotted casing (0.02"); End cap |
| 30 | | | | | | | | | |
| 35 | | | | | | | | | |
| 40 | | | | | | | | | |
| 45 | | | | | | | | | |
| 50 | | | | | | | | | |
| 55 | | | | | | | | | |

SAND: light yellowish brown (2.5Y, 6/3), fine- to coarse-grained, medium-dense, wet.

# ATTACHMENT B - GROUNDWATER CONDITIONS




TARGHEE, INC.
ENVIRONMENTAL CONSULTING
110 Pine Avenue, Suite 925
Long Beach, CA 90802
(562) 435-8080

# GROUNDWATER CONDITIONS JANUARY 14, 2002

## DEL RAY CLEANERS
## 310 CULVER BOULEVARD
## PLAYA DEL RAY, CALIFORNIA 90293

ATTACHMENT B | FEBRUARY 20, 2002

ATTACHMENT E

**APPLICATION FOR WELL PERMIT**
ENVIRONMENTAL HEALTH 2525 Corporate Place Monterey Park, Ca 91754
COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES

DATE 11-09-01

**DESCRIPTION**

TYPE OF PERMIT (CHECK)
- [x] NEW WELL CONSTRUCTION
- [ ] RECONSTRUCTION OR RENOVATION
- [ ] DESTRUCTION

TYPE OF WELL
- [ ] PRIVATE DOMESTIC
- [ ] PUBLIC DOMESTIC
- [ ] IRRIGATION
- [x] OBSERVATION/MONITORING
- [ ] CATHODIC
- [ ] INDUSTRIAL
- [ ] GRAVEL PACK
- [ ] TEST

TYPE OF CASING: 2" diameter schedule 40 PVC

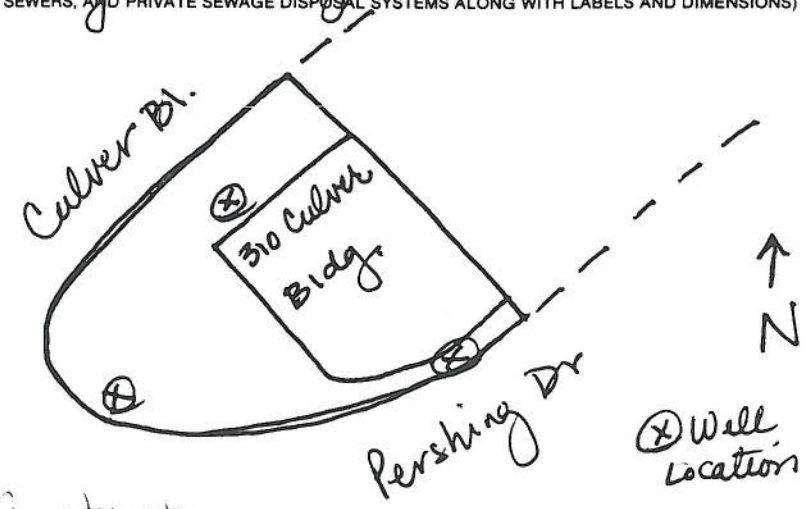
METHOD OF SEALING OF CASING: Bentonite and concrete

METHOD OF DESTRUCTION:

**LOCATION**

ADDRESS (NUMBER, STREET, AND NEAREST INTERSECTION): 310 Culver Blvd ~~Playa Del Rey~~ @Pershing Drive | CITY: Playa Del Rey

DIAGRAM (SHOW PROPERTY LINES, STREET, ADDRESS, WELL SITE, SEWERS, AND PRIVATE SEWAGE DISPOSAL SYSTEMS ALONG WITH LABELS AND DIMENSIONS)




Three Monitoring Well Construction

**APPLICANT**

NAME OF WELL DRILLER (PRINT): Gregg Drilling
TRADE NAME:
BUSINESS ADDRESS: 2726 Walnut CITY: Signal Hill

NAME OF WELL OWNER (PRINT): Del Rey Cleaners Barry Moeschel
MAILING ADDRESS: 310 ~~Culver~~ Culver Bl.
CITY: Playa Del Rey

I hereby agree to comply in every respect with all regulations of the County Preventive/Public Health Services and with all ordinances and laws of the County of Los Angeles and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the County Preventive/Public Health Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by such County Preventive/Public Health Services.

Debra Beckfield
Applicant's Signature 562 435 8080
Targhee
110 Pine Ave #925 90802
Long Beach CA

**DISPOSITION OF APPLICATION: (For Sanitarians Use Only)**
- [x] APPROVED
- [ ] DENIED
- [ ] APPROVED WITH CONDITIONS

If denied or approved with conditions, report reason or conditions here:

DATE 12/17/01 SANITARIAN

DATE SECTION CHIEF

*When signed by Section Chief, this application is a permit.*

76A668
H-13 (Rev 3/91) 2/95

# SERVICE APPLICATION AND FEE COLLECTION
# COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES
# PUBLIC HEALTH PROGRAMS - ENVIRONMENTAL HEALTH

## SERVICE REQUEST APPLICATION

INSTRUCTIONS

1. Check the TYPE OF SERVICE requested and attach the required non-refundable fee to the application. Make money order or check payable to LOS ANGELES COUNTY TREASURER, DO NOT SEND CASH. This application is nontransferable.

| FEE REQUIRED* | | TYPE OF SERVICE |
|---|---|---|
| _____ | ☐ | MONITORING WELL CONSTRUCTION/DESTRUCTION |
| _____ | ☐ | WELL CONSTRUCTION, RENOVATION OR DESTRUCTION PERMIT<br>Complete and attach a Well Permit Application |
| _____ | ☐ | PRIVATE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT |
| _____ | ☐ | PRIVATE SEWAGE DISPOSAL SYSTEM RENOVATION/EXPANSION |
| _____ | ☐ | INSPECTION OF MOUNTAIN CABIN SITE as required by the United States Forest Service |
| _____ | ☐ | INSPECTION OF EXISTING PRIVATE SEWAGE SYSTEM as required by FHA/VA |
| _____ | ☐ | WATER SUPPLY TEST AND CERTIFICATION as required by U.S. Department of Agriculture |

2. Check with Contact Office stamped below for requirements or information.
3. Complete the required information or deliver the completed application, money order or check with the forms indicated.

to: County of Los Angeles
Department of Health Services
Public Health Programs
Environmental Health
2525 Corporate Place
Monterey Park, Ca 91754
(213) 881-4147

*Refer to Schedule of Fees for current fiscal year.

NOTE: FIELD PERSONNEL CANNOT ACCEPT FEES.

4. Phone Contact Office noted below, after you have received your receipt, to request an inspection.

Service/Job Location Address _____ Date _____

Owner/Applicant's Name _____ Address _____ Phone No. _____

Contractor's Name _____ Address _____ Phone No. _____

Co. Engineer Plan Check No._____ Tract No. _____ Lot No. _____ No. Bedrooms ____
(Complete line above for Private Sewage Disposal System Construction or Renovation Application)

| CONTACT OFFICE | DEPARTMENT STAMP |
|---|---|
| | FEE PAID |

Printed on recycled materials.

ATTACHMENT F

PSOMAS

*Information and Engineering Solutions*

February 5, 2002

Ms. Debbie Bechtold
**Targhee, Inc.**
110 Pine Avenue, Suite 925
Long Beach, CA 90802-4426

Subject: Monitor Well Locations at 310 Culver Boulevard, Los Angeles
Psomas Job No 1TAR0401

Dear Debbie:

Below are the locations for the three wells as surveyed by Psomas. I have also included a sketch of the wells. Please note that the names of the wells as marked in the field differed from the markup that Psomas had previously been provided.

**Datums:**
Horizontal: NAD83, California Coordinate System, Zone 5 (HPGN 1994.9)
Vertical: NGVD 1929, City of Los Angeles, 1985 Adjustment

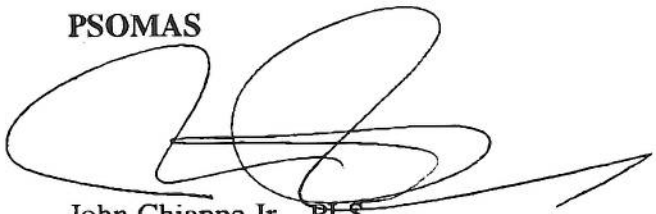
**Well Locations:**

| Well | Northing | Easting | Elev | |
|---|---|---|---|---|
| MW-1 | 1807993.21 | 6426022.29 | 8.40 | Marked location on well |
| MW-2 | 1807959.62 | 6426090.58 | 16.99 | Marked location on well |
| MW-3 | 1807954.40 | 6426006.82 | 11.64 | Marked location on well |

If I can be of any further assistance, please feel free to contact me.

Sincerely,

**PSOMAS**



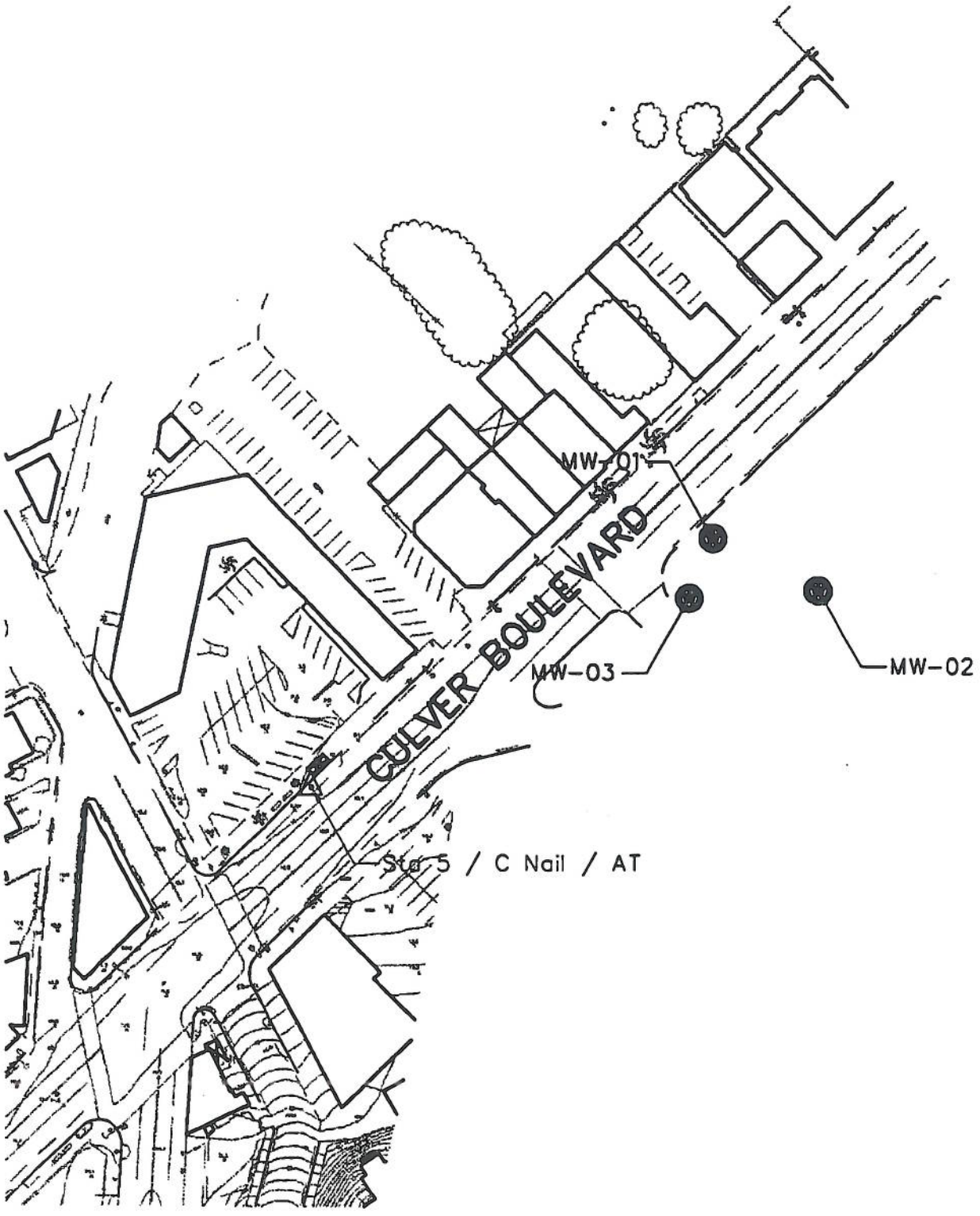
John Chiappe Jr., PLS
Project Manager


JDC:jdc
attachment

1tar0401_well_locs

11444 West Olympic Blvd.
Suite 750
West Los Angeles, CA 90064-1549

310.954.3700
310.954.3777 Fax
www.psomas.com




# Monitor Well Locations at 310 Culver Boulevard for Targee Inc

**PSOMAS**

100' 50' 0' 100' 200'

NOTE: For reduced size prints, original scale is in inches.

DATE: 01/24/02 REVISED ON:
JOB No: 1TAR0401

PL – WELL

ATTACHMENT G

AMERICAN SCIENTIFIC LABORATORIES, LLC
Environmental Testing Services
2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500

RECEIVED
JAN 2 3 2002

Ordered By

Targhee, Inc.
110 Pine Ave. Ste. 925
Long Beach, CA 90802

Telephone (562)435-8080
Attn Debra Bechtold

Number of Pages 10
Date Received 01/09/2002
Date Reported 01/16/2002

| Job Number | Ordered | Client |
|---|---|---|
| 12874 | 01/09/2002 | TARGHE |

Project ID: 310 CULVER
Project Name: Del Rey Cleaners
Site: 310 Culver
Playa Del Rey

Enclosed are the results of analyses on 6 samples analyzed as specified on attached chain of custody.

Wendy Lu
Organics Supervisor

Rojert G. Araghi
Laboratory Director

# AMERICAN SCIENTIFIC LABORATORIES, LLC

2520 N. San Fernando Rd., Los Angeles, CA 90065 Tel: (323) 223-9700 Fax: (323) 223-9500



ASL JOB# 12874

CHAIN OF CUSTODY RECORD

Company: Targhee

Address: 110 Pine Av #925

Long Beach CA

Telephone: 562 435 8080

Fax: 562 590 8795

Special Instruction:

Project Name: Dewey Cleaners

Site Address: 310 Culver Playa del Rey

Project ID: 310 Culver

Project Manager: D Buchtold

Report To: D Buchtold

Address: Targhee

Invoice To: Sandstell

Address: Targhee

P.O.#: 310 culver

ANALYSIS REQUESTED

8260

| ITEM | LAB USE ONLY Lab ID | SAMPLE DESCRIPTION Sample ID | Date | Time | Container(s) # | Container(s) Type | Matrix | Preservation | 8260 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 79364 | MW1-6.5 | 1-8-02 | | 3 | 2 VOAs 1 brass | Soil | Sodium Bisulfate | ✓ | Archive Brass |
| 2 | 79365 | MW2-6.5 | | | 2 | 2 VOAs | | | ✓ | — |
| 3 | 79366 | MW2-10.5 | | | 3 | 2 VOAs 1 Brass | | | ✓ | Archive Brass |
| 4 | 79367 | MW3-6.5 | | | 3 | | | | ✓ | |
| 5 | 79368 | MW3-10.5 | | | 3 | | | | ✓ | |
| 6 | 79369 | MW3-15.5 | | | 3 | | | | ✓ | |

Collected By: Debra Buchtold Date 1-8-02 Time

Relinquished By: Debra Buchtold Date 1-9-02 Time 2:50

Relinquished By: Date Time

Received For Laboratory ASL Date 1/9/01 Time 2:50

TAT ☑ Normal ☐ Rush

Condition of Sample: 5x Brass Soil Holder 12x VOA / No Brass Tube given for MW3-6.5