

REMEDIAL ACTION WORK PLAN
for
575 Paseo Grande
San Lorenzo, California

October 25, 2002

Prepared for:

Mr. Michael Jepsen
Bohannon Development Company
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Prepared by:

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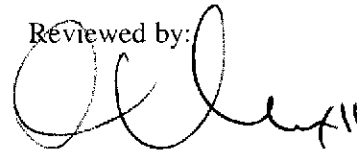
Prepared by:



Neil Doran
Project Geologist



Reviewed by:



Chris Maxwell, R.G.
Principal Project Geologist

October 25, 2002

Mr. Amir Gholami
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

**Re: Transmittal of Remedial Action Work Plan
575 Paseo Grande
San Lorenzo, California**

Dear Mr. Gholami:

On behalf of the David D. Bohannon Organization (Bohannon), SECOR International Incorporated (SECOR) is submitting the attached *Remedial Action Work Plan* for the site located at 575 Paseo Grande in San Lorenzo, California. The document describes a proposed scope of work designed to address elevated concentrations of petroleum hydrocarbons in groundwater beneath the site.

SECOR looks forward to receiving your input on the proposed scope of work. If you have any questions regarding this document, please contact Mr. Mike Jepsen of Bohannon at (650) 345-8222, or the undersigned at (925) 299-9300.

Sincerely,

SECOR International Inc.



Neil Doran
Project Geologist

enclosure

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1.0 INTRODUCTION AND BACKGROUND

On behalf of Bohannon Development Company (Bohannon), SECOR International Inc. (SECOR) has prepared this Remedial Action Work Plan (Work Plan) for the property located at 575 Paseo Grande in San Lorenzo, California (the site). This Work Plan describes the project background, objectives, and implementation schedule for the development and implementation of a remediation strategy.

The site is located in a mixed-use commercial and residential area (zoned commercial, C1) at the corner of Paseo Grande and Paseo Larga Vista in San Lorenzo, California (Figure 1). Prior to 1969, the site had been used as an automobile service station. In anticipation of property redevelopment, initial investigation activities were conducted in March 1995 to determine if out-of-service underground gasoline service station equipment remained on-site. In summary, the investigation identified what appeared to be the former tank pit, approximately 110 feet of fuel delivery system piping, and a grease sump and/or hydraulic lift pit in an area which may have been the former service garage.

Subsequent work included soil excavation and groundwater monitoring well installation and sampling, which indicated groundwater beneath the site is impacted by petroleum hydrocarbons. During telephone conversations with SECOR in June 2002, the Alameda County Health Care Services Agency (ACHCSA) requested remedial measures to reduce petroleum hydrocarbon concentrations in the groundwater.

The work described herein is intended to provide additional information needed to implement a remediation strategy. The ultimate goal is to obtain regulatory closure for the site from the ACHCSA prior to site redevelopment. The scope of work is divided into three phases: initial field activities including collection of soil and groundwater samples, an evaluation of nitrate injection as a possible remedial strategy for the site, and possible implementation of nitrate injection as a remedial strategy. This work plan describes methods and procedures for a bench-scale study, a pilot test, and implementation of a full-scale treatment program.

2.0 SITE HISTORY AND PREVIOUS INVESTIGATIONS

Prior to 1969, the site operated as a gasoline service station, and over the last 25 years the site has existed as an asphalt-paved parking area. Little information exists concerning site operations prior to 1969, although subsequent work by SECOR and others have identified a former UST excavation, a grease sump, and abandoned product piping at the site. Onsite remediation and characterization activities are summarized below:

- An initial subsurface investigation was implemented in 1995 by Twining Laboratories, Inc. (TLI). The objective of the work was to identify any remaining underground equipment related to the former service station, and included a magnetometer survey followed by an exploratory excavation. The investigation identified the former tank pit, approximately 110 feet of fuel conveyance piping, and a grease sump and/or hydraulic lift pit. Field evidence and one soil sample indicated the potential for soil contamination along the piping runs, around the grease sump, and around the inferred location of the former tank pit. **Characterization of the magnitude and extent of potential soil contamination were not conducted during initial investigation activities.**
- In June 1995, SECOR removed the former underground storage tank (UST) system piping and the former grease sump, and performed characterization soil sampling along pipelines and around the former grease sump and former tank pit areas. Soil chemical data identified the former grease sump and the former gasoline distribution system as two areas containing residual petroleum hydrocarbons. Three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed during the investigation to evaluate the degree to which the groundwater had been affected. The results of the soil characterization and groundwater monitoring activities were documented in SECOR's *Report of Interim Remedial Actions* dated June 4, 1996, and *Fourth Quarter 1996 Monitoring and Sampling Report* dated November 26, 1996.
- Four additional offsite groundwater monitoring wells (MW-4 through MW-7) were installed by SECOR in October 2000. Well installation activities and results of soil and groundwater sampling were described in SECOR's *Groundwater Monitoring Well Installation Report* dated June 29, 2001.
- SECOR has performed periodic groundwater monitoring and sampling at the site since May 1996. Most recently, SECOR conducted groundwater monitoring in May and August 2002. The results of these two events are presented in Appendices A and B, respectively. The next quarterly groundwater monitoring event is scheduled for November 2002.

3.0 OBJECTIVE AND RATIONALE

The objective of this Work Plan is to provide the rationale and framework for a remediation strategy, possibly using nitrate injection to stimulate the degradation of dissolved-phase petroleum hydrocarbons in groundwater. These objectives are discussed in detail below.

3.1 SOIL INVESTIGATION

As reported in SECOR's *Report of Interim Remedial Actions* dated June 4, 1996, overexcavation of the former product line and pump island location was terminated adjacent to the southern boundary of the site due to the presence of a natural gas line. One confirmation soil sample collected on the southern sidewall of the excavation reported 1,300 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPHg), and 24 mg/kg ethylbenzene. One confirmation sample collected from the floor of the excavation reported 12 mg/kg total petroleum hydrocarbons as diesel (TPHd) and 499 mg/kg total petroleum hydrocarbons as motor oil (TPHmo). A sidewall sample collected from the eastern boundary of the excavation reported similar concentrations. The approximate boundaries of the former excavations and the confirmation samples cited are illustrated on Figure 2.

SECOR proposes advancing two soil borings within and adjacent to the former UST excavation and two soil borings within and adjacent to the southern boundary of the former pump island and product line excavation. Up to four soil samples will be collected from each soil boring to determine if residual petroleum hydrocarbons are present in soil at concentrations that may affect groundwater. The proposed soil boring locations are illustrated on Figure 2, and the scope of work is detailed in Section 4 of this work plan.

3.2 FEASIBILITY OF NITRATE INJECTION AS A REMEDIAL OPTION

Based on our knowledge of the site's hydrogeologic conditions and experience with similar sites, SECOR believes that enhanced anaerobic biodegradation is a viable means of reducing concentrations of petroleum hydrocarbons in groundwater. Because of the relatively small area of impacted groundwater, the low estimated yield of the first-encountered groundwater-bearing zone, and inaccessibility of the downgradient region between Paseo Larga Vista and Via del Sol, traditional active remediation methods such as groundwater extraction or air sparging would likely be difficult to implement properly and/or be ineffective.

The introduction of nitrate into the subsurface may be cost effective because it would likely not require installation of significant infrastructure other than injection points, because the nitrate solution flows into the area of impacted groundwater, and would likely be effective at reducing concentrations of petroleum hydrocarbons in groundwater. The following is a brief background of the reasoning behind the methodology, and a discussion of site-specific geochemical and hydrogeologic conditions. A detailed discussion of the proposed scope of work is included in Section 4 of this Work Plan.

Background

Benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons in the diesel and gasoline range (TPHd and TPHg) have been shown by Lovely et al. (1989) to be biodegraded under anaerobic environments. The United States Environmental Protection Agency (EPA) Robert S. Kerr Environmental Research Laboratory conducted several investigations of anaerobic biodegradation focusing on nitrate reduction and BTEX/TPH metabolism. Hutchins (EPA/600/R-92/126, March 2002) conducted an investigation and demonstrated that nitrate could be used effectively to treat BTEX in pipeline sediments and groundwater.

Petroleum hydrocarbon contaminated sites often have a high oxygen demand in the source area, depleting the groundwater of oxygen and other electron acceptors thus starving the microbes of compounds they need to biodegrade the hydrocarbons. The introduction of oxygen is beneficial, but the sustainable concentration in water of 10 milligrams per liter (mg/L) is much lower than can be sustained with other electron acceptors. Nitrate and sulfate are much more soluble in water, and are inexpensive. Nitrate is ideal, because it is the next compound to be used by microbes once oxygen is depleted. Addition of nitrate and oxygen can generate a large radius of influence for the treatment because the oxygen will be used near the source point, and the nitrate will be consumed downgradient. The combined use of these compounds can significantly increase the rate of BTEX and TPH biodegradation.

Site-Specific Rationale

During the second quarter (May 2002) and third quarter (August 2002) groundwater sampling events, SECOR conducted a preliminary evaluation of groundwater conditions at the site in relation to the biological degradation of petroleum hydrocarbons. During the second quarter sampling event, oxidation/reduction potential (ORP) data was collected from each well using a flow-through cell connected to a low-flow peristaltic pump. These data (see Appendix A) indicate reducing conditions (ie, lower concentrations of oxygen) on the order of -200 millivolts (mV) in monitoring wells MW-2, MW-3 and MW-4, wells which historically contain the highest concentrations of petroleum hydrocarbons. Background ORP measurements collected from wells MW-5, MW-6 and MW-7 range from 90 to 115 mV, indicating background oxidizing conditions outside the plume of impacted groundwater.

During the third quarter sampling event, SECOR collected groundwater samples for analysis of several inorganic parameters, including nitrate. These data (see Appendix B) indicate that nitrate and sulfate, typical anaerobic electron donors, are present in wells MW-1 and MW-5 (15 and 38 milligrams per liter, respectively) but are absent in wells MW-2, MW-3 and MW-4, suggesting that these compounds have been depleted by microbes in the petroleum hydrocarbon plume.

Based on these geochemical conditions, it appears that the natural biological degradation of petroleum hydrocarbons in the groundwater is being limited by an absence of critical catalytic agents such as dissolved oxygen and nitrate that have been consumed by aerobic and anaerobic microbial activity.

4.0 SCOPE OF WORK

A description of the proposed work scope and procedures are presented in the following sections.

4.1 PRELIMINARY ACTIVITIES

A site-specific Health and Safety Plan (HASP) will be created to address potential chemical and physical hazards associated with the proposed investigation activities. A copy of the HASP will be kept onsite at all times when work is occurring. The locations of all proposed soil boring locations will be marked in the field and Underground Service Alert (USA) will be notified at least 72 hours prior to beginning intrusive field work. Additionally, SECOR will contract with a subsurface locator to clear the individual soil boring locations of obstructions. SECOR will obtain all applicable permits, including soil boring and encroachment permits from the Alameda County Public Works Agency.

4.2 SOIL SAMPLING AND ANALYSIS PROCEDURES AND METHODS

Four soil borings will be advanced using a truck mounted, direct push soil coring system under the supervision of a SECOR geologist. The soil boring locations adjacent to the former UST excavation and pump island and product line excavation are shown on Figure 2. The soil borings will be advanced to a total depth of approximately 20 feet below ground surface (bgs).

As the 4-foot long, 2-inch diameter casing rods are advanced, soil will be driven into 1-3/4 inch diameter acetate sample retrieval tubes. The tubes containing the soil samples will be removed from the drive sampler and retained for lithologic description and possible chemical analysis. **Soil samples will be collected continuously from the surface to the total depth of investigation.** Upon completion, each soil boring will be backfilled to the surface with a cement/bentonite mixture.

A SECOR geologist will describe the soils encountered according to the Unified Soil Classification System (USCS) and will maintain a soil boring log of these descriptions. Any odor or staining will be noted, and soils will be screened for volatile organic vapors using a photoionization detector (PID). Based on these parameters, up to four soil samples from each soil boring will be retained and submitted for analysis.

Samples exhibiting the highest PID readings will be submitted for analysis (a minimum of four samples per boring). If no samples exhibit field evidence of petroleum hydrocarbon impact, four representative samples from each soil boring will be submitted to adequately characterize subsurface conditions. The exposed ends of the tube will be covered with Teflon® and fitted with plastic end caps. Each sample will be labeled to indicate job number, boring number, sample depth, sample number, and time and date collected, then stored in a cooler containing ice. Soil samples retained for chemical analysis will be delivered to STL San Francisco of Pleasanton, California under chain-of-custody documentation. Soil samples will be analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd), and benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Methods 8020 and 8015M.

Waste Handling Procedures

All soils brought to the surface and not retained for chemical analysis will be stored in sealed 5-gallon buckets or 55-gallon drums and labeled with the generation date and nature of contents. The soils will be disposed of appropriately, based on analytical results. Disposal of all wastes will be conducted in accordance with federal, state and local regulations.

4.3 QUALITY ASSURANCE/QUALITY CONTROL MEASURES

The following sections describe the quality assurance/quality control (QA/QC) measures that will be followed during this investigation.

Decontamination Procedures

To minimize the potential for any cross-contamination, all downhole boring equipment and soil sampling equipment will be thoroughly cleaned prior to initiating work. Soil and water sampling equipment will be washed in a dilute trisodium phosphate (TSP) solution or equivalent, rinsed with potable water, and final rinsed with distilled water.

Chain of Custody Procedures

A completed chain-of-custody (COC) form will accompany all samples submitted to the analytical laboratory. The COC form will be used to document the handling and shipping procedures as well as identify and ensure traceability of the samples collected. The COC form will be completed and signed by the sample collector and subsequently signed through all custody transfers. At the analytical laboratory, the COC form will be checked for accuracy and completeness, then signed and dated by the laboratory custodian accepting the samples. A separate COC form(s) will accompany each shipment of samples.

Laboratory QA/QC Procedures

Established QA/QC procedures for analytical operation include sample custody procedures, standards of analytical precision and accuracy, analysis of control samples (spikes, blanks, and duplicates), data reduction, verification of raw analytical data, and maintenance of control charts to monitor analytical performance. These QA/QC procedures are outlined in STL San Francisco's QA/QC Plan, which is available from SECOR upon request.

4.4 NITRATE INJECTION

The proposed nitrate injection program shall proceed in a phased approach. SECOR will first conduct bench-scale testing of the impacted groundwater to determine dosing requirements. Following the bench test, SECOR will conduct an onsite pilot test to evaluate effectiveness and determine sustainable injection rates. **Should the bench-scale and pilot testing indicate that nitrate injection is a feasible remedial option, SECOR proposes submitting a brief progress report followed by full-scale implementation.** These three steps are discussed below.

Bench-Scale Testing

Upon approval of this Work Plan, SECOR will collect several water samples from well MW-3, historically the well with the highest concentrations of TPH and BTEX constituents. One sample will be delivered to STL San Francisco for analysis of TPHg and BTEX by EPA Method 8020. Once a baseline concentration is determined, a SECOR geochemist will treat several groundwater aliquots with nitrate solution standards of various concentrations. Following an appropriate reaction time, each aliquot will be analyzed to determine the final concentrations of petroleum hydrocarbons. In this manner, the required concentration and dosage of nitrate solution will be determined.

Pilot Testing

Following completion of the bench tests, SECOR will execute a pilot study at the site to determine the effectiveness of nitrate injection under actual conditions. SECOR anticipates installing two four-inch-diameter injection wells within approximately ten feet of, and slightly upgradient from, well MW-3. The wells will be constructed similar to the onsite monitoring wells, screening the entire saturated zone from approximately 6 to 14 feet bgs. An additional two-inch-diameter piezometer will be installed downgradient from well MW-3, along the eastern side of Paseo Larga Vista, to monitor the downgradient effectiveness of the nitrate injection. Proposed pilot study injection and monitoring well locations are illustrated on Figure 3. All appropriate drilling and encroachment permits will be obtained from the Alameda County Public Works Agency prior to drilling activities, and SECOR will contract with a private utility locator to mark the locations of any underground utilities.

Following well installation and development, SECOR will prepare a nitrate solution at the site from concentrated nitrate solution or powder. The solution will be mixed in a batch tank placed in secondary containment, and pumped into the injection wells with an electric or gas-powered pump. The flow rate will be determined based on the ability of the formation to accept solution, and the pressure applied to the wellhead will not exceed 10 pounds per square inch (psi). During the pilot test, SECOR estimates pumping up to 500 gallons of solution into each of the two injection wells.

After injection of the nitrate solution, SECOR will periodically monitor and sample well MW-3 and the additional piezometer to evaluate the effectiveness of the nitrate injection. During this time period, SECOR anticipates collecting approximately four groundwater samples. The samples will be analyzed for TPH and BTEX constituents as well as nitrate in order to determine the effectiveness of the treatment in reducing petroleum hydrocarbon concentrations, the rate of nitrate consumption, and the downgradient migration of the nitrate in the subsurface.

Full-Scale Treatment

If the results of the pilot study indicate that nitrate injection is a feasible method for reducing concentrations of petroleum hydrocarbons in the subsurface, SECOR proposes to proceed with full-scale nitrate injection at the site. As a preliminary assumption, SECOR estimates installing approximately 12 four-inch-diameter injection wells along both sides of Paseo Larga Vista, downgradient from the subject site (Figure 4). All appropriate drilling and encroachment permits will be obtained from the Alameda County Public Works Agency prior to drilling activities, and SECOR will contract with a private utility locator to mark the locations of any underground utilities.

Following well installation and development, SECOR will prepare a nitrate solution at the site from concentrated nitrate solution or powder. The solution will be mixed in a batch tank placed in secondary containment, and transferred to a truck-mounted tank. The solution will be pumped into the wells from the truck-mounted tank using an electric or gas-powered pump, and the tank will be refilled from the batch tank as needed. The per-well dosage requirements will be determined during the pilot test.

SECOR will perform periodic groundwater monitoring and sampling of wells MW-2, MW-3, MW-4, and the newly-installed piezometer following the initial injection. The wells will be sampled weekly for four events following injection, and the samples will be analyzed for TPHg, BTEX and nitrate. Additional injections may be initiated based on the results of this sampling.

4.5 REPORTING

A report documenting the methods and findings of the soil boring investigation and nitrate injection bench test will be prepared and submitted to the ACHCSA. The report will include a description of the work performed, soil boring logs, tabulated soil chemical data, figure illustrating the soil sampling locations, and complete laboratory reports. The report will describe the procedures and methods of the nitrate treatment bench test, and summarize and discuss the findings such as observed effectiveness and dosing requirements.

If the results of the bench test are favorable and a pilot study is performed, SECOR will submit a report describing the methods, procedures, and conclusions of the pilot test. The report will include a record of the mass of nitrate injected, a summary of groundwater sample results, and complete laboratory reports. If the pilot study results suggest that full-scale treatment is a viable option, the report may also include proposed injection points, dosage requirements, and a revised implementation schedule.

5.0 IMPLEMENTATION SCHEDULE

The following is a conceptual time schedule for implementation of all phases of work described in this work plan.

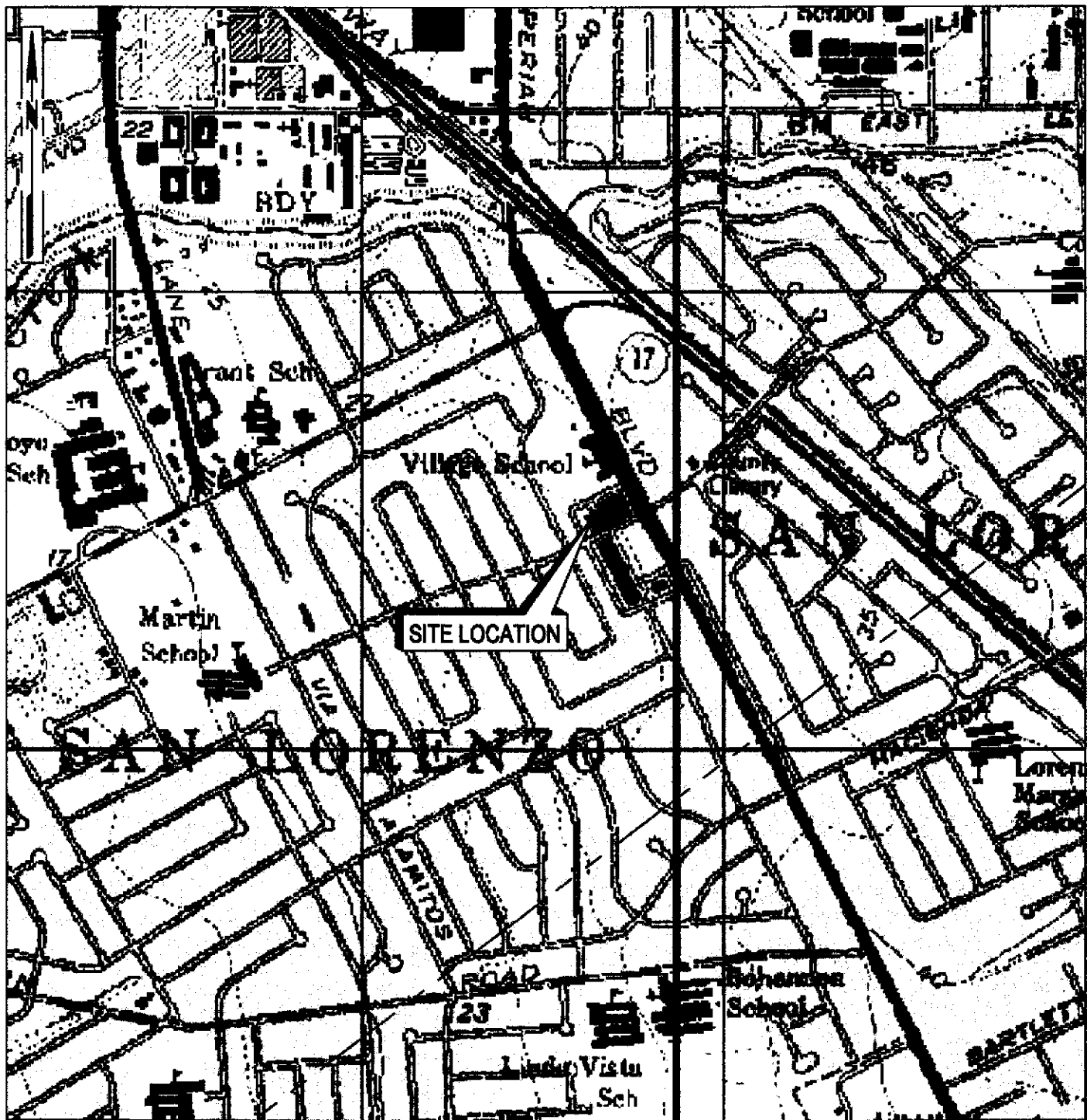
<u>Phase</u>	<u>Duration</u>
Soil Boring Investigation / Nitrate Bench Test	2-4 weeks
Nitrate Injection Pilot Study	4-6 weeks
Full-Scale Nitrate Injection	8-10 weeks

6.0 LIMITATIONS

The conclusions and recommendations contained in this work plan are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

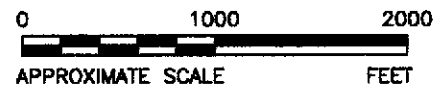
1. The data and findings presented in this report are valid as of the dates when the investigations were performed. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.
2. The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Work. The Scope of Work was defined by the request of the client, the time and budgetary constraints imposed by the client, and availability of access to the Site.
3. Because of the limitations stated above, the findings, observations, and conclusions expressed by SECOR in this report are not, and should not be, considered an opinion concerning the compliance of any past or present owner or operator of the Site with any federal, state or local law or regulation.
4. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon Site conditions in existence at the time of investigation.
5. SECOR reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, state or local governmental agencies. Any use of the report constitutes acceptance of the limits of SECOR's liability. SECOR's liability extends only to its client and not to any other parties who may obtain the report. Issues raised by the report should be reviewed by appropriate legal counsel.

20021011.15472218 E:\BOH\2002 work plan\BOH-SITE LOCATION MAP-FIGURE 1-2002 work plan.dwg



REFERENCE:

DeLORME 3-D TOPOQUADS

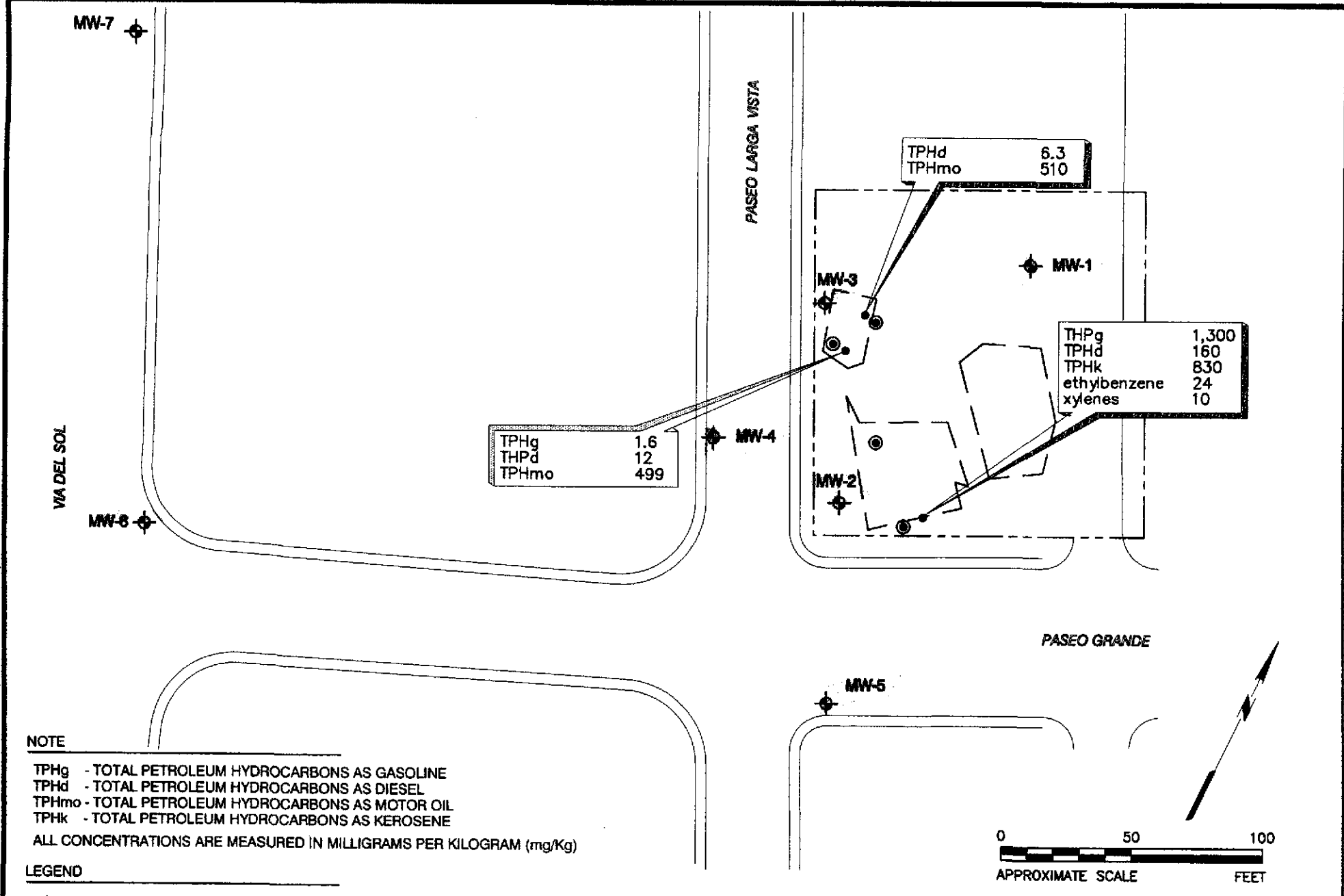


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FIGURE 1
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
SITE LOCATION MAP

S:\LUNLUKU\BOH\BOH-FIGURES-2_B.DWG (TAB=FIGURE-2) RRR 3 JUL 01



NOTE

TPHg - TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
 TPHd - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
 TPHmo - TOTAL PETROLEUM HYDROCARBONS AS MOTOR OIL
 TPHk - TOTAL PETROLEUM HYDROCARBONS AS KEROSENE
 ALL CONCENTRATIONS ARE MEASURED IN MILLIGRAMS PER KILOGRAM (mg/Kg)

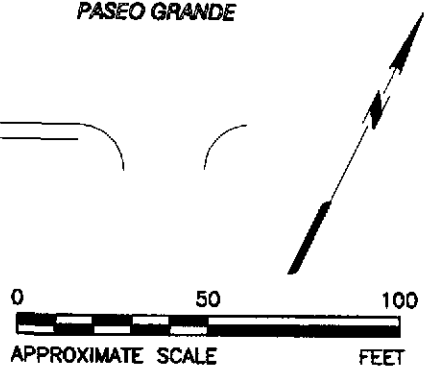
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- ◆ MW-6 EXISTING WELL LOCATION
- 1996 SOIL SAMPLE
- PROPOSED SOIL BORING LOCATION
- - - APPROXIMATE PROPERTY LINE
- - - LIMITS OF FORMER EXCAVATION

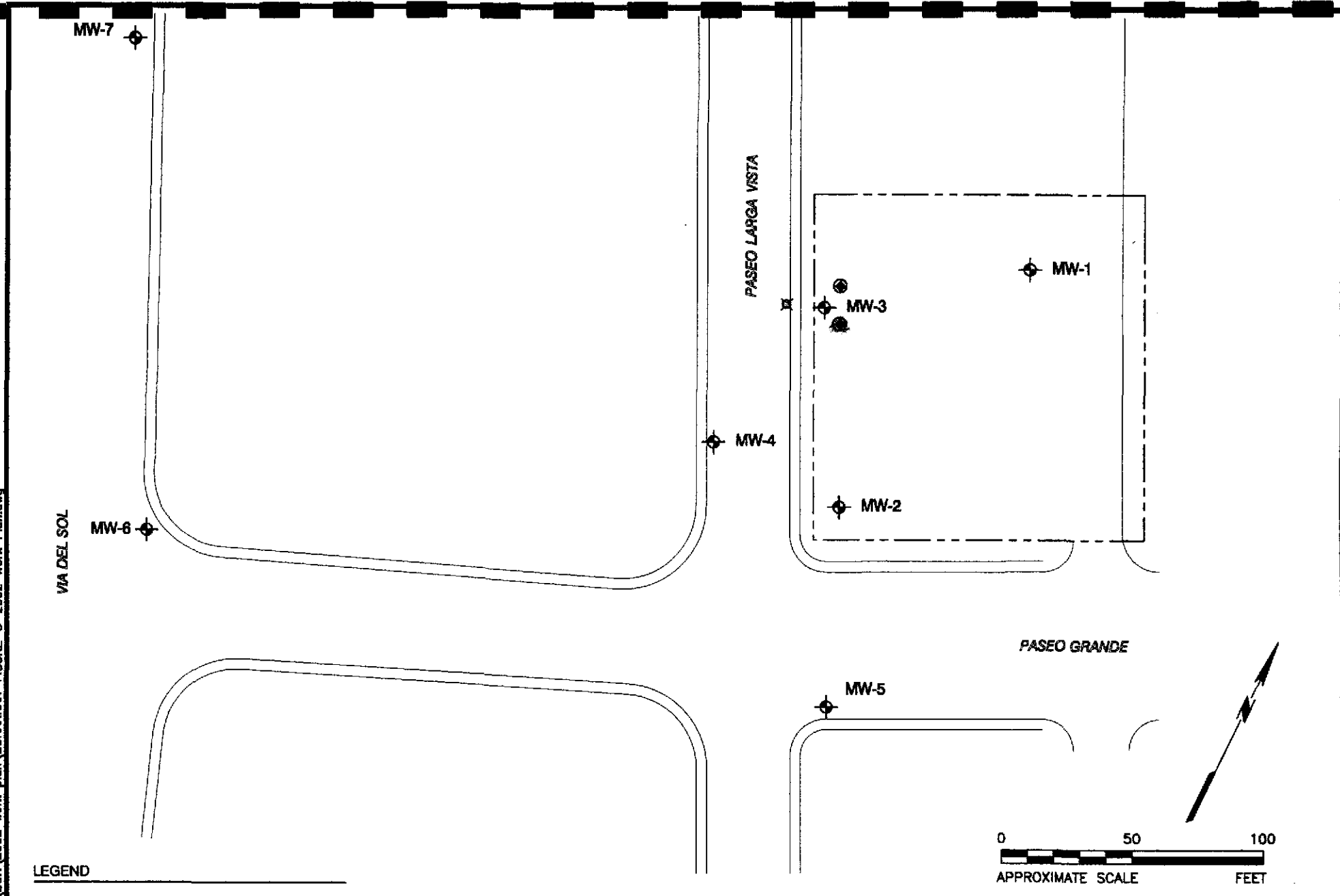
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FIGURE 2
 BOHANNON DEVELOPMENT COMPANY
 575 PASEO GRANDE
 SAN LORENZO, CALIFORNIA

SITE PLAN & PROPOSED SOIL BORING LOCATIONS



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LEGEND

- ⊕ MW-6 EXISTING WELL LOCATION
- NITRATE INJECTION WELL
- ⊗ OBSERVATION WELL
- - - - - APPROXIMATE PROPERTY LINE

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FIGURE 3
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA

**PROPOSED NITRATE INJECTION AND
OBSERVATION WELL LOCATIONS - PILOT TEST**

20021011.18512497 E:\BOH\2002 work plan\BOHANNAN-FIGURE-4-2002 Work Plan.dwg

MW-7

MW-6

FASEO LARGA VISTA

MW-4

MW-3

MW-2




MW-1

MW-5

FASEO GRANDE

VIA DEL SOL

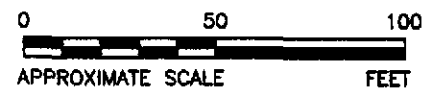
LEGEND

	MW-6	EXISTING WELL LOCATION
		NITRATE INJECTION WELL
		APPROXIMATE PROPERTY LINE

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FIGURE 4
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
**PROPOSED NITRATE INJECTION WELL LOCATIONS
FULL SCALE TREATMENT**



APPENDIX A

MAY 2002 GROUNDWATER MONITORING REPORT

**MAY 2002
GROUNDWATER MONITORING
REPORT**

**575 PASEO GRANDE
SAN LORENZO, CALIFORNIA**

Job No. 05OT.50026.00

Prepared For:

Bohannon Development Company
Sixty 31st Avenue
San Mateo, California 94403

Prepared by:

SECOR International Incorporated
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Lafayette, California 94549

October 25, 2002

May 2002 Groundwater Monitoring Report

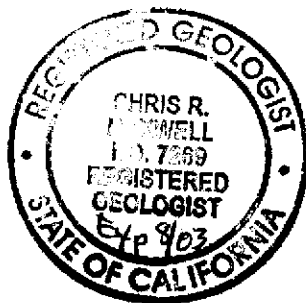
**Bohannon Development Company
575 Paseo Grande
San Lorenzo, CA
SECOR Project No. 05OT.50026.00**

The material and data in this report were prepared under the supervision and direction of the undersigned. This report was prepared consistent with current and generally accepted geologic and environmental consulting principles and practices that are within the limitations provided herein.

SECOR International Incorporated



Neil Doran
Project Geologist



Chris R. Maxwell, R.G. No. 7269
Principal Project Geologist

LIMITATIONS

The conclusions and recommendations contained in this report/assessment are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the dates when the investigations were performed. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.
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3. Because of the limitations stated above, the findings, observations, and conclusions expressed by SECOR in this report are not, and should not be, considered an opinion concerning the compliance of any past or present owner or operator of the Site with any federal, state or local law or regulation.
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5. SECOR reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, state or local governmental agencies. Any use of the report constitutes acceptance of the limits of SECOR's liability. SECOR's liability extends only to its client and not to any other parties who may obtain the report. Issues raised by the report should be reviewed by appropriate legal counsel.

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring, sampling, and analysis conducted on May 22, 2002 for the property located at 575 Paseo Grande, San Lorenzo, California (Site). This sampling event was conducted to continue the assessment of groundwater conditions beneath the Site. The previous groundwater monitoring and sampling event was conducted in August 2001.

The scope of work included measuring the depth to water in groundwater monitoring wells MW-1 through MW-7, and collecting groundwater samples for analysis of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX).

1.1 BACKGROUND

Over the last 25 years, the Site has been used as an asphalt-paved parking area located in a C1 commercial zone. The Site was a gasoline station prior to 1969. Little information is known about the Site history related to its use as a gasoline service station. In anticipation of property redevelopment, initial investigation activities were conducted in March 1995 to determine if out-of-service gasoline service station underground equipment remained on-Site. The work was conducted by Twining Laboratories, Inc. (TLI), as documented in their letter report dated April 15, 1995. The work conducted included a magnetometer survey followed by an exploratory excavation. In summary, the work conducted identified underground gasoline service station equipment which included what appeared to be the former tank pit, approximately 110 feet of fuel delivery system piping, and a grease sump and/or hydraulic lift pit in an area which may have been the former service garage (Figure 2). Field evidence and one soil sample indicated the potential for soil contamination along the piping runs, around the grease sump, and around the inferred location of the former tank pit. Characterization of the magnitude and extent of potential soil contamination were not conducted during initial investigation activities.

In June 1995, SECOR conducted additional activities at the Site which included removal of the former underground storage tank (UST) system piping and the former grease sump, and characterization soil sampling along pipelines and around the former grease sump and former tank pit areas. This work was summarized in SECOR's letter report dated June 29, 1995. The characterization data from this investigation indicated that there were two areas of concern at the Site. These areas were the former grease sump area and the former gasoline distribution system area. SECOR subsequently conducted excavation activities in the vicinity of the two areas. The soil excavated from the former sump area was transported off-Site for disposal. The soil generated from the UST excavation was treated by means of aeration and transported off-Site for disposal. Three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed during the investigation activities to evaluate the degree to which the groundwater had been affected. The results of the soil characterization and groundwater monitoring activities are reported in SECOR's "Report of Interim Remedial Actions" dated June 4, 1996, and "Fourth Quarter 1996 Monitoring and Sampling Report" dated November 26, 1996.

In June 1999, a utility trench survey was conducted around the Site, and a passive soil vapor survey was conducted in the down-gradient direction from the Site. The results of the utility trench and passive soil vapor surveys are documented in SECOR's "Third Quarter 1999 Groundwater Monitoring Results and Plume Definition Report", dated October 21, 1999.

On December 5, 2000, four additional groundwater monitoring wells (MW-4 through MW-7) were installed at the Site by SECOR. Soil and groundwater sampling was conducted to evaluate possible off-Site migration of petroleum-related constituents originating from the Site, and to collect data to direct further subsurface investigations, and/or remediation at the Site, if necessary. The work was conducted in general accordance with the "Work Plan for Additional Groundwater Monitoring Well Installation" dated October 22, 1999 (Work Plan) and the "Addendum to the Work Plan for Additional Groundwater Monitoring Well Installation" dated December 2, 1999 (Addendum). The Work Plan was approved with comments in correspondence from the Alameda County Health Care Services Agency (ACHCSA) in a letter dated November 4, 1999.

Historically, two of the onsite wells (MW-2 and MW-3) and one well immediately down-gradient to the west (MW-4) contain elevated concentrations of petroleum hydrocarbons. Wells further off-Site to the west (MW-6 and MW-7) and south (MW-5) typically do not contain detectable levels of petroleum hydrocarbons, with the exception of well MW-7, which reported low concentrations of total xylenes (up to 6.7 mg/kg) in the first two sampling events (December 2000 and February 2001). The well has since been nondetect for all constituents..

2.0 GROUNDWATER MONITORING

Groundwater monitoring wells MW-1 through MW-7 were gauged for depth-to-water and sampled on May 22, 2002.

2.1 Water Level Gauging

Prior to purging and sampling, the depth to groundwater was measured from the top of each well casing using a water-level indicator graduated to 0.01 foot. Depth-to-groundwater measurements and surveyed wellhead top-of-casing elevations were used to calculate groundwater surface elevations for each well. Table 1 presents historical groundwater elevation data for the Site.

2.2 Purging and Sampling

Each of the seven wells were purged using a low-flow purging method consisting of dedicated tubing attached to a variable speed peristaltic pump set to extract groundwater at a rate of 0.1 gallons per minute. Temperature, conductivity, pH, and oxidation-reduction potential were monitored during purging to confirm static water conditions prior to sampling. Copies of the field data sheets are attached as Appendix A.

Samples were collected from each well using the dedicated tubing to eliminate the possibility of cross-contamination. Samples were placed in laboratory supplied sample containers, capped, labeled, and stored on ice pending delivery to STL San Francisco, a California state-certified laboratory. The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by U.S. Environmental Protection Agency (EPA) Method 8015 (modified); and for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8020.

3.0 RESULTS

3.1 May 2002 Groundwater Elevation Results

The average depth-to-water at the Site on May 22, 2002 was 5.76 feet below the top of each well casing with an average water table elevation of 20.27 feet above mean sea level. Groundwater elevations increased an average of 1.18 feet since the previous monitoring event in August 2001.

A potentiometric surface map illustrating the interpreted groundwater surface elevation and flow direction on May 22, 2002 is presented as Figure 3. The hydraulic gradient across the Site was approximately 0.0035 feet per foot toward the west-southwest. These results are generally consistent with flow direction results obtained during the prior monitoring events. As mentioned in previous reports, the flow direction beneath the Site is potentially tidally influenced by San Francisco Bay to the west.

3.2 May 2002 Groundwater Analytical Results

Table 2 presents historical groundwater laboratory analytical results for the Site, including the May 2002 sampling event. The groundwater chemical data for the May 2002 event are illustrated on Figure 4.

TPHg and BTEX concentrations continue to be below laboratory method reporting limits in on-Site well MW-1 and off-Site wells MW-5, MW-6, and MW-7. Samples from wells MW-2, MW-3, and MW-4 continue to report detectable concentrations of petroleum hydrocarbons.

Copies of the laboratory analytical reports for groundwater samples are attached as Appendix B. The following provides a brief discussion regarding the analytical results:

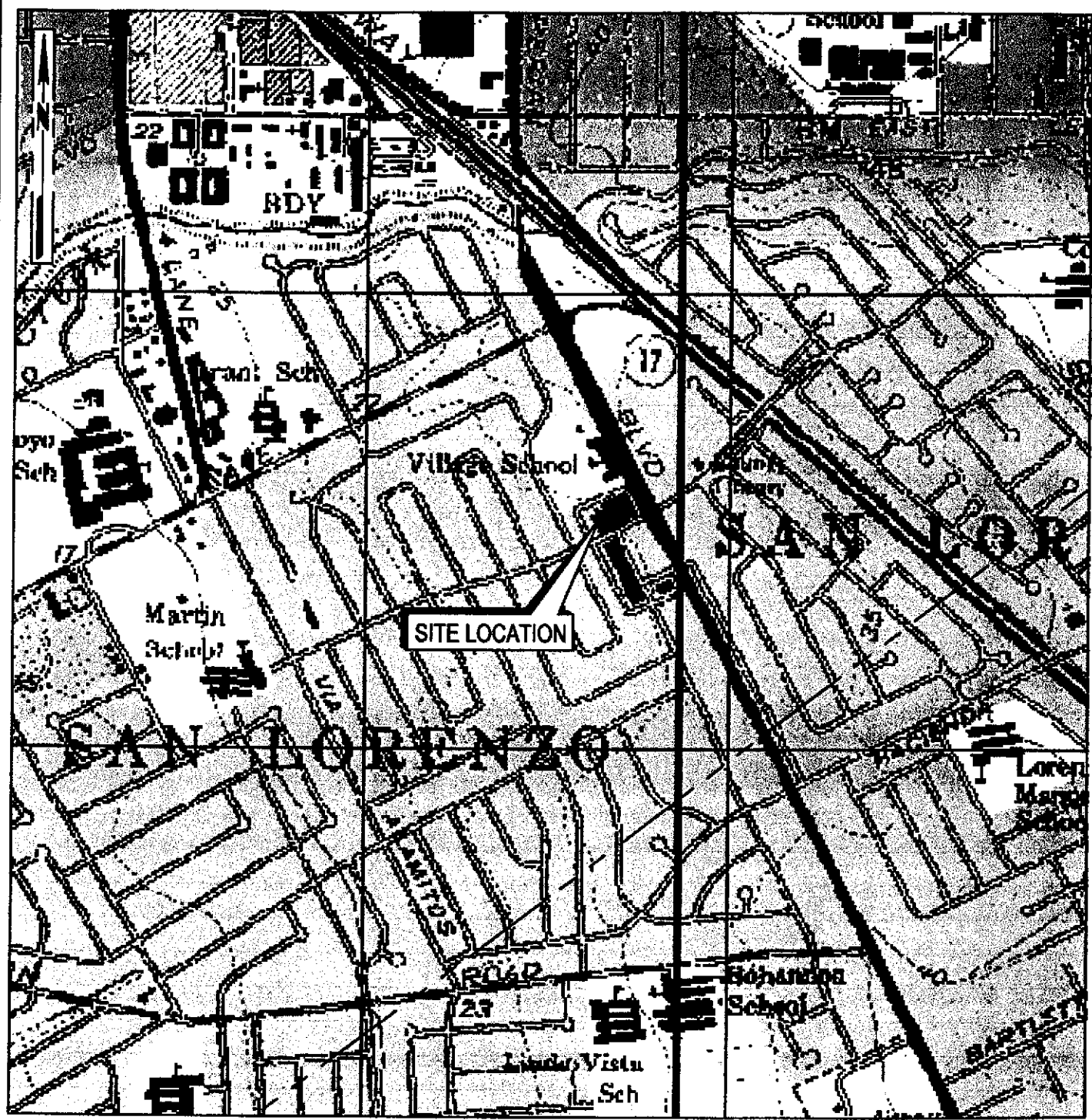
3.2.1 BTEX

BTEX constituents were reported in samples collected from wells MW-2, MW-3 and MW-4. Historic concentrations of benzene in these three wells are shown on Figure 5 (MW-2 and MW-4) and Figure 6 (MW-3). During the May 2002 event, benzene concentrations ranged from 230 micrograms per liter ($\mu\text{g/L}$) in MW-2 to 1,000 $\mu\text{g/L}$ in MW-3. Reported BTEX concentrations for the May 2002 event are generally consistent with historic results.

3.2.2 TPH as Gasoline

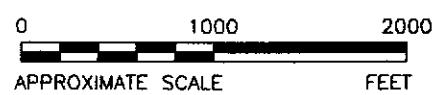
TPHg was reported in samples collected from wells MW-2, MW-3 and MW-4. Historic concentrations of TPHg in these three wells are shown on Figure 7 (MW-2 and MW-4) and Figure 8 (MW-3). During the May 2002 event, TPHg concentrations ranged from 1,700 $\mu\text{g/L}$ at MW-2 to 5,400 $\mu\text{g/L}$ at MW-3. Reported TPHg concentrations are generally consistent with historic results.

20021011.15050312 E:\BOH\2002 work plan\BOH-SITE LOCATION MAP-FIGURE 1-2002 work plan.dwg



REFERENCE:

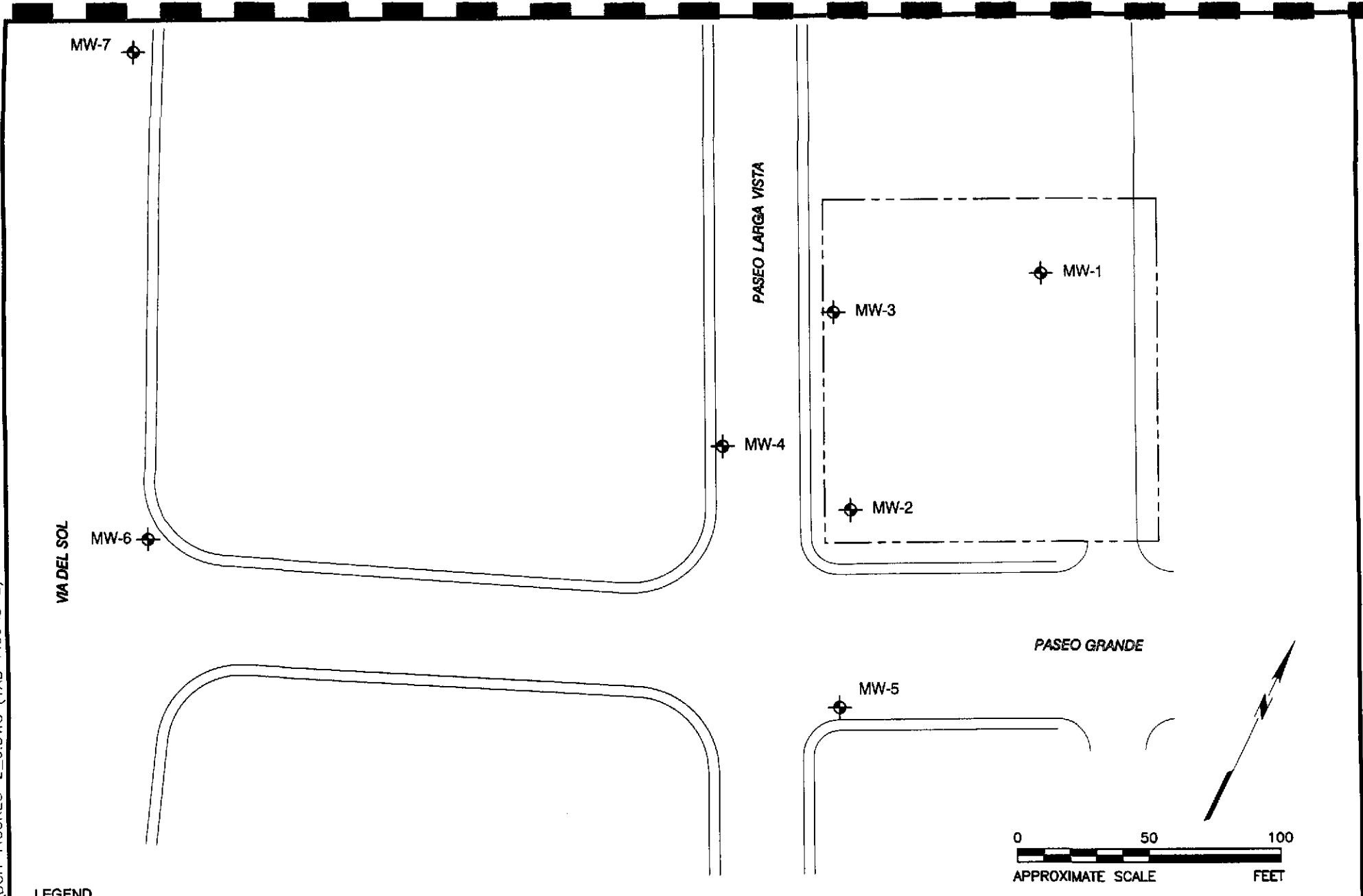
DeLORME 3-D TOPOQUADS



SECOR
International Incorporated

DRAWN	RRR
APPR	ND
DATE	11 MAY 2002
JOB NO.	050T.50026.00.0005

FIGURE 1
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
SITE LOCATION MAP



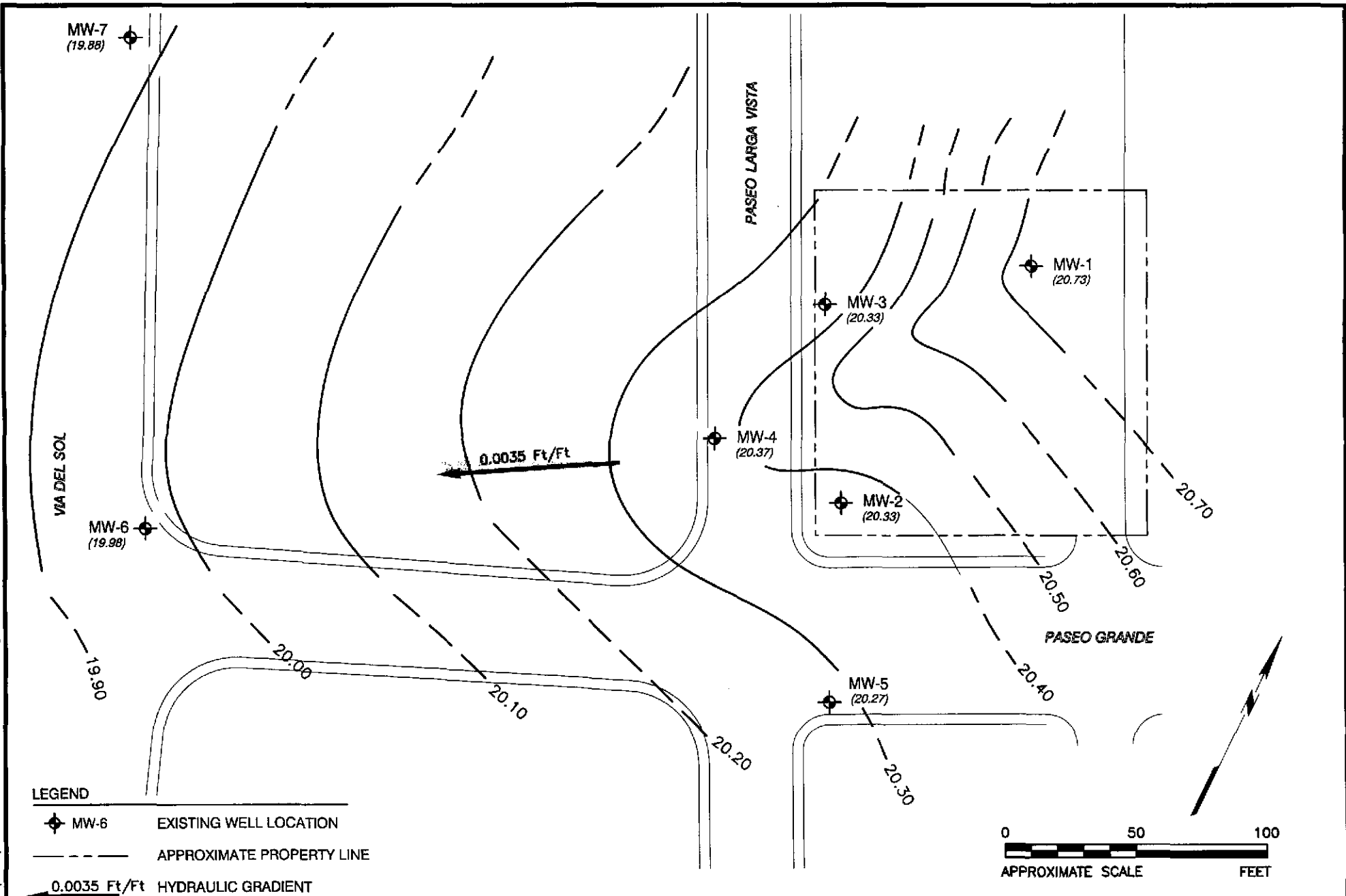
LEGEND

- ◆ MW-6 EXISTING WELL LOCATION
- APPROXIMATE PROPERTY LINE

<p>SECOR <i>International</i> <i>Incorporated</i></p>	DRAWN	PR
	APPR	BR
	DATE	21MAY2001
	JOB NO.	007.03814.006

FIGURE 2
 BOHANNON DEVELOPMENT COMPANY
 575 PASEO GRANDE
 SAN LORENZO, CALIFORNIA
SITE PLAN

20021014.13513905 E:\BOH\BOH-FIGURES-2_6-MAY_2002.dwg



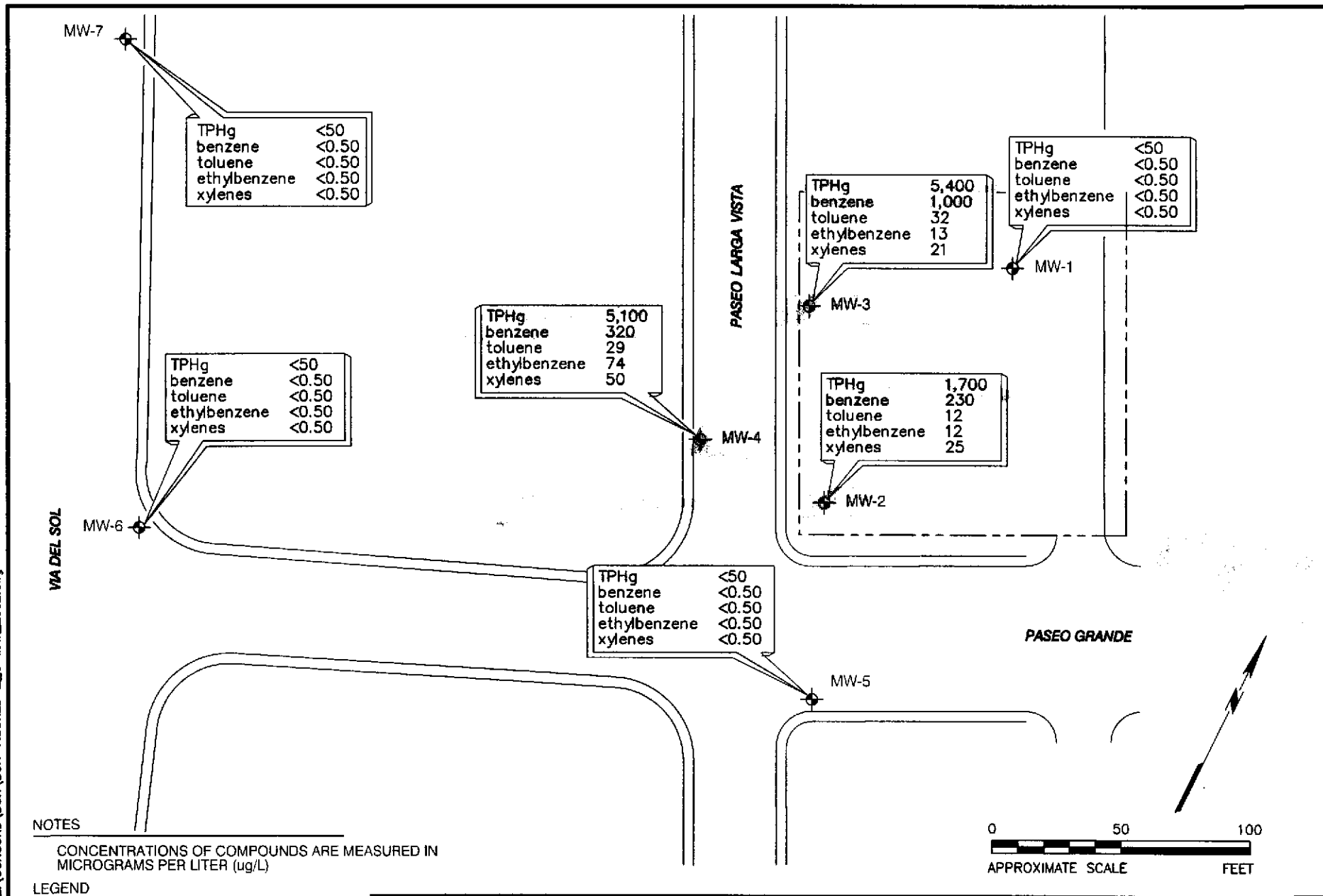
LEGEND

- MW-6 EXISTING WELL LOCATION
- APPROXIMATE PROPERTY LINE
- 0.0035 Ft/Ft HYDRAULIC GRADIENT
- 20.60 GROUNDWATER SURFACE ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (20.54) GROUNDWATER ELEVATION (FEET ABOVE MSL)

<p>SECOR <i>International Incorporated</i></p>	DRAWN	RRR
	APPR	ND
	DATE	11 MAY 2002
	JOB NO.	050T.50026.00.0005

FIGURE 3
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
POTENTIOMETRIC SURFACE MAP
MAY 22, 2002

20020617.14244922 E:\CONCORD\BOH\BOH-FIGURES-2_6-MAY_2002.dwg



NOTES

CONCENTRATIONS OF COMPOUNDS ARE MEASURED IN MICROGRAMS PER LITER (ug/L)

LEGEND

- MW-6 EXISTING WELL LOCATION
- APPROXIMATE PROPERTY LINE
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

SECOR

International Incorporated

DRAWN	RRR
APPR	ND
DATE	11 MAY 2002
JOB NO.	050T.50026.00.0005

FIGURE 4
 BOHANNON DEVELOPMENT COMPANY
 575 PASEO GRANDE
 SAN LORENZO, CALIFORNIA
CHEMICAL CONCENTRATIONS IN GROUNDWATER
 MAY 22, 2002

Figure 5 - Historical Concentrations of Benzene at MW-2 and MW-4

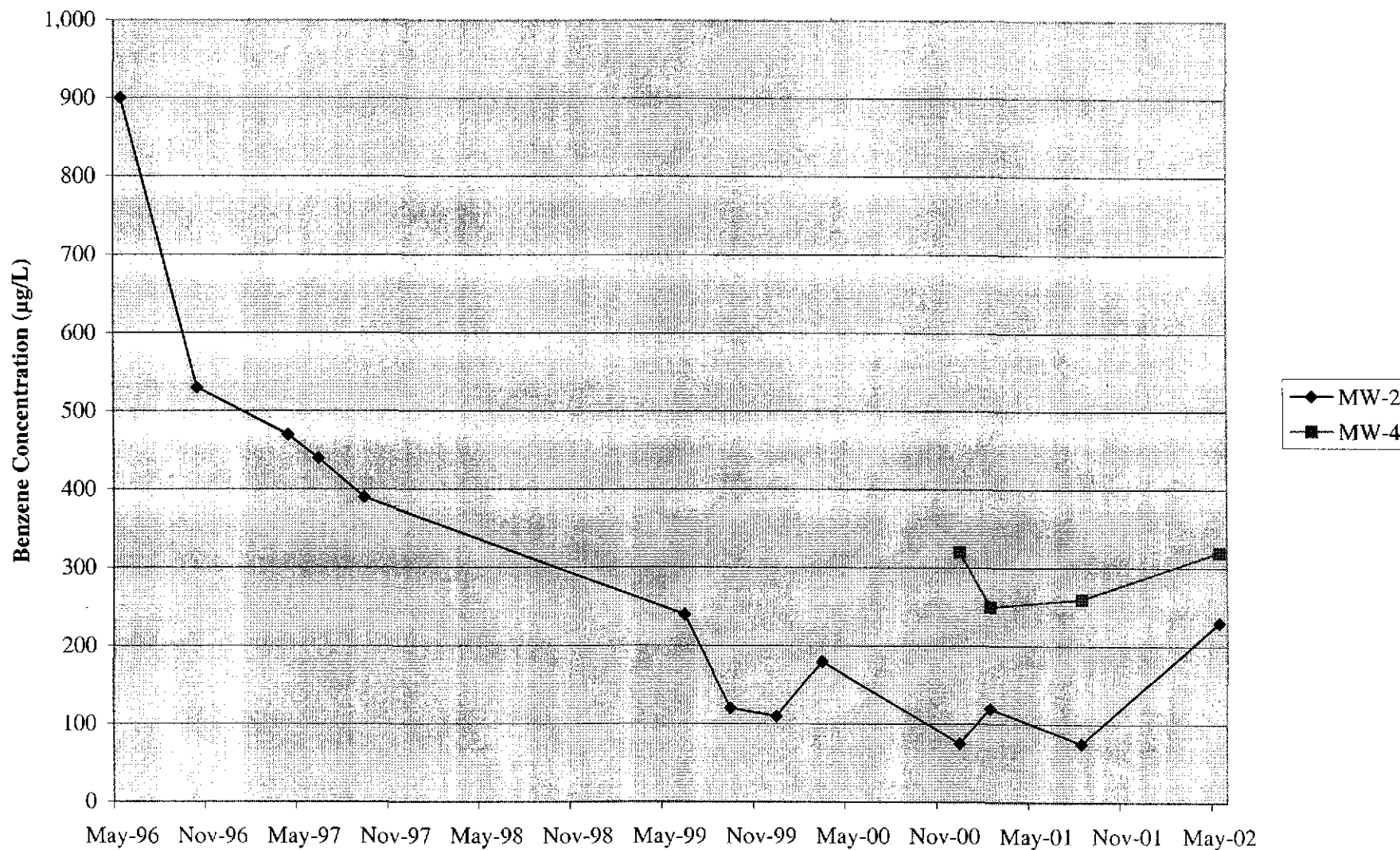


Figure 6 - Historical Concentrations of Benzene at MW-3

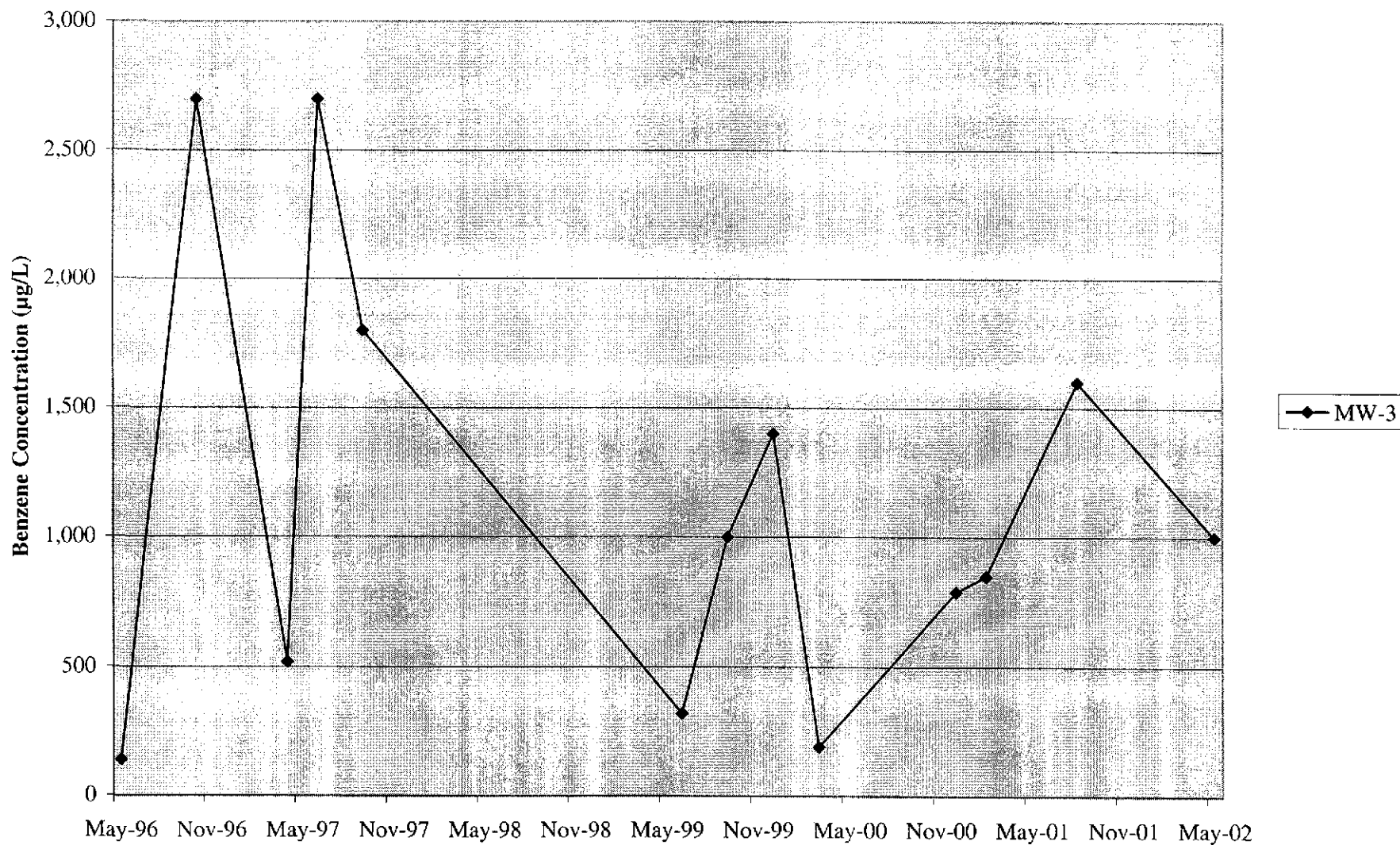


Figure 7 - Historical Concentrations of TPHg at MW-2 and MW-4

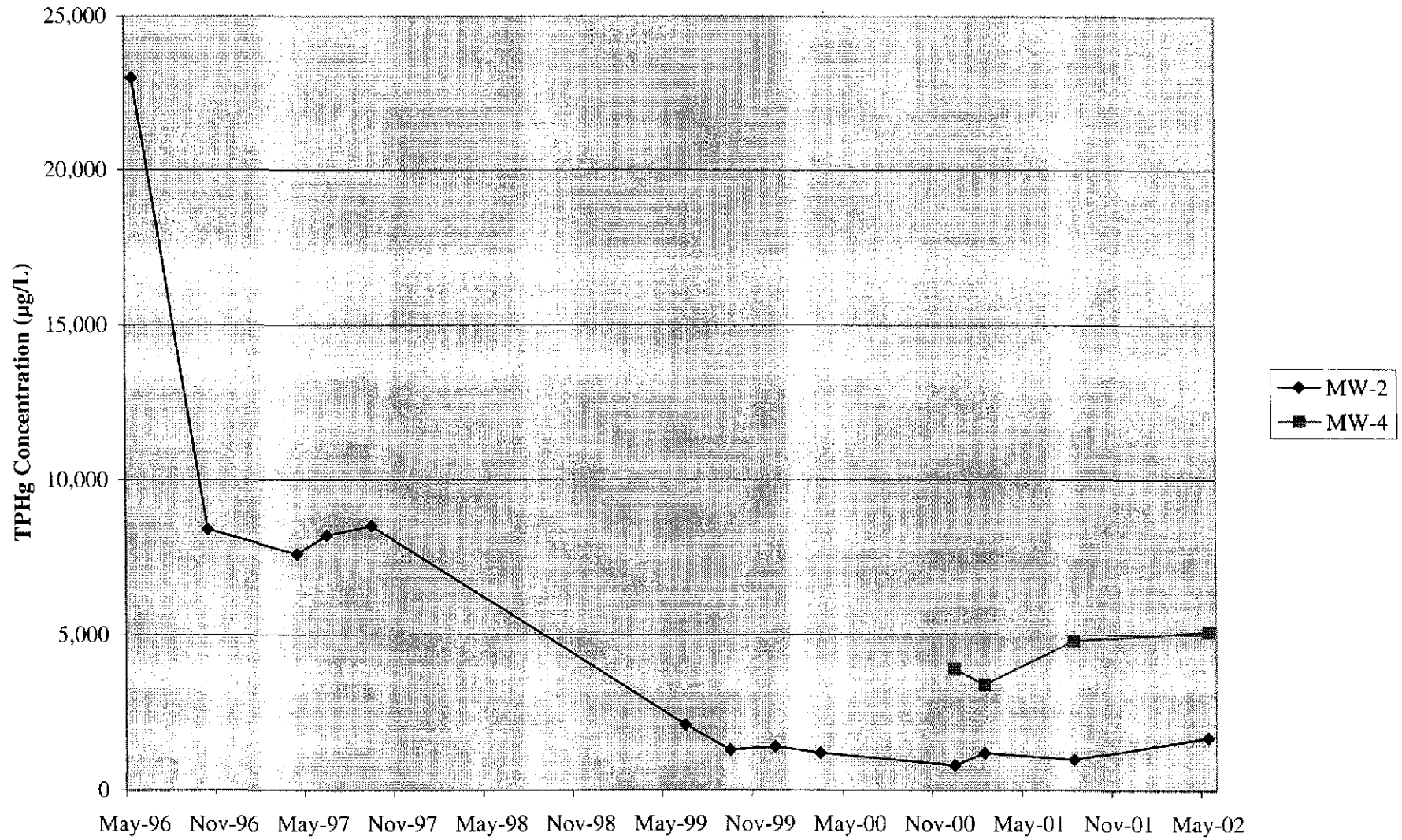


Figure 8 - Historical Concentrations of TPHg at MW-3

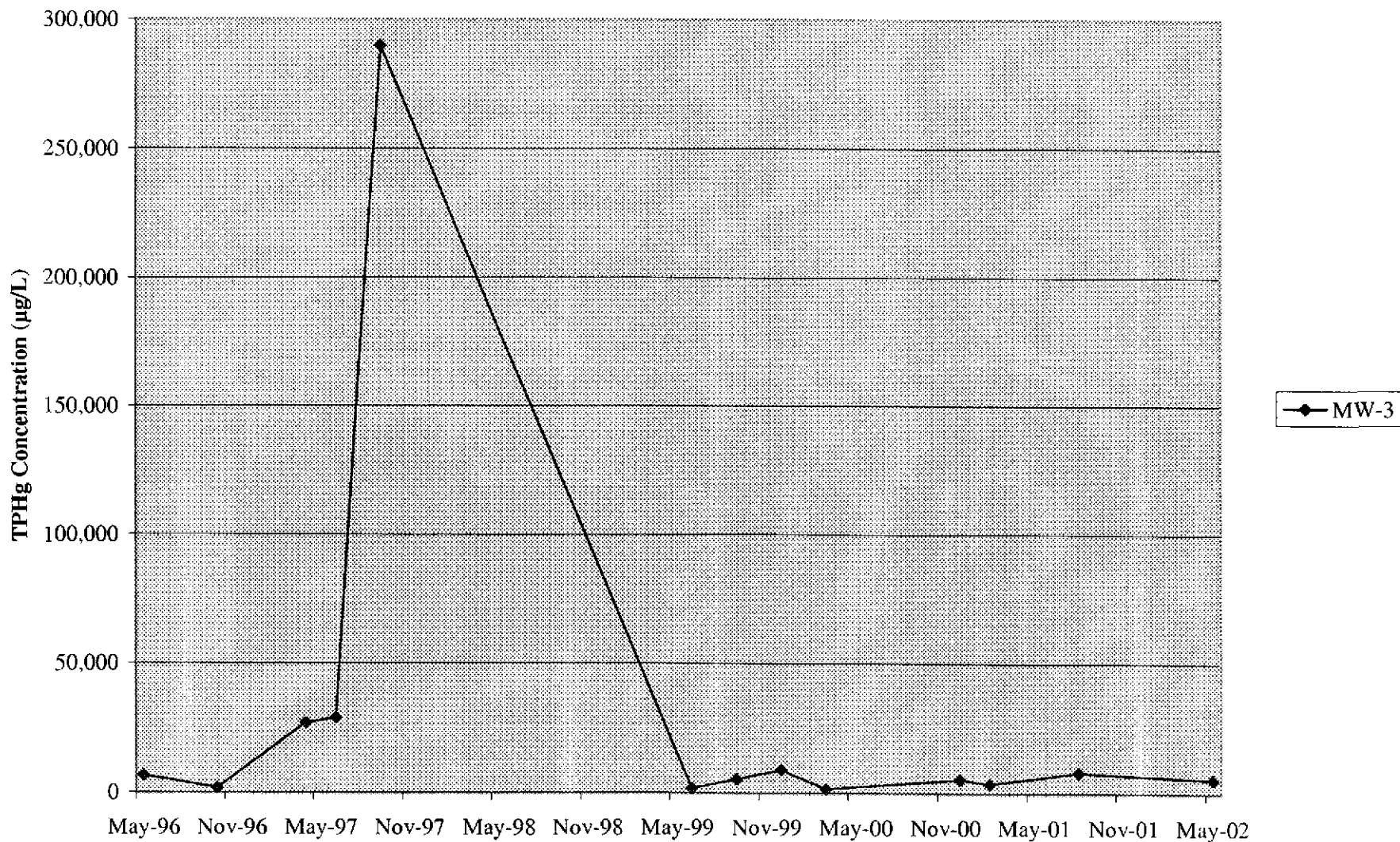


Table 1
Historical Groundwater Elevation Data
575 Paseo Grande
San Lorenzo, California

Date	TOC (ft msl)	DTW (ft bTOC)	ELEV (ft msl)
MW-1			
17-May-96	27.11	5.65	21.46
8-Oct-96		7.47	19.64
1-Apr-97		6.27	20.84
12-Jun-97		6.90	20.21
10-Sep-97		7.48	19.63
8-Jun-99		6.44	20.67
13-Sep-99		7.56	19.55
21-Dec-99		7.41	19.70
17-Mar-00		5.35	21.76
5-Dec-00	26.98	6.99	19.99
28-Feb-01		5.71	21.27
22-Aug-01		7.39	19.59
22-May-02		6.25	20.73
MW-2			
17-May-96	26.73	5.56	21.17
8-Oct-96		7.15	19.58
1-Apr-97		6.61	20.12
12-Jun-97		6.76	19.97
10-Sep-97		7.19	19.54
8-Jun-99		6.45	20.28
13-Sep-99		7.46	19.27
21-Dec-99		7.26	19.47
17-Mar-00		5.56	21.17
5-Dec-00	26.73	7.01	19.72
28-Feb-01		5.81	20.92
22-Aug-01		7.42	19.31
22-May-02		6.40	20.33
MW-3			
17-May-96	26.15	4.39	21.76
8-Oct-96		6.82	19.33
1-Apr-97		5.53	20.62
12-Jun-97		6.18	19.97
10-Sep-97		6.81	19.34
8-Jun-99		5.74	20.41
13-Sep-99		6.88	19.27
21-Dec-99		6.66	19.49
17-Mar-00		4.51	21.64

Table 1
Historical Groundwater Elevation Data
575 Paseo Grande
San Lorenzo, California

Date	TOC (ft msl)	DTW (ft bTOC)	ELEV (ft msl)
5-Dec-00	26.55	6.84	19.71
28-Feb-01		5.44	21.11
22-Aug-01		7.29	19.26
22-May-02		6.22	20.33
MW-4			
5-Dec-00	25.87	6.28	19.59
28-Feb-01		4.99	20.88
22-Aug-01		6.73	19.14
22-May-02		5.50	20.37
MW-5			
5-Dec-00	25.77	6.25	19.52
28-Feb-01		4.95	20.82
22-Aug-01		6.69	19.08
22-May-02		5.50	20.27
MW-6			
5-Dec-00	24.89	5.68	19.21
28-Feb-01		4.35	20.54
22-Aug-01		6.15	18.74
22-May-02		4.91	19.98
MW-7			
5-Dec-00	25.43	6.43	19.00
28-Feb-01		4.76	20.67
22-Aug-01		6.95	18.48
22-May-02		5.55	19.88

Notes:

TOC = Top of well casing

DTW = Depth to Water

ELEV = Water table elevation above MSL

ft msl = Feet above mean sea level

ft bTOC = Feet below top of casing

**Table 2
Historical Groundwater Analytical Results
575 Paseo Grande
San Lorenzo, California**

	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Chromium (ug/L)	Dissolved Inorganic Lead (ug/L)
MW-1								
17-May-96	1,100	ND (<0.5)	8.7	7.4	17	NA	ND (<10)	ND (<50)
8-Oct-96	120	ND (<0.5)	ND (<0.5)	2.7	ND (<0.5)	NA	NA	NA
1-Apr-97	550	ND (<0.5)	ND (<0.5)	7.6	6.6	NA	NA	NA
12-Jun-97	160	ND (<0.5)	ND (<0.5)	2.9	1.7	NA	NA	NA
10-Sep-97	640	2.2 ^P	3.8 ^P	7.4 ^P	16 ^P	NA	NA	NA
8-Jun-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<10)	ND (<10)	ND (<20)
21-Dec-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.1	NA	NA	ND (<5.0)
13-Sep-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
17-Mar-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	0.79	ND (<5)	NA	ND (<5.0)
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-2								
17-May-96	23,000	900	330	650	1,500	NA	ND (<10)	ND (<50)
8-Oct-96	8,400	530	ND (<50)	400	360	NA	NA	NA
1-Apr-97	7,600	470	64	210	250	NA	NA	NA
12-Jun-97	8,200	440	52	190	190	NA	NA	NA
10-Sep-97	8,500	390	51 ^P	220	240	NA	NA	NA
8-Jun-99	2,100	240	8	33	40	ND (<10)	ND (<10)	33
13-Sep-99	1,300	120	ND (<5.0)	ND (<5.0)	15	NA	NA	NA
21-Dec-99	1,400	110	5.6	11	17	NA	NA	ND (<5.0)
17-Mar-00	1,200	180	19	28	31	ND (<50)	NA	ND (<5.0)
5-Dec-00	800	75	1.8	11	14	NA	NA	NA
28-Feb-01	1,200	120	7.1	19	27	NA	NA	NA
22-Aug-01	990	75	3.5	8.9	8.1	ND (<5.0)	NA	ND (<5.0)
22-May-02	1,700	230	12	12	25	NA	NA	NA
MW-3								
17-May-96	6,700	140	45	210	180	NA	ND (<10)	ND (<50)
8-Oct-96	1,800	2,700	240	910	970	NA	NA	NA
1-Apr-97	27,000	520	50	520	450	NA	NA	NA
12-Jun-97	29,000	2,700	160	940	500	NA	NA	NA
10-Sep-97	290,000	1,800	3,200	2800 ^P	6900 ^P	NA	NA	NA
8-Jun-99	1,700	320	6.4	15	ND (<0.5)	ND (<10)	ND (<10)	24
13-Sep-99	5,400	1,000	ND (<20)	ND (<20)	ND (<20)	NA	NA	NA
21-Dec-99	8,800	1,400	63	17	23	NA	NA	ND (<5.0)
17-Mar-00	1,500	190	ND (<5)	7.6	ND (<5)	ND (<50)	NA	ND (<5.0)

**Table 2
Historical Groundwater Analytical Results
575 Paseo Grande
San Lorenzo, California**

	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MIBE (ug/L)	Chromium (ug/L)	Dissolved Inorganic Lead (ug/L)
5-Dec-00	5,400	790	20	7.4	10	NA	NA	NA
28-Feb-01	3,600	850	15	25	10	NA	NA	NA
22-Aug-01	8,100	1,600	28	44	17	ND (<50)	NA	ND (<5.0)
22-May-02	5,400	1,000	32	13	21	NA	NA	NA
MW-4								
5-Dec-00	3,900	320	13	41	31	NA	NA	ND (<5.0)
28-Feb-01	3,400	250	14	44	22	NA	NA	ND (<5.0)
22-Aug-01	4,800	260	12	27	9	ND (<50)	NA	ND (<5.0)
22-May-02	5,100	320	29	74	50	NA	NA	NA
MW-5								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-6								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-7								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.5	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	6.7	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA

Notes:

TPHg = Total petroleum hydrocarbons quantified as gasoline

ug/L = Micrograms per liter

ND = Below laboratory detection limits (detection limit indicated in parentheses)

* The laboratory noted that there was a greater than 25% difference in results between the two GC columns.

NA = Not analyzed

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: _____ PURGED BY: ND WELL I.D.: MW-2
 CLIENT NAME: Bohannon SAMPLED BY: ND SAMPLE I.D.: MW-2
 LOCATION: 575 Paseo Grande, San Lorenzo QA SAMPLES: -

DATE PURGED 5-22-02 START (2400hr) 1030 END (2400hr) 1037
 DATE SAMPLED 5-22-02 SAMPLE TIME (2400hr) 1045
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.70 CASING VOLUME (gal) = 1.4
 DEPTH TO WATER (feet) = 6.40 CALCULATED PURGE (gal) = Flow rate = 0.19 gal/min
 WATER COLUMN HEIGHT (feet) = 8.30 ACTUAL PURGE (gal) = 0.7

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU) (uv)
<u>5-22-02</u>	<u>1031</u>	<u>0.1</u>	<u>20.85</u>	<u>1.548</u>	<u>6.77</u>	<u>cloudy</u>	<u>-188.1</u>
	<u>1032</u>	<u>0.2</u>	<u>20.90</u>	<u>1.558</u>	<u>6.73</u>	<u>"</u>	<u>-196.6</u>
	<u>1033</u>	<u>0.3</u>	<u>20.97</u>	<u>1.552</u>	<u>6.72</u>	<u>"</u>	<u>-200.1</u>
	<u>1034</u>	<u>0.4</u>	<u>20.98</u>	<u>1.548</u>	<u>6.72</u>	<u>"</u>	<u>-202.2</u>
	<u>1035</u>	<u>0.5</u>	<u>21.03</u>	<u>1.548</u>	<u>6.72</u>	<u>"</u>	<u>-200.0</u>
	<u>1036</u>	<u>0.6</u>	<u>21.05</u>	<u>1.550</u>	<u>6.72</u>	<u>"</u>	<u>-205.3</u>
	<u>1037</u>	<u>0.7</u>	<u>21.07</u>	<u>1.546</u>	<u>6.72</u>	<u>"</u>	<u>-206.7</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 6.45 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: TPH, BTEX
 ODOR: TPH, Strong SAMPLE VESSEL / PRESERVATIVE: (3) 40 mL VOA's w/ HCl

PURGING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: 12'

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable)
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: _____

REMARKS: _____

SIGNATURE: Neil D... Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: _____ PURGED BY: ND WELL I.D.: MW-4
 CLIENT NAME: Bohannon SAMPLED BY: ND SAMPLE I.D.: MW-4
 LOCATION: 575 Paseo Grande, San Lorenzo QA SAMPLES: -

DATE PURGED 5-22-02 START (2400hr) 1000 END (2400hr) 1015
 DATE SAMPLED 5-22-02 SAMPLE TIME (2400hr) 1020
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 15.15 CASING VOLUME (gal) = 1.6
 DEPTH TO WATER (feet) = 5.50 CALCULATED PURGE (gal) = $\frac{\text{flow rate} \times \text{time}}{1.48} = 0.19 \text{ gal/min.}$
 WATER COLUMN HEIGHT (feet) = 9.65 ACTUAL PURGE (gal) = 0.8

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees $^{\circ}\text{C}$)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	ORP TURBIDITY (NTU)(mV)
<u>5-22-02</u>	<u>1008</u>	<u>0.1</u>	<u>18.26</u>	<u>1.051</u>	<u>6.75</u>	<u>none</u>	<u>-229.5</u>
	<u>1009</u>	<u>0.2</u>	<u>18.47</u>	<u>1.061</u>	<u>6.71</u>	<u>"</u>	<u>-245.5</u>
	<u>1010</u>	<u>0.3</u>	<u>18.49</u>	<u>1.064</u>	<u>6.70</u>	<u>"</u>	<u>-251.4</u>
	<u>1011</u>	<u>0.4</u>	<u>18.57</u>	<u>1.066</u>	<u>6.70</u>	<u>"</u>	<u>-253.1</u>
	<u>1012</u>	<u>0.5</u>	<u>18.62</u>	<u>1.070</u>	<u>6.69</u>	<u>"</u>	<u>-244.9</u>
	<u>1013</u>	<u>0.6</u>	<u>18.64</u>	<u>1.073</u>	<u>6.69</u>	<u>"</u>	<u>-247.0</u>
	<u>1014</u>	<u>0.7</u>	<u>18.66</u>	<u>1.077</u>	<u>6.68</u>	<u>"</u>	<u>-240.0</u>
	<u>1015</u>	<u>0.8</u>	<u>18.68</u>	<u>1.078</u>	<u>6.68</u>	<u>"</u>	<u>-230.0</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 5.00 SAMPLE TURBIDITY: v. low
 80% RECHARGE: YES NO ANALYSES: TPH₉ / BTEX
 ODOR: TPH, strong SAMPLE VESSEL / PRESERVATIVE: (3) 40 mL VOA's w/ HCl

PURGING EQUIPMENT

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: 12'

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable)
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: _____
 REMARKS: _____

SIGNATURE: Neil Deen Page of

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: _____ PURGED BY: ND WELL I.D.: MW-6
 CLIENT NAME: Bdannon SAMPLED BY: ND SAMPLE I.D.: MW-6
 LOCATION: 575 Paseo Grande, San Lorenzo QA SAMPLES: -

DATE PURGED 5-22-02 START (2400hr) 935 END (2400hr) 943
 DATE SAMPLED 5-22-02 SAMPLE TIME (2400hr) 945
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.55 CASING VOLUME (gal) = 1.6
 DEPTH TO WATER (feet) = 4.91 CALCULATED PURGE (gal) = slow rate = 0.1 gal/min
 WATER COLUMN HEIGHT (feet) = 9.64 ACTUAL PURGE (gal) = 0.7

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F/C)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	ORP TURBIDITY (NTU)(mV)
<u>5-22-02</u>	<u>937</u>	<u>0.1</u>	<u>18.49</u>	<u>0.855</u>	<u>7.21</u>	<u>cloudy</u>	<u>92.4</u>
	<u>938</u>	<u>0.2</u>	<u>18.52</u>	<u>0.859</u>	<u>7.08</u>	<u>"</u>	<u>93.8</u>
	<u>939</u>	<u>0.3</u>	<u>18.53</u>	<u>0.861</u>	<u>7.04</u>	<u>"</u>	<u>93.3</u>
	<u>940</u>	<u>0.4</u>	<u>18.56</u>	<u>0.865</u>	<u>7.01</u>	<u>"</u>	<u>92.5</u>
	<u>941</u>	<u>0.5</u>	<u>18.55</u>	<u>0.866</u>	<u>7.00</u>	<u>"</u>	<u>91.8</u>
	<u>942</u>	<u>0.6</u>	<u>18.54</u>	<u>0.863</u>	<u>6.91</u>	<u>"</u>	<u>91.2</u>
	<u>943</u>	<u>0.7</u>	<u>18.53</u>	<u>0.863</u>	<u>6.99</u>	<u>"</u>	<u>90.9</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 4.95 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: TPHg / BTEX

ODOR: none SAMPLE VESSEL / PRESERVATIVE: (3) 40 ml VOA's w/ HCl

PURGING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: 12

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable)
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: _____

REMARKS: _____

SIGNATURE: Neil Doan Page _____ of _____

Submission #: 2002-05-0394

Date: May 30, 2002

SEVERN

TRENT

SERVICES

SECOR- Lafayette

57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549-4321

Attn: Neil Doran

Project: BOHANNON DEVELOPMENT

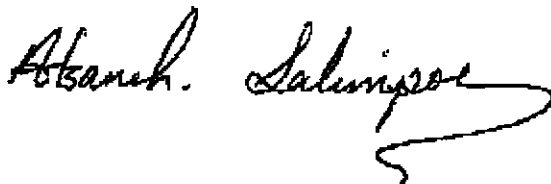
STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel 925 484 1919
Fax 925 484 1096
www.stl-inc.com
www.chromalab.com
CA DHS ELAP#2496

Attached is our report for your samples received on Thursday May 23, 2002
This report has been reviewed and approved for release. Reproduction of this report
is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after
July 7, 2002 unless you have requested otherwise.
We appreciate the opportunity to be of service to you. If you have any questions,
please call me at (925) 484-1919.
You can also contact me via email. My email address is: asalimpour@chromalab.com

Sincerely,



Afsaneh Salimpour
Project Manager

Gas/BTEX by 8015M/8021

SEVERN

TRENT

SERVICES

SECOR- Lafayette	<input checked="" type="checkbox"/> 57 Lafayette Circle, 2nd Floor Lafayette, CA 94549-4321
Attn: Neil Doran	Phone: (925) 299-9300 Fax: (925) 299-9302
	Project: BOHANNON DEVELOPMENT

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel 925 484 1919
Fax 925 484 1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP#2496

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	05/22/2002 11:30	1
MW-2	Water	05/22/2002 10:45	2
MW-3	Water	05/22/2002	3
MW-4	Water	05/22/2002 10:20	4
MW-5	Water	05/22/2002 08:55	5
MW-6	Water	05/22/2002 09:45	6
MW-7	Water	05/22/2002 09:20	7

Submission #: 2002-05-0394

Gas/BTEX by 8015M/8021

SEVERN
TRENT
SERVICES

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel 925 484 1919
Fax 925 484 1096
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CA DHS ELAP#2496

Sample ID: MW-1	Lab Sample ID: 2002-05-0394-001
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 11:30	Extracted: 05/24/2002 11:01
Matrix: Water	QC-Batch: 2002/05/24-01.04

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/24/2002 11:01	
Benzene	ND	0.50	ug/L	1.00	05/24/2002 11:01	
Toluene	ND	0.50	ug/L	1.00	05/24/2002 11:01	
Ethyl benzene	ND	0.50	ug/L	1.00	05/24/2002 11:01	
Xylene(s)	ND	0.50	ug/L	1.00	05/24/2002 11:01	
Surrogate(s)						
Trifluorotoluene	89.8	58-124	%	1.00	05/24/2002 11:01	
4-Bromofluorobenzene-FID	64.9	50-150	%	1.00	05/24/2002 11:01	

Submission #: 2002-05-0394

**SEVERN
TRENT
SERVICES**

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Sample ID: MW-2	Lab Sample ID: 2002-05-0394-002
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 10:45	Extracted: 05/24/2002 19:59
Matrix: Water	QC-Batch: 2002/05/24-01.04

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CA DHS ELAP#2496

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	1700	250	ug/L	5.00	05/24/2002 19:59	g
Benzene	230	2.5	ug/L	5.00	05/24/2002 19:59	
Toluene	12	2.5	ug/L	5.00	05/24/2002 19:59	
Ethyl benzene	12	2.5	ug/L	5.00	05/24/2002 19:59	
Xylene(s)	25	2.5	ug/L	5.00	05/24/2002 19:59	
Surrogate(s)						
4-Bromofluorobenzene	113.7	50-150	%	5.00	05/24/2002 19:59	
4-Bromofluorobenzene-FID	95.6	50-150	%	5.00	05/24/2002 19:59	

Submission #: 2002-05-0394



Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Sample ID: MW-3	Lab Sample ID: 2002-05-0394-003
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002	Extracted: 05/24/2002 19:06
Matrix: Water	QC-Batch: 2002/05/24-01.04

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CA DHS ELAP#2496

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	5400	500	ug/L	10.00	05/24/2002 19:06	g
Benzene	1000	5.0	ug/L	10.00	05/24/2002 19:06	
Toluene	32	5.0	ug/L	10.00	05/24/2002 19:06	
Ethyl benzene	13	5.0	ug/L	10.00	05/24/2002 19:06	
Xylene(s)	21	5.0	ug/L	10.00	05/24/2002 19:06	
Surrogate(s)						
4-Bromofluorobenzene	114.6	50-150	%	5.00	05/24/2002 19:06	
4-Bromofluorobenzene-FID	94.5	50-150	%	5.00	05/24/2002 19:06	

Submission #: 2002-05-0394

SEVERN
TRENT
SERVICES

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Sample ID: MW-4	Lab Sample ID: 2002-05-0394-004
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 10:20	Extracted: 05/24/2002 19:33
Matrix: Water	QC-Batch: 2002/05/24-01.04

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CA DHS ELAP#2496

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	5100	500	ug/L	10.00	05/24/2002 19:33	g
Benzene	320	5.0	ug/L	10.00	05/24/2002 19:33	
Toluene	29	5.0	ug/L	10.00	05/24/2002 19:33	
Ethyl benzene	74	5.0	ug/L	10.00	05/24/2002 19:33	
Xylene(s)	50	5.0	ug/L	10.00	05/24/2002 19:33	
Surrogate(s)						
4-Bromofluorobenzene	112.9	50-150	%	10.00	05/24/2002 19:33	
4-Bromofluorobenzene-FID	93.6	50-150	%	10.00	05/24/2002 19:33	

Submission #: 2002-05-0394

SEVERN

TRENT

SERVICES

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel 925 484 1919
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CA DHS ELAP#2496

Sample ID: MW-5	Lab Sample ID: 2002-05-0394-005
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 08:55	Extracted: 05/24/2002 11:28
Matrix: Water	QC-Batch: 2002/05/24-01.04

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/24/2002 11:28	
Benzene	ND	0.50	ug/L	1.00	05/24/2002 11:28	
Toluene	ND	0.50	ug/L	1.00	05/24/2002 11:28	
Ethyl benzene	ND	0.50	ug/L	1.00	05/24/2002 11:28	
Xylene(s)	ND	0.50	ug/L	1.00	05/24/2002 11:28	
<i>Surrogate(s)</i>						
Trifluorotoluene	120.3	58-124	%	1.00	05/24/2002 11:28	
4-Bromofluorobenzene-FID	89.8	50-150	%	1.00	05/24/2002 11:28	

Submission #: 2002-05-0394



Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Sample ID: MW-6	Lab Sample ID: 2002-05-0394-006
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 09:45	Extracted: 05/24/2002 11:55
Matrix: Water	QC-Batch: 2002/05/24-01.04

Tel 925 484 1919
Fax 925 484 1096
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www.chromalab.com

CA DHS ELAP#2496

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/24/2002 11:55	
Benzene	ND	0.50	ug/L	1.00	05/24/2002 11:55	
Toluene	ND	0.50	ug/L	1.00	05/24/2002 11:55	
Ethyl benzene	ND	0.50	ug/L	1.00	05/24/2002 11:55	
Xylene(s)	ND	0.50	ug/L	1.00	05/24/2002 11:55	
Surrogate(s)						
Trifluorotoluene	121.9	58-124	%	1.00	05/24/2002 11:55	
4-Bromofluorobenzene-FID	90.6	50-150	%	1.00	05/24/2002 11:55	

Submission #: 2002-05-0394

SEVERN
TRENT
SERVICES

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Test Method: 8021B
8015M

Attn: Neil Doran

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Sample ID: MW-7	Lab Sample ID: 2002-05-0394-007
Project: BOHANNON DEVELOPMENT	Received: 05/23/2002 13:15
Sampled: 05/22/2002 09:20	Extracted: 05/24/2002 12:22
Matrix: Water	QC-Batch: 2002/05/24-01.04

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CA DHS ELAP#2496

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	05/24/2002 12:22	
Benzene	ND	0.50	ug/L	1.00	05/24/2002 12:22	
Toluene	ND	0.50	ug/L	1.00	05/24/2002 12:22	
Ethyl benzene	ND	0.50	ug/L	1.00	05/24/2002 12:22	
Xylene(s)	ND	0.50	ug/L	1.00	05/24/2002 12:22	
Surrogate(s)						
Trifluorotoluene	123.8	58-124	%	1.00	05/24/2002 12:22	
4-Bromofluorobenzene-FID	92.2	50-150	%	1.00	05/24/2002 12:22	

Submission #: 2002-05-0394



Gas/BTEX by 8015M/8021

Batch QC report

Test Method: 8021B

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Laboratory Control Spike (LCS/LCSD) Water QC Batch # 2002/05/24-01.04
 LCS: 2002/05/24-01.04-004 Extracted: 05/24/2002 08:59 Analyzed: 05/24/2002 08:59
 LCSD: 2002/05/24-01.04-005 Extracted: 05/24/2002 09:26 Analyzed: 05/24/2002 09:26

Tel 925 484 1919
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CA DHS ELAP#2496

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Benzene	105	102	100.0	100.0	105.0	102.0	2.9	77-123	20		
Toluene	103	99.9	100.0	100.0	103.0	99.9	3.1	78-122	20		
Ethyl benzene	96.8	93.2	100.0	100.0	96.8	93.2	3.8	70-130	20		
Xylene(s)	299	289	300	300	99.7	96.3	3.5	75-125	20		
Surrogate(s)											
Trifluorotoluene	565	539	500	500	113.0	107.8		58-124			

Submission #: 2002-05-0394

**SEVERN
TRENT
SERVICES**

Gas/BTEX by 8015M/8021

Batch QC report

Test Method: 8015M

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Laboratory Control Spike (LCS/LCSD) Water QC Batch # 2002/05/24-01.04
LCS: 2002/05/24-01.04-006 Extracted: 05/24/2002 09:53 Analyzed: 05/24/2002 09:53
LCSD: 2002/05/24-01.04-007 Extracted: 05/24/2002 10:20 Analyzed: 05/24/2002 10:20

Tel 925 484 1919
Fax 925 484 1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP#2496

Compound	Conc. [ug/L]		Exp.Conc. [ug/L]		Recovery		RPD	Ctrl.Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	[%]	Recover	RPD	LCS	LCSD
Gasoline	519	505	500	500	103.8	101.0	2.7	75-125	20		
<i>Surrogate(s)</i>											
4-Bromofluorobenzene	453	443	500	500	90.6	88.6		50-150			

Submission #: 2002-05-0394



Gas/BTEX by 8015M/8021

Legend & Notes

Test Method: 8015M
8021B

Prep Method: 5030

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel 925 484 1919
Fax 925 484 1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP#2496

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

2002-05-0394

Chain-of Custody Number: 66496

SECOR Chain-of Custody Record

Field Office: Oakland Lafayette
 Address: 57 Lafayette Circle
Lafayette, CA

Additional documents are attached, and are a part of this Record.
 Job Name: Bohannon Development
 Location: San Lorenzo, CA

Project # _____ Task # _____
 Project Manager Neil Doran
 Laboratory STL Chromalab
 Turnaround Time Standard

Sampler's Name Neil Doran
 Sampler's Signature Neil Doran

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPH-G (PHG/BTEX)/WTPH-G 8015 (modified)/8020	TPH-D WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Comments/ Instructions	Number of Containers
MW-1	5-22-02	1130	H2O		X												1
MW-2		1045			X												1
MW-3					X												1
MW-4		1020			X												1
MW-5		855			X												1
MW-6		945			X												1
MW-7		920			X												1

Special Instructions/Comments:

 4.6°C

Relinquished by:
 Sign: Neil Doran
 Print: Neil Doran
 Company: SECOR
 Time: 940 Date: 5-23-02

Received by:
 Sign: MUSMA
 Print: MUSMA
 Company: STL SF
 Time: 9:40 Date: 5/23/02

Sample Receipt
 Total no. of containers: _____
 Chain of custody seals: _____
 Rec'd in good condition/cold: _____
 Conforms to record: _____

Relinquished by:
 Sign: MUSMA
 Print: MUSMA
 Company: STL SF
 Time: 4315 Date: 5/23/02

Received by:
 Sign: D. Harrington
 Print: D. Harrington
 Company: STL-SF
 Time: 1315 Date: 5/23/02

Client: _____
 Client Contact: _____
 Client Phone: _____

66496



STL San Francisco

Sample Receipt Checklist

Submission #: 2002- 05 - 0394

Checklist completed by: (initials) CR Date: 05/24/02

Courier name: STL San Francisco Client _____

Custody seals intact on shipping container/samples

Chain of custody present?

Chain of custody signed when relinquished and received?

Chain of custody agrees with sample labels?

Samples in proper container/bottle?

Sample containers intact?

Sufficient sample volume for indicated test?

All samples received within holding time?

Container/Temp Blank temperature in compliance ($4^{\circ}C \pm 2$)?

Water - VOA vials have zero headspace?

Yes ___ No ___ Not Present

Yes No ___

Yes No ___

Yes No ___

Yes No ___

Yes No ___

Yes No ___

Yes No ___

Temp: 4.6 °C Yes No ___

No VOA vials submitted ___ Yes ___ No ___

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small - O), M (medium - O) or L (large - O))

Water - pH acceptable upon receipt? Yes No

pH adjusted- Preservative used: HNO₃ HCl H₂SO₄ NaOH ZnOAc

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments: _____

Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) _____ Date: _____ / _____ /02

Client contacted: Yes No

Summary of discussion: _____

Corrective Action (per PM/Client): _____

APPENDIX B

AUGUST 2002 GROUNDWATER MONITORING REPORT

**AUGUST 2002
GROUNDWATER MONITORING
REPORT**

**575 PASEO GRANDE
SAN LORENZO, CALIFORNIA**

Job No. 05OT.50063.00

Prepared For:

David D. Bohannon Organization
Sixty 31st Avenue
San Mateo, California 94403

Prepared by:

SECOR International Incorporated
57 Lafayette Circle
Lafayette, California 94549

October 25, 2002

August 2002 Groundwater Monitoring Report

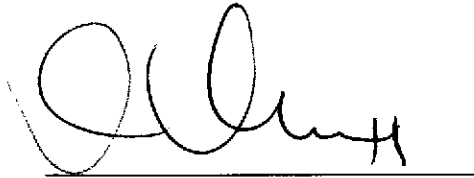
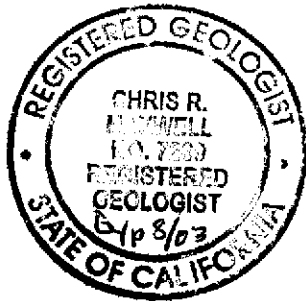
**David D. Bohannon Organization
575 Paseo Grande
San Lorenzo, CA
SECOR Project No. 05OT.50063.00**

The material and data in this report were prepared under the supervision and direction of the undersigned. This report was prepared consistent with current and generally accepted geologic and environmental consulting principles and practices that are within the limitations provided herein.

SECOR International Incorporated



Neil Doran
Project Geologist



Chris R. Maxwell, R.G. No. 7269
Principal Project Geologist

LIMITATIONS

The conclusions and recommendations contained in this report/assessment are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location and are subject to the following inherent limitations:

1. The data and findings presented in this report are valid as of the dates when the investigations were performed. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.
2. The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Work. The Scope of Work was defined by the request of the client, the time and budgetary constraints imposed by the client, and availability of access to the Site.
3. Because of the limitations stated above, the findings, observations, and conclusions expressed by SECOR in this report are not, and should not be, considered an opinion concerning the compliance of any past or present owner or operator of the Site with any federal, state or local law or regulation.
4. No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon Site conditions in existence at the time of investigation.
5. SECOR reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, state or local governmental agencies. Any use of the report constitutes acceptance of the limits of SECOR's liability. SECOR's liability extends only to its client and not to any other parties who may obtain the report. Issues raised by the report should be reviewed by appropriate legal counsel.

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1.0 INTRODUCTION

This report presents the results of groundwater monitoring, sampling, and analysis conducted on August 29, 2002 for the property located at 575 Paseo Grande, San Lorenzo, California (Site). This sampling event was conducted to continue the assessment of groundwater conditions beneath the Site. The previous groundwater monitoring and sampling event was conducted in May 2002.

The scope of work included measuring the depth to water in groundwater monitoring wells MW-1 through MW-6, and collecting groundwater samples for analysis of total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Well MW-7, generally included in the sampling schedule, was inaccessible at the time of this sampling event. In addition, groundwater samples from wells MW-1 through MW-5 were analyzed for dissolved iron, nitrate, orthophosphate, sulfate, and total alkalinity. These inorganic analyses were performed as part of a study to determine if nitrate injection is a feasible method of Site remediation.

1.1 BACKGROUND

Over the last 25 years, the Site has been used as an asphalt-paved parking area located in a C1 commercial zone. The Site was a gasoline station prior to 1969. Little information is known about the Site history related to its use as a gasoline service station. In anticipation of property redevelopment, initial investigation activities were conducted in March 1995 to determine if out-of-service gasoline service station underground equipment remained on-Site. The work was conducted by Twining Laboratories, Inc. (TLI), as documented in their letter report dated April 15, 1995. The work conducted included a magnetometer survey followed by an exploratory excavation. In summary, the work conducted identified underground gasoline service station equipment which included what appeared to be the former tank pit, approximately 110 feet of fuel delivery system piping, and a grease sump and/or hydraulic lift pit in an area which may have been the former service garage (Figure 2). Field evidence and one soil sample indicated the potential for soil contamination along the piping runs, around the grease sump, and around the inferred location of the former tank pit. Characterization of the magnitude and extent of potential soil contamination were not conducted during initial investigation activities.

In June 1995, SECOR conducted additional activities at the Site which included removal of the former underground storage tank (UST) system piping and the former grease sump, and characterization soil sampling along pipelines and around the former grease sump and former tank pit areas. This work was summarized in SECOR's letter report dated June 29, 1995. The characterization data from this investigation indicated that there were two areas of concern at the Site. These areas were the former grease sump area and the former gasoline distribution system area. SECOR subsequently conducted excavation activities in the vicinity of the two areas. The soil excavated from the former sump area was transported off-Site for disposal. The soil generated from the UST excavation was treated by means of aeration and transported off-Site for disposal. Three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed during the investigation activities to evaluate the degree to which the groundwater had been affected. The results of the soil characterization and groundwater monitoring activities are reported in SECOR's "Report of Interim Remedial Actions" dated June 4, 1996, and "Fourth Quarter 1996 Monitoring and Sampling Report" dated November 26, 1996.

In June 1999, a utility trench survey was conducted around the Site, and a passive soil vapor survey was conducted in the down-gradient direction from the Site. The results of the utility trench and passive soil vapor

surveys are documented in SECOR's "Third Quarter 1999 Groundwater Monitoring Results and Plume Definition Report", dated October 21, 1999.

On December 5, 2000, four additional groundwater monitoring wells (MW-4 through MW-7) were installed at the Site by SECOR. Soil and groundwater sampling was conducted to evaluate possible off-Site migration of petroleum-related constituents originating from the Site, and to collect data to direct further subsurface investigations, and/or remediation at the Site, if necessary. The work was conducted in general accordance with the "Work Plan for Additional Groundwater Monitoring Well Installation" dated October 22, 1999 (Work Plan) and the "Addendum to the Work Plan for Additional Groundwater Monitoring Well Installation" dated December 2, 1999 (Addendum). The Work Plan was approved with comments in correspondence from the Alameda County Health Care Services Agency (ACHCSA) in a letter dated November 4, 1999.

Historically, two of the onsite wells (MW-2 and MW-3) and one well immediately down-gradient to the west (MW-4) contain elevated concentrations of petroleum hydrocarbons. Wells further off-Site to the west (MW-6 and MW-7) and south (MW-5) typically do not contain detectable levels of petroleum hydrocarbons, with the exception of well MW-7, which reported low concentrations of total xylenes (up to 6.7 mg/kg) in the first two sampling events (December 2000 and February 2001). The well has since been nondetect for all constituents.

2.0 GROUNDWATER MONITORING

Groundwater monitoring wells MW-1 through MW-6 were gauged for depth-to-water and sampled on August 29, 2002. Well MW-7 was not gauged or sampled because a vehicle was parked over the well.

2.1 Water Level Gauging

Prior to purging and sampling, the depth to groundwater was measured from the top of each well casing using a water-level indicator graduated to 0.01 foot. Depth-to-groundwater measurements and surveyed wellhead top-of-casing elevations were used to calculate groundwater surface elevations for each well. Table 1 presents historical groundwater elevation data for the Site.

2.2 Purging and Sampling

Each of the six wells were purged using a low-flow purging method consisting of dedicated tubing attached to a variable speed peristaltic pump set to extract groundwater at a rate of 0.1 gallons per minute. Temperature, conductivity, pH, dissolved oxygen content and oxidation-reduction potential were monitored during purging to confirm static water conditions prior to sampling. Copies of the field data sheets are attached as Appendix A.

Samples were collected from each well using the dedicated tubing to eliminate the possibility of cross-contamination between wells. Samples were placed in laboratory supplied sample containers, capped, labeled, and stored on ice pending delivery to STL San Francisco, a California state-certified laboratory. The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by U.S. Environmental Protection Agency (EPA) Method 8015 (modified); and for benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8020. In addition, groundwater samples from wells MW-1 through MW-5 were analyzed for total alkalinity by EPA Method 310.1; for nitrate, orthophosphate, and sulfate by EPA Method 9056; and for dissolved iron by EPA Method 6010B.

3.0 RESULTS

3.1 August 2002 Groundwater Elevation Results

The average depth-to-water measurement taken at the Site on August 29, 2002 was 6.80 feet below the top of the well casing, with an average water table elevation of 19.33 feet above mean sea level. Groundwater elevations decreased an average of 1.00 feet since the previous monitoring event in May 2002.

A potentiometric surface map illustrating the interpreted groundwater surface elevation and flow direction on August 29, 2002 is presented as Figure 3. The hydraulic gradient across the Site was approximately 0.0023 feet per foot toward the west-southwest. These results are generally consistent with flow direction results obtained during the prior monitoring events. As noted in previous reports, the flow direction beneath the Site is potentially tidally influenced by San Francisco Bay to the west.

3.2 August 2002 Groundwater Analytical Results

Table 2 presents historical groundwater laboratory analytical results for the Site, including the August 2002 sampling event. Petroleum hydrocarbon chemical data for the August 2002 event are illustrated on Figure 4, and inorganic chemical results are summarized in Table 3.

TPHg and BTEX concentrations continue to be below laboratory method reporting limits in on-Site well MW-1 and off-Site wells MW-5 and MW-6. Samples from wells MW-2, MW-3, and MW-4 continue to report detectable concentrations of petroleum hydrocarbons.

Copies of the laboratory analytical reports for groundwater samples are attached as Appendix B. The following provides a brief discussion of the analytical results:

3.2.1 BTEX

BTEX constituents were reported in samples collected from wells MW-2, MW-3 and MW-4. Historical concentrations of benzene in these three wells are shown on Figure 5 (MW-2 and MW-4) and Figure 6 (MW-3). During the May 2002 event, benzene concentrations ranged from 66 micrograms per liter ($\mu\text{g/L}$) in MW-2 to 1,700 $\mu\text{g/L}$ in MW-3. Reported BTEX concentrations for the August 2002 event are generally consistent with historical results.

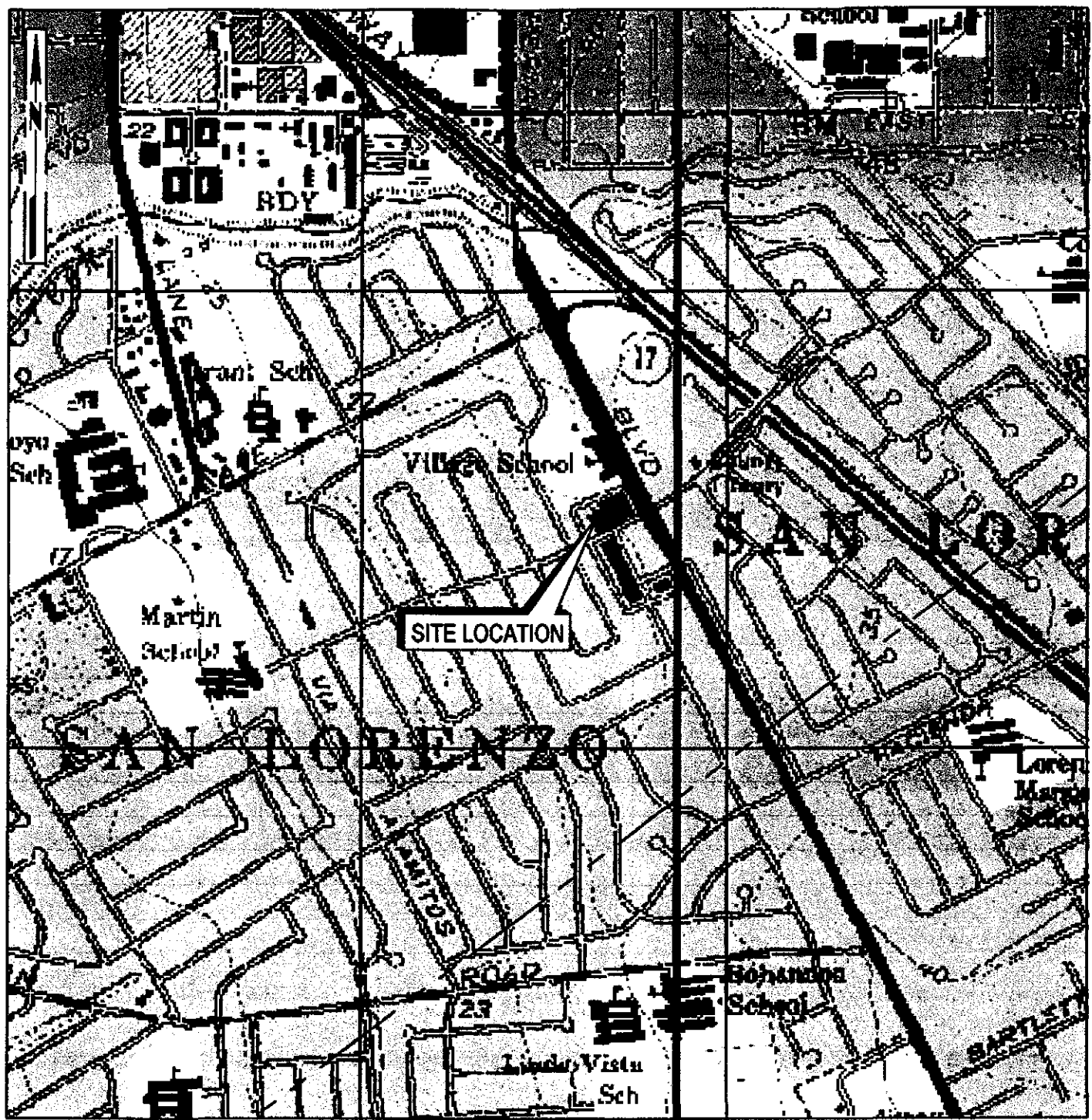
3.2.2 TPH as Gasoline

TPHg was reported in samples collected from wells MW-2, MW-3 and MW-4. Historical concentrations of TPHg in these three wells are shown on Figure 7 (MW-2 and MW-4) and Figure 8 (MW-3). During the August 2002 event, TPHg concentrations ranged from 1,000 $\mu\text{g/L}$ at MW-2 to 6,700 $\mu\text{g/L}$ at MW-3. Reported TPHg concentrations are generally consistent with historical results.

3.2.3 Inorganic Chemical Results

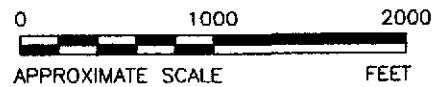
Nitrate was detected at concentrations of 15 and 38 milligrams per liter (mg/L) in samples from wells MW-1 and MW-5, respectively. Nitrate was not detected above the reporting limit in samples collected from wells MW-2, MW-3, and MW-4. Dissolved iron was reported at concentrations ranging from 1.5 to 8.3 mg/L in samples collected from wells MW-2, MW-3 and MW-4, and was not detected in samples from wells MW-1 and MW-5. Sulfate was reported at concentrations ranging from below the detection limit (MW-3) to 65 mg/L in well MW-1. Total alkalinity ranged from 450 to 870 mg/L, and orthophosphate was not detected. Inorganic chemical results are summarized on Table 3.

20021011.15050312 E:\BOH\2002 work plan\BOH-SITE LOCATION MAP-FIGURE 1-2002 work plan.dwg



REFERENCE:

DeLORME 3-D TOPOQUADS



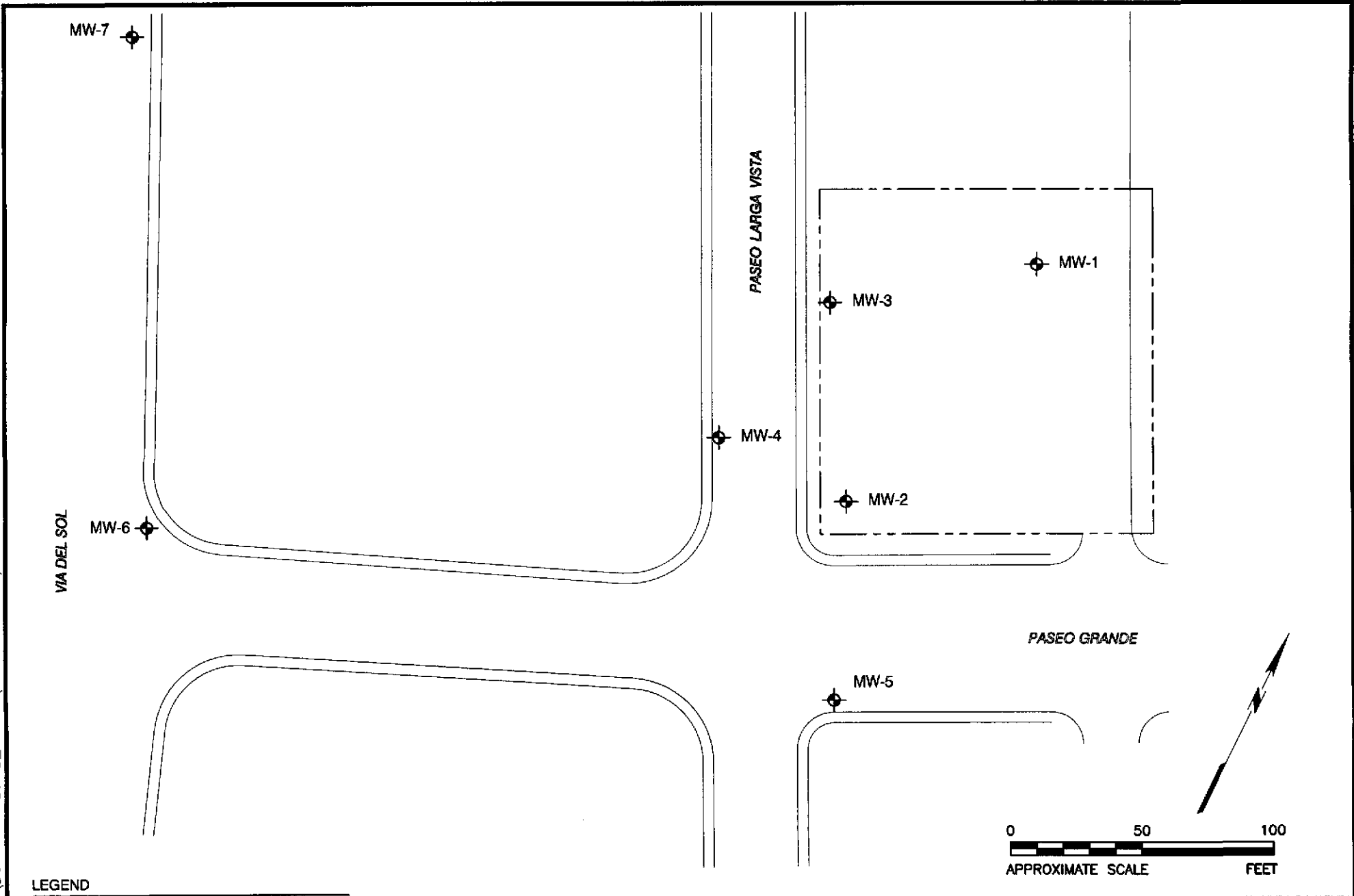
SECOR
International Incorporated

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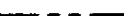
FIGURE 1
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA

SITE LOCATION MAP

G:\CONCORD\BOH\BOH-FIGURES-2.6.DWG (TAB=FIGURE-2) RRR 3 OCT 01



LEGEND

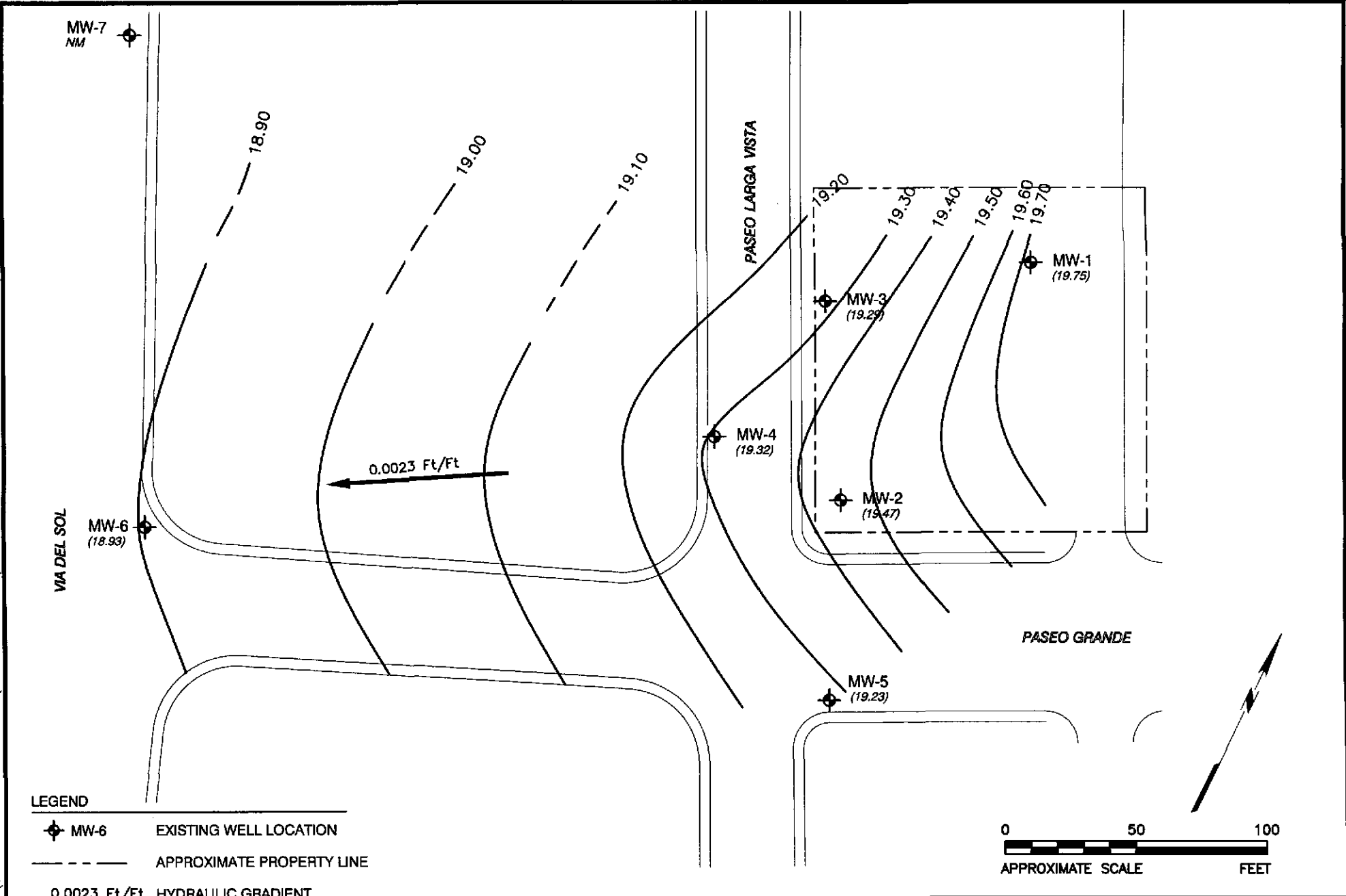
-  MW-6 EXISTING WELL LOCATION
-  APPROXIMATE PROPERTY LINE

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International
 Incorporated

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JOB NO.	007.03814.006

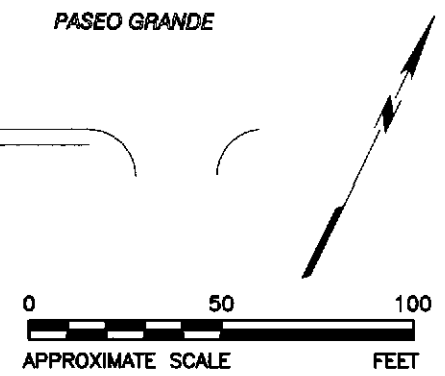
FIGURE 2
 BOHANNON DEVELOPMENT COMPANY
 575 PASEO GRANDE
 SAN LORENZO, CALIFORNIA
 SITE PLAN

G:\CONCORD\BOH\FIGURES-2_6.DWG (TAB=FIGURE-3) RRR 3 OCT 01



LEGEND

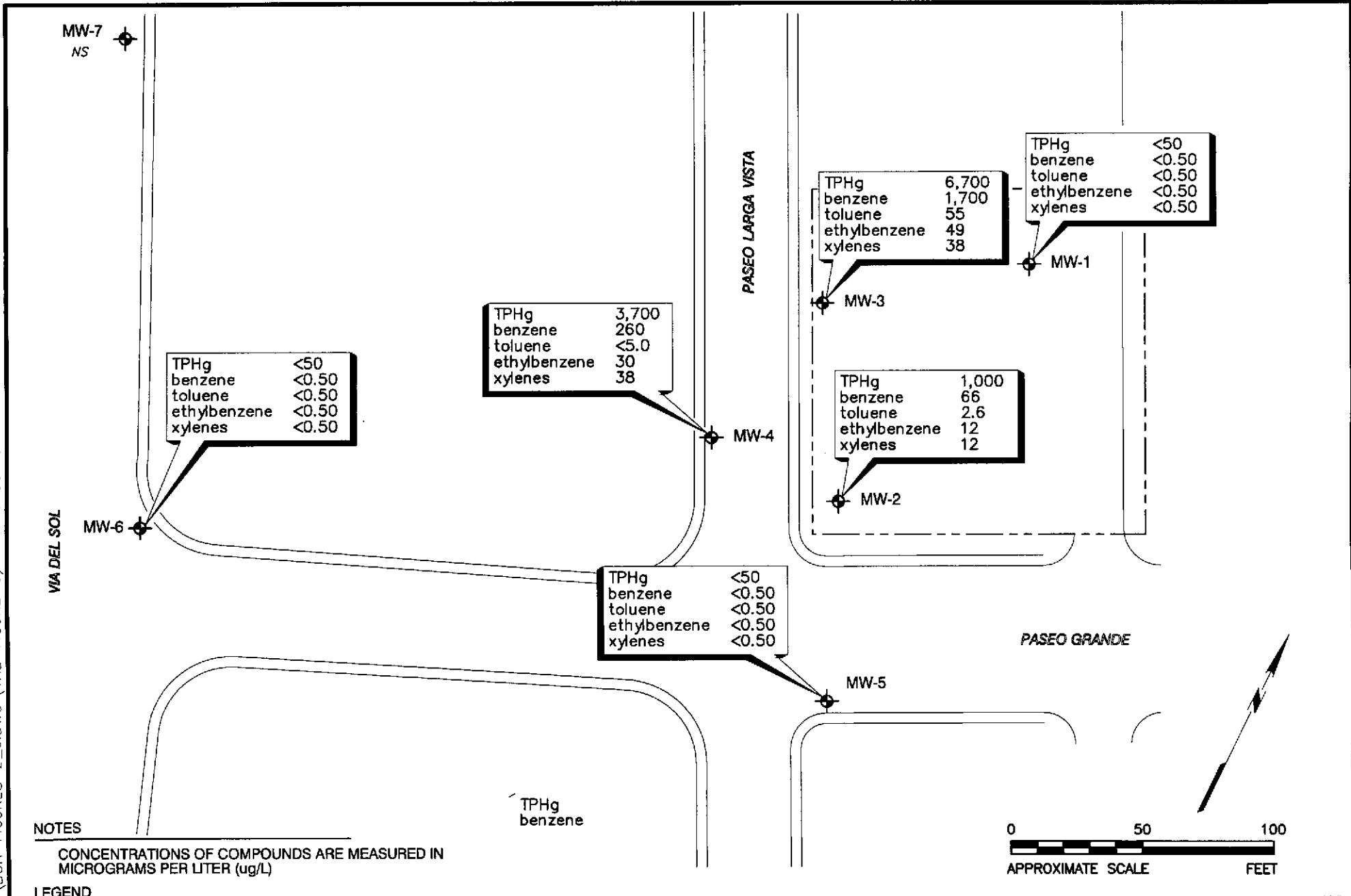
- MW-6 EXISTING WELL LOCATION
- APPROXIMATE PROPERTY LINE
- 0.0023 Ft/Ft HYDRAULIC GRADIENT
- 19.70 GROUNDWATER SURFACE ELEVATION CONTOUR
- (18.93) GROUNDWATER ELEVATION (FEET ABOVE MSL)
- NM NOT MEASURED



SECOR
*International
Incorporated*

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JOB NO.	050T.50063.00

FIGURE 3
BOHANNON DEVELOPMENT COMPANY
575 PASEO GRANDE
SAN LORENZO, CALIFORNIA
POTENTIOMETRIC SURFACE MAP
AUGUST 29, 2002



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International
Incorporated

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FIGURE 4
 BOHANNON DEVELOPMENT COMPANY
 575 PASEO GRANDE
 SAN LORENZO, CALIFORNIA
CHEMICAL CONCENTRATIONS IN GROUNDWATER
 AUGUST 29, 2002

Figure 5 - Historical Concentrations of Benzene at MW-2 and MW-4

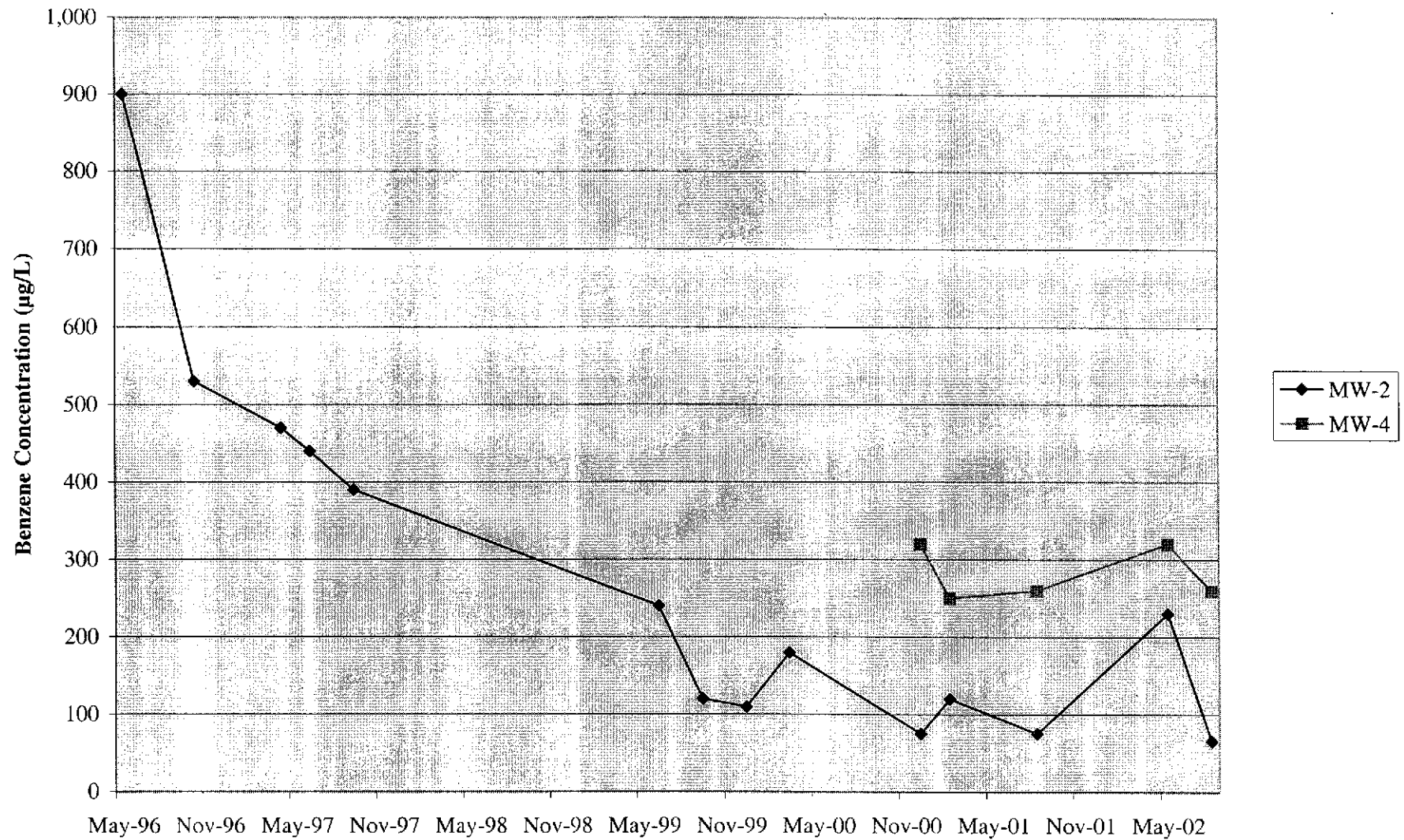


Figure 6 - Historical Concentrations of Benzene at MW-3

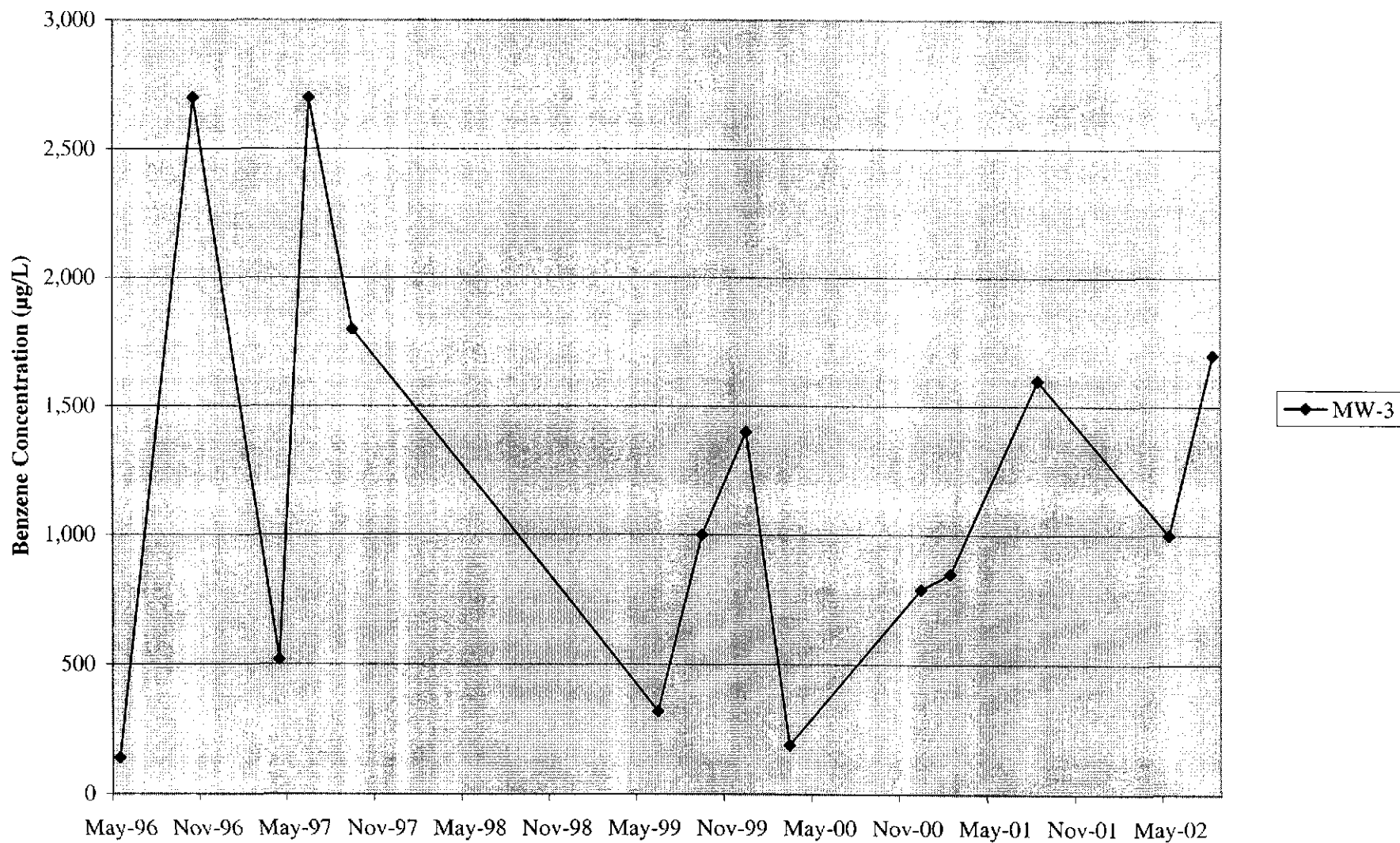


Figure 7 - Historical Concentrations of TPHg at MW-2 and MW-4

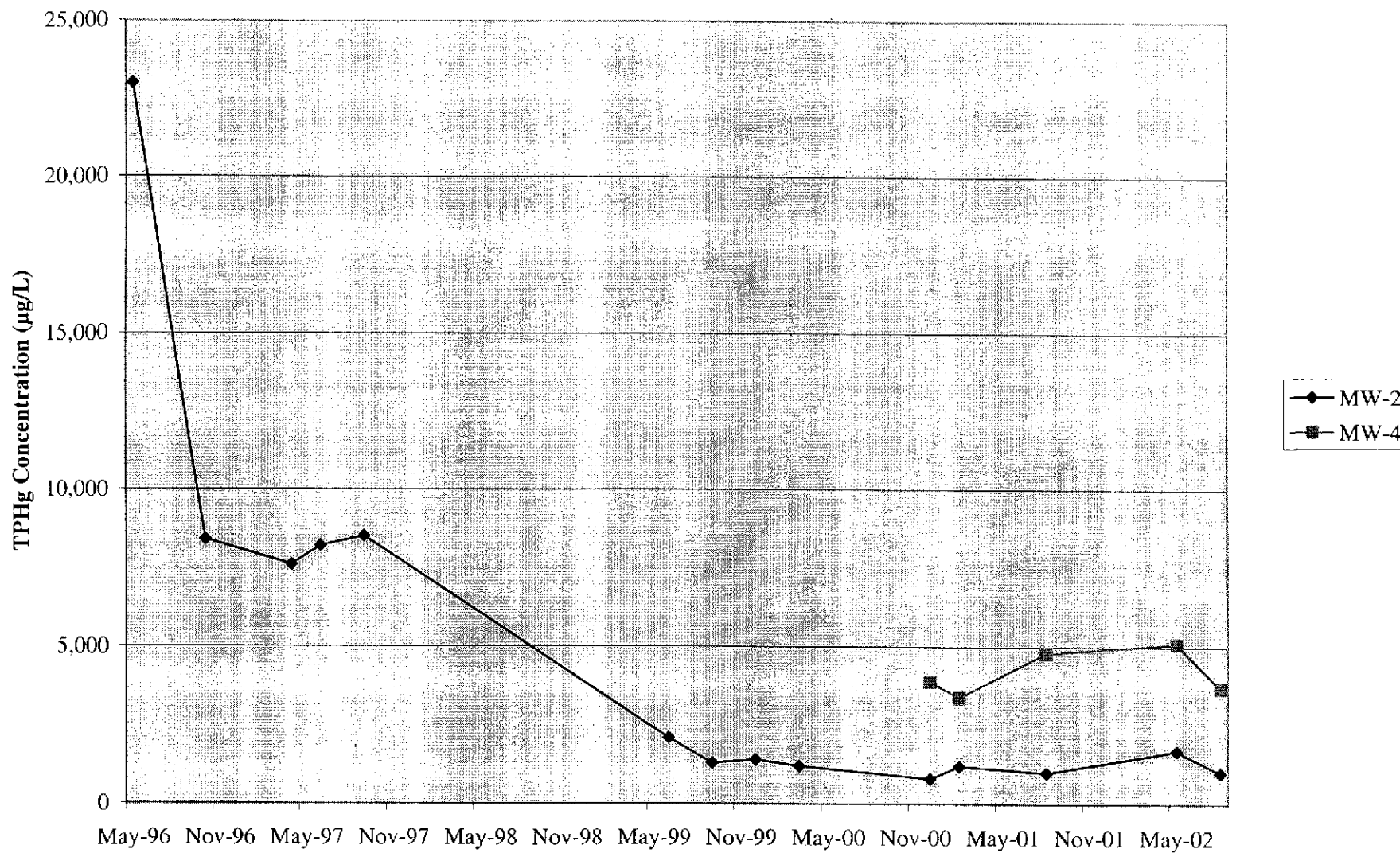


Figure 8 - Historical Concentrations of TPHg at MW-3

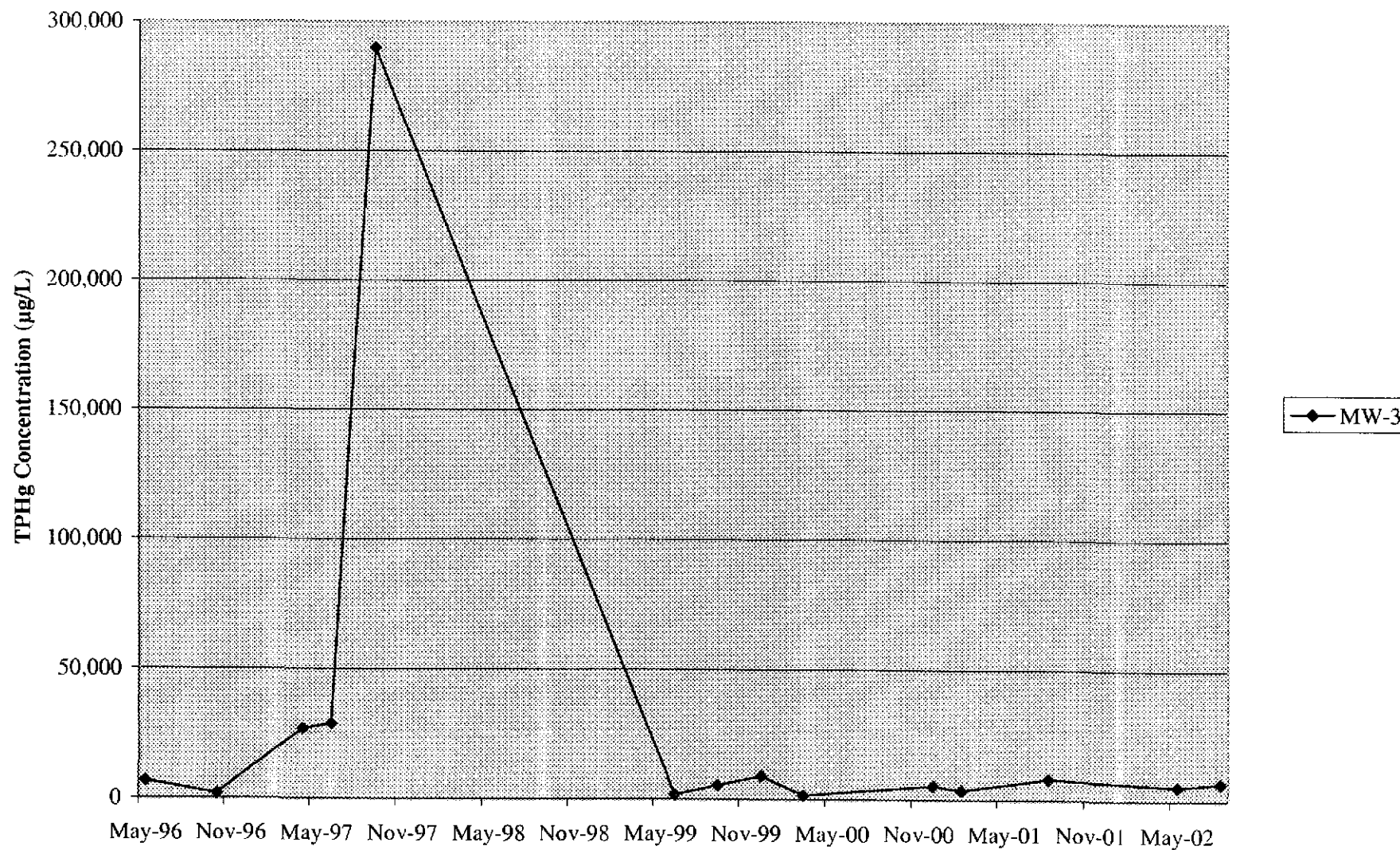


Table 1
Historical Groundwater Elevation Data
575 Paseo Grande
San Lorenzo, California

Date	TOC (ft msl)	DTW (ft bTOC)	ELEV (ft msl)	
MW-1				
17-May-96	27.11	5.65	21.46	
8-Oct-96		7.47	19.64	
1-Apr-97		6.27	20.84	
12-Jun-97		6.90	20.21	
10-Sep-97		7.48	19.63	
8-Jun-99		6.44	20.67	
13-Sep-99		7.56	19.55	
21-Dec-99		7.41	19.70	
17-Mar-00		26.98	5.35	21.76
5-Dec-00			6.99	19.99
28-Feb-01	5.71		21.27	
22-Aug-01	7.39		19.59	
22-May-02	6.25		20.73	
29-Aug-02	7.23		19.75	
MW-2				
17-May-96	26.73		5.56	21.17
8-Oct-96			7.15	19.58
1-Apr-97		6.61	20.12	
12-Jun-97		6.76	19.97	
10-Sep-97		7.19	19.54	
8-Jun-99		6.45	20.28	
13-Sep-99		7.46	19.27	
21-Dec-99		7.26	19.47	
17-Mar-00		26.73	5.56	21.17
5-Dec-00			7.01	19.72
28-Feb-01	5.81		20.92	
22-Aug-01	7.42		19.31	
22-May-02	6.40		20.33	
29-Aug-02	7.26		19.47	
MW-3				
17-May-96	26.15		4.39	21.76
8-Oct-96			6.82	19.33
1-Apr-97		5.53	20.62	
12-Jun-97		6.18	19.97	
10-Sep-97		6.81	19.34	
8-Jun-99		5.74	20.41	
13-Sep-99		6.88	19.27	
21-Dec-99		6.66	19.49	
17-Mar-00		26.55	4.51	21.64
5-Dec-00			6.84	19.71
28-Feb-01	5.44		21.11	

**Table 1
Historical Groundwater Elevation Data
575 Paseo Grande
San Lorenzo, California**

Date	TOC (ft msl)	DTW (ft bTOC)	ELEV (ft msl)
22-Aug-01		7.29	19.26
22-May-02		6.22	20.33
29-Aug-02		7.26	19.29
MW-4			
5-Dec-00	25.87	6.28	19.59
28-Feb-01		4.99	20.88
22-Aug-01		6.73	19.14
22-May-02		5.50	20.37
29-Aug-02		6.55	19.32
MW-5			
5-Dec-00	25.77	6.25	19.52
28-Feb-01		4.95	20.82
22-Aug-01		6.69	19.08
22-May-02		5.50	20.27
29-Aug-02		6.54	19.23
MW-6			
5-Dec-00	24.89	5.68	19.21
28-Feb-01		4.35	20.54
22-Aug-01		6.15	18.74
22-May-02		4.91	19.98
29-Aug-02		5.96	18.93
MW-7			
5-Dec-00	25.43	6.43	19.00
28-Feb-01		4.76	20.67
22-Aug-01		6.95	18.48
22-May-02		5.55	19.88
29-Aug-02		NM	--

Notes:
 TOC = Top of well casing
 DTW = Depth to Water
 ELEV = Water table elevation above MSL
 ft msl = Feet above mean sea level
 ft bTOC = Feet below top of casing
 NM = Not Measured

Table 2
Historical Groundwater Analytical Results
575 Paseo Grande
San Lorenzo, California

	TPHg (ug/L)	Benzenc (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Chromium (ug/L)	Dissolved Inorganic Lead (ug/L)
MW-1								
17-May-96	1,100	ND (<0.5)	6.7	7.4	17	NA	ND (<10)	ND (<50)
8-Oct-96	120	ND (<0.5)	ND (<0.5)	2.7	ND (<0.5)	NA	NA	NA
1-Apr-97	550	ND (<0.5)	ND (<0.5)	7.6	6.6	NA	NA	NA
12-Jun-97	160	ND (<0.5)	ND (<0.5)	2.9	1.7	NA	NA	NA
10-Sep-97	640	2.2 ^P	3.8 ^P	7.4 ^P	16 ^P	NA	NA	NA
8-Jun-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<10)	ND (<10)	ND (<20)
21-Dec-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.1	NA	NA	ND (<5.0)
13-Sep-99	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
17-Mar-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	0.79	ND (<5)	NA	ND (<5.0)
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
29-Aug-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-2								
17-May-96	23,000	900	330	650	1,500	NA	ND (<10)	ND (<50)
8-Oct-96	8,400	530	ND (<50)	400	360	NA	NA	NA
1-Apr-97	7,600	470	64	210	250	NA	NA	NA
12-Jun-97	8,200	440	52	190	190	NA	NA	NA
10-Sep-97	8,500	390	51 ^P	220	240	NA	NA	NA
8-Jun-99	2,100	240	8	33	40	ND (<10)	ND (<10)	33
13-Sep-99	1,300	120	ND (<5.0)	ND (<5.0)	15	NA	NA	NA
21-Dec-99	1,400	110	5.6	11	17	NA	NA	ND (<5.0)
17-Mar-00	1,200	180	19	28	31	ND (<50)	NA	ND (<5.0)
5-Dec-00	800	75	1.8	11	14	NA	NA	NA
28-Feb-01	1,200	120	7.1	19	27	NA	NA	NA
22-Aug-01	990	75	3.5	8.9	8.1	ND (<5.0)	NA	ND (<5.0)
22-May-02	1,700	230	12	12	25	NA	NA	NA
29-Aug-02	1,000	66	2.6	12	12	NA	NA	NA
MW-3								
17-May-96	6,700	140	45	210	180	NA	ND (<10)	ND (<50)
8-Oct-96	1,900	2,700	240	910	970	NA	NA	NA
1-Apr-97	27,000	520	50	520	450	NA	NA	NA
12-Jun-97	29,000	2,700	160	940	500	NA	NA	NA
10-Sep-97	290,000	1,800	3,200	2800 ^P	6900 ^P	NA	NA	NA
8-Jun-99	1,700	320	6.4	15	ND (<0.5)	ND (<10)	ND (<10)	24
13-Sep-99	5,400	1,000	ND (<20)	ND (<20)	ND (<20)	NA	NA	NA
21-Dec-99	8,800	1,400	63	17	23	NA	NA	ND (<5.0)
17-Mar-00	1,500	190	ND (<5)	7.6	ND (<5)	ND (<50)	NA	ND (<5.0)
5-Dec-00	5,400	790	20	7.4	10	NA	NA	NA
28-Feb-01	3,600	850	15	25	10	NA	NA	NA

Table 2
Historical Groundwater Analytical Results
575 Paseo Grande
San Lorenzo, California

	TPHg (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)	Chromium (ug/L)	Dissolved Inorganic Lead (ug/L)
22-Aug-01	8,100	1,600	28	44	17	ND (<50)	NA	ND (<5.0)
22-May-02	5,400	1,000	32	13	21	NA	NA	NA
29-Aug-02	6,700	1,700	55	49	38	NA	NA	NA
MW-4								
5-Dec-00	3,900	320	13	41	31	NA	NA	ND (<5.0)
28-Feb-01	3,400	250	14	44	22	NA	NA	ND (<5.0)
22-Aug-01	4,800	260	12	27	9	ND (<50)	NA	ND (<5.0)
22-May-02	5,100	320	29	74	50	NA	NA	NA
29-Aug-02	3,700	260	ND (<5.0)	30	28	NA	NA	NA
MW-5								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
29-Aug-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-6								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
29-Aug-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
MW-7								
5-Dec-00	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	1.5	NA	NA	ND (<5.0)
28-Feb-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	6.7	NA	NA	ND (<5.0)
22-Aug-01	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<5.0)	NA	ND (<5.0)
22-May-02	ND (<50)	ND (<0.5)	ND (<0.5)	ND (<0.5)	ND (<0.5)	NA	NA	NA
29-Aug-02	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

TPHg = Total petroleum hydrocarbons quantified as gasoline

ug/L = Micrograms per liter

ND = Below laboratory detection limits (detection limit indicated in parentheses)

" The laboratory noted that there was a greater than 25% difference in results between the two GC columns.

NA = Not analyzed

NS = Not Sampled

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-1
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-1
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: —

DATE PURGED 8/28/02 START (2400hr) 9:30 END (2400hr) 9:45
 DATE SAMPLED 8/29/02 SAMPLE TIME (2400hr) 9:50
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.40 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 7.23 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = 7.17 ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/02</u>	<u>9:37</u>	<u>0.1</u>	<u>22.69</u>	<u>1.41 mS/cm</u>	<u>6.78</u>	<u>6.61</u>	<u>256</u>
	<u>9:38</u>	<u>0.2</u>	<u>23.10</u>	<u>1.40</u>	<u>6.83</u>	<u>5.62</u>	<u>247</u>
	<u>9:39</u>	<u>0.3</u>	<u>23.15</u>	<u>1.40</u>	<u>6.86</u>	<u>5.33</u>	<u>245</u>
	<u>9:40</u>	<u>0.4</u>	<u>23.14</u>	<u>1.40</u>	<u>6.87</u>	<u>5.23</u>	<u>243</u>
	<u>9:41</u>	<u>0.5</u>	<u>23.13</u>	<u>1.39</u>	<u>6.88</u>	<u>5.12</u>	<u>240</u>
	<u>9:42</u>	<u>0.6</u>	<u>23.16</u>	<u>1.39</u>	<u>6.89</u>	<u>4.97</u>	<u>238</u>
	<u>9:43</u>	<u>0.7</u>	<u>23.18</u>	<u>1.39</u>	<u>6.90</u>	<u>4.84</u>	<u>234</u>
	<u>9:44</u>	<u>0.8</u>	<u>23.20</u>	<u>1.38</u>	<u>6.92</u>	<u>4.62</u>	<u>231</u>
	<u>9:45</u>	<u>0.9</u>	<u>23.21</u>	<u>1.38</u>	<u>6.92</u>	<u>4.61</u>	<u>230</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 7.26 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: see COC

ODOR: none SAMPLE VESSEL / PRESERVATIVE: 3 HCL vials, 2 non 50ml poly, 1-250ml HDPE

PURGING EQUIPMENT

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC or disposable) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: dolphin

REMARKS: _____

SIGNATURE: [Signature] Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-2
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-2
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: —

DATE PURGED 8/29/02 START (2400hr) 12:40 END (2400hr) 12:52
 DATE SAMPLED 8/29/02 SAMPLE TIME (2400hr) 12:55
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.70 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 7.26 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = 7.44 ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/02</u>	<u>12:44</u>	<u>0.1</u>	<u>24.28</u>	<u>1.74 mS/cm</u>	<u>6.45</u>	<u>4.53</u>	<u>-132</u>
	<u>12:45</u>	<u>0.2</u>	<u>24.20</u>	<u>1.72</u>	<u>6.47</u>	<u>4.17</u>	<u>-132</u>
	<u>12:46</u>	<u>0.3</u>	<u>24.22</u>	<u>1.73</u>	<u>6.48</u>	<u>3.78</u>	<u>-133</u>
	<u>12:47</u>	<u>0.4</u>	<u>24.17</u>	<u>1.71</u>	<u>6.48</u>	<u>3.54</u>	<u>-134</u>
	<u>12:48</u>	<u>0.5</u>	<u>24.17</u>	<u>1.70</u>	<u>6.48</u>	<u>3.36</u>	<u>-135</u>
	<u>12:49</u>	<u>0.6</u>	<u>24.16</u>	<u>1.71</u>	<u>6.48</u>	<u>3.24</u>	<u>-135</u>
	<u>12:50</u>	<u>0.7</u>	<u>24.17</u>	<u>1.70</u>	<u>6.48</u>	<u>3.09</u>	<u>-136</u>
	<u>12:51</u>	<u>0.8</u>	<u>24.11</u>	<u>1.70</u>	<u>6.49</u>	<u>2.86</u>	<u>-136</u>
	<u>12:52</u>	<u>0.9</u>	<u>24.11</u>	<u>1.70</u>	<u>6.49</u>	<u>2.80</u>	<u>-137</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 7.29 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: see CDC

ODOR: TPH SAMPLE VESSEL / PRESERVATIVE: 3 HCL JOAS, 2 non seal poly, 1 250ml HNO3

PURGING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK# (over)? pulled it off

REMARKS: some minor black specks & floaties

SIGNATURE: Dan Condiff Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-3
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-3
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: -

DATE PURGED 8/29/08 START (2400hr) 14:10 END (2400hr) 14:19
 DATE SAMPLED 8/29/08 SAMPLE TIME (2400hr) 14:25
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 13.00 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 7.26 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = ~~2.74~~ ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/08</u>	<u>14:12</u>	<u>0.1</u>	<u>23.89</u>	<u>1.82</u> ^{m/cm}	<u>6.52</u>	<u>1.81</u>	<u>-163</u>
	<u>14:13</u>	<u>0.2</u>	<u>23.88</u>	<u>1.82</u>	<u>6.53</u>	<u>1.81</u>	<u>-164</u>
	<u>14:14</u>	<u>0.3</u>	<u>23.91</u>	<u>1.82</u>	<u>6.53</u>	<u>1.78</u>	<u>-163</u>
	<u>14:15</u>	<u>0.4</u>	<u>23.96</u>	<u>1.82</u>	<u>6.53</u>	<u>1.74</u>	<u>-164</u>
	<u>14:16</u>	<u>0.5</u>	<u>24.00</u>	<u>1.83</u>	<u>6.53</u>	<u>1.69</u>	<u>-164</u>
	<u>14:17</u>	<u>0.6</u>	<u>24.05</u>	<u>1.83</u>	<u>6.53</u>	<u>1.66</u>	<u>-164</u>
	<u>14:18</u>	<u>0.7</u>	<u>24.15</u>	<u>1.83</u>	<u>6.52</u>	<u>1.62</u>	<u>-165</u>
	<u>14:19</u>	<u>0.8</u>	<u>24.16</u>	<u>1.83</u>	<u>6.53</u>	<u>1.58</u>	<u>-165</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 7.29 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: see WOL

ODOR: TPH SAMPLE VESSEL / PRESERVATIVE: 3 HCL vials, 2 non 500ml poly, 1 250ml HDPE

PURGING EQUIPMENT

Bladder Pump
 Centrifugal Pump
 Submersible Pump
 Peristaltic Pump
 Other: _____
 Pump Depth: _____

Bailer (Teflon)
 Bailer (PVC)
 Bailer (Stainless Steel)
 Dedicated tubing

SAMPLING EQUIPMENT

Bladder Pump
 Centrifugal Pump
 Submersible Pump
 Peristaltic Pump
 Other: _____

Bailer (Teflon)
 Bailer (_____ PVC or _____ disposable)
 Bailer (Stainless Steel)
 Dedicated tubing

WELL INTEGRITY: good LOCK#: 0909

REMARKS: some small black specks

SIGNATURE: [Signature] Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-4
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-4
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: -

DATE PURGED: 8/29/08 START (2400hr): 13:25 END (2400hr): 13:35
 DATE SAMPLED: 8/29/08 SAMPLE TIME (2400hr): 13:40
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 15.15 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 6.55 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = _____ ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/08</u>	<u>13:29</u>	<u>0.1</u>	<u>22.58</u>	<u>0.921 mS/cm</u>	<u>6.47</u>	<u>2.40</u>	<u>-144</u>
	<u>13:30</u>	<u>0.2</u>	<u>22.18</u>	<u>0.914</u>	<u>6.47</u>	<u>2.24</u>	<u>-144</u>
	<u>13:31</u>	<u>0.3</u>	<u>21.76</u>	<u>0.918</u>	<u>6.47</u>	<u>2.10</u>	<u>-144</u>
	<u>13:32</u>	<u>0.4</u>	<u>21.68</u>	<u>0.919</u>	<u>6.48</u>	<u>2.00</u>	<u>-145</u>
	<u>13:33</u>	<u>0.5</u>	<u>21.60</u>	<u>0.916</u>	<u>6.49</u>	<u>1.93</u>	<u>-145</u>
	<u>13:34</u>	<u>0.6</u>	<u>21.48</u>	<u>0.918</u>	<u>6.49</u>	<u>1.90</u>	<u>-145</u>
	<u>13:35</u>	<u>0.7</u>	<u>21.47</u>	<u>0.920</u>	<u>6.48</u>	<u>1.86</u>	<u>-146</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 6.59 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: see WOC

ODOR: IPH SAMPLE VESSEL / PRESERVATIVE: 3 HCL VOAs, 2 non 500ml poly, 1 250ml HNO3

PURGING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC or disposable) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: 0909

REMARKS: _____

SIGNATURE: [Signature] Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 050T.50026.00 PURGED BY: DC WELL I.D.: MW-5
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-5
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: -

DATE PURGED 8/29/02 START (2400hr) 11:15 END (2400hr) 11:54
 DATE SAMPLED 8/29/02 SAMPLE TIME (2400hr) 11:58
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.35 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 6.54 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = _____ ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/02</u>	<u>11:21</u>	_____	_____	<u>0.709 mS/cm</u>	<u>7.60</u>	<u>9.96 ?</u>	<u>recalibra</u>
_____	<u>11:48</u>	<u>0.2</u>	<u>23.11</u>	<u>0.801</u>	<u>6.86</u>	<u>2.62</u>	<u>172</u>
_____	<u>11:49</u>	<u>0.3</u>	<u>23.00</u>	<u>0.801</u>	<u>6.87</u>	<u>2.58</u>	<u>169</u>
_____	<u>11:50</u>	<u>0.4</u>	<u>22.84</u>	<u>0.801</u>	<u>6.88</u>	<u>2.37</u>	<u>163</u>
_____	<u>11:51</u>	<u>0.5</u>	<u>22.70</u>	<u>0.800</u>	<u>6.90</u>	<u>2.17</u>	<u>157</u>
_____	<u>11:52</u>	<u>0.6</u>	<u>22.69</u>	<u>0.799</u>	<u>6.90</u>	<u>2.02</u>	<u>150</u>
_____	<u>11:53</u>	<u>0.7</u>	<u>22.67</u>	<u>0.800</u>	<u>6.90</u>	<u>1.95</u>	<u>146</u>
_____	<u>11:54</u>	<u>0.8</u>	<u>22.66</u>	<u>0.799</u>	<u>6.90</u>	<u>1.89</u>	<u>142</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 6.56 SAMPLE TURBIDITY: low

80% RECHARGE: YES NO ANALYSES: see CDC

ODOR: none SAMPLE VESSEL / PRESERVATIVE: 3 HCL VOAS, 2 non 500ml poly, 1 250ml HNO3

PURGING EQUIPMENT

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump _____ Bailer (PVC)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

_____ Bladder Pump _____ Bailer (Teflon)
 _____ Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable)
 _____ Submersible Pump _____ Bailer (Stainless Steel)
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: dolphin

REMARKS: _____

SIGNATURE: Bjo Cardiff Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-6
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-6
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: -

DATE PURGED 8/29/02 START (2400hr) 10:34 END (2400hr) 10:44
 DATE SAMPLED 8/29/02 SAMPLE TIME (2400hr) 10:50
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.55 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = 5.96 CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = _____ ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)
<u>8/29/02</u>	<u>10:37</u>	<u>0.1</u>	<u>21.56</u>	<u>0.579 mS/cm</u>	<u>7.61</u>	<u>7.83</u>	<u>258</u>
	<u>10:38</u>	<u>0.2</u>	<u>21.58</u>	<u>0.573</u>	<u>7.49</u>	<u>6.35</u>	<u>257</u>
	<u>10:39</u>	<u>0.3</u>	<u>21.57</u>	<u>0.571</u>	<u>7.45</u>	<u>5.94</u>	<u>256</u>
	<u>10:40</u>	<u>0.4</u>	<u>21.65</u>	<u>0.569</u>	<u>7.41</u>	<u>5.57</u>	<u>254</u>
	<u>10:41</u>	<u>0.5</u>	<u>21.57</u>	<u>0.568</u>	<u>7.40</u>	<u>5.40</u>	<u>252</u>
	<u>10:42</u>	<u>0.6</u>	<u>21.57</u>	<u>0.567</u>	<u>7.39</u>	<u>5.24</u>	<u>251</u>
	<u>10:43</u>	<u>0.7</u>	<u>21.57</u>	<u>0.566</u>	<u>7.38</u>	<u>5.04</u>	<u>248</u>
	<u>10:44</u>	<u>0.8</u>	<u>21.60</u>	<u>0.564</u>	<u>7.37</u>	<u>4.92</u>	<u>247</u>

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: 5.98 SAMPLE TURBIDITY: med

80% RECHARGE: YES NO ANALYSES: see CDC

ODOR: none SAMPLE VESSEL / PRESERVATIVE: 3 HCl vials, 2 ~~acid~~ vials, 1 ~~acid~~ vial HNO₃

PURGING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (PVC) _____
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

Bladder Pump _____ Bailer (Teflon) _____
 Centrifugal Pump _____ Bailer (_____ PVC or _____ disposable)
 Submersible Pump _____ Bailer (Stainless Steel) _____
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: good LOCK#: (600)? cut

REMARKS: _____

SIGNATURE: Dylan Condiff Page _____ of _____

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 05OT.50026.00 PURGED BY: DC WELL I.D.: MW-7
 CLIENT NAME: Bohannon Development SAMPLED BY: DC SAMPLE I.D.: MW-7
 LOCATION: 575 Paseo Grande, San Lorenzo, California QA SAMPLES: -

DATE PURGED 8/29/02 START (2400hr) _____ END (2400hr) _____
 DATE SAMPLED 8/29/02 SAMPLE TIME (2400hr) _____
 SAMPLE TYPE: Groundwater Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER: 2" 3" _____ 4" _____ 5" _____ 6" _____ 8" _____ Other _____
 Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ()

DEPTH TO BOTTOM (feet) = 14.70 CASING VOLUME (gal) = _____
 DEPTH TO WATER (feet) = Well Parked ON CALCULATED PURGE (gal) = _____
 WATER COLUMN HEIGHT (feet) = _____ ACTUAL PURGE (gal) = _____

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees C)	CONDUCTIVITY (umhos/cm)	pH (units)	DO ppm / %	ORP (mV)

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: _____ SAMPLE TURBIDITY: _____

80% RECHARGE: YES NO ANALYSES: see COC

ODOR: _____ SAMPLE VESSEL / PRESERVATIVE: 3 HCL VOAS

PURGING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated tubing
 Other: _____
 Pump Depth: _____

SAMPLING EQUIPMENT

Bladder Pump Bailer (Teflon)
 Centrifugal Pump Bailer (PVC or disposable)
 Submersible Pump Bailer (Stainless Steel)
 Peristaltic Pump Dedicated tubing
 Other: _____

WELL INTEGRITY: _____ LOCK#: _____

REMARKS: _____

SIGNATURE: _____ Page _____ of _____

Submission#: 2002-08-0585

September 06, 2002

SEVERN

TRENT

LABORATORY

SECOR- Lafayette

57 Lafayette Circle, 2nd Floor
Lafayette, CA 94549-4321

Attn.: Neil Doran

Project#: 050T.50026.0004

Project: Bohannon Quarterly Monitoring - 3rd

Site: 575 Paseo Grande
San Lorenzo, CA

STL San Francisco
1220 Quarry Ln
Pleasanton CA 94566

Tel.: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP#:2496

Attached is our report for your samples received on 08/29/2002 16:00

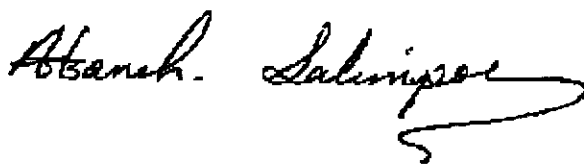
This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after 10/13/2002 unless you have requested otherwise.

We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

You can also contact me via email. My email address is: asalimpour@chromalab.com

Sincerely,



Afsaneh Salimpour
Project Manager

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

SEVERN

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1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	08/29/2002 09:50	Water	1
MW-2	08/29/2002 12:55	Water	2
MW-3	08/29/2002 14:25	Water	3
MW-4	08/29/2002 13:40	Water	4
MW-5	08/29/2002 11:58	Water	5

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
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Pleasanton, CA 94566

Tel: (925) 484-1919
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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 310.1 Test(s): 310.1
Sample ID: MW-1 Lab ID: 2002-08-0585 - 1
Sampled: 08/29/2002 09:50 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/09/03-01.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity (Total)	660	5.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 310.1 Test(s): 310.1
Sample ID: MW-2 Lab ID: 2002-08-0585 - 2
Sampled: 08/29/2002 12:55 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/09/03-01.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity (Total)	820	5.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 310.1 Test(s): 310.1
Sample ID: MW-3 Lab ID: 2002-08-0585 - 3
Sampled: 08/29/2002 14:25 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/09/03-01.58

Compound -	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity (Total)	870	5.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 310.1 Test(s): 310.1
Sample ID: **MW-4** Lab ID: 2002-08-0585 - 4
Sampled: 08/29/2002 13:40 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/09/03-01.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity (Total)	650	5.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

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LABORATORY

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

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Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 310.1	Test(s): 310.1
Sample ID: MW-5	Lab ID: 2002-08-0585 - 5
Sampled: 08/29/2002 11:58	Extracted: 8/30/2002 00:00
Matrix: Water	QC Batch#: 2002/09/03-01.58

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Alkalinity (Total)	450	5.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

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Project: 050T.50026.0004

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Site: 575 Paseo Grande
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www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

Prep(s): 310.1

Method Blank

MB: 2002/09/03-01.58-001

Water

Test(s): 310.1

QC Batch # 2002/09/03-01.58

Date Extracted: 08/30/2002 09:00

Compound	Conc.	RL	Unit	Analyzed	Flag
Alkalinity (Total)	ND	5.0	mg/L	08/30/2002 09:00	

Submission #: 2002-08-0585

Alkalinity (Total)

SECOR- Lafayette

Attn.: Neil Doran

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Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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www.chromalab.com

CA DHS ELAP# 2496

Batch QC Report

Prep(s): 310.1

Test(s): 310.1

Laboratory Control Spike

Water

QC Batch # 2002/09/03-01.58

LCS -2002/09/03-01.58-002

Extracted: 08/30/2002

Analyzed: 08/30/2002 09:00

LCSD 2002/09/03-01.58-003

Extracted: 08/30/2002

Analyzed: 08/30/2002 09:00

Compound	Conc. mg/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Alkalinity (Total)	2340	2360	2500	93.6	94.4	0.9	80-120	20		

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
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Pleasanton, CA 94566

Tel: (925) 484-1919
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CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	08/29/2002 09:50	Water	1
MW-2	08/29/2002 12:55	Water	2
MW-3	08/29/2002 14:25	Water	3
MW-4	08/29/2002 13:40	Water	4
MW-5	08/29/2002 11:58	Water	5
MW-6	08/29/2002 10:50	Water	6

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Attn.: Neil Doran

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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CA DHS ELAP# 2496

Prep(s):	5030	Test(s):	8015M
	5030		8021B
Sample ID:	MW-1	Lab ID:	2002-08-0585 - 1
Sampled:	08/29/2002 09:50	Extracted:	9/3/2002 12:44
Matrix:	Water	QC Batch#:	2002/09/03-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	09/03/2002 12:44	
Benzene	ND	0.50	ug/L	1.00	09/03/2002 12:44	
Toluene	ND	0.50	ug/L	1.00	09/03/2002 12:44	
Ethyl benzene	ND	0.50	ug/L	1.00	09/03/2002 12:44	
Xylene(s)	ND	0.50	ug/L	1.00	09/03/2002 12:44	
Surrogates(s)						
Trifluorotoluene	99.5	58-124	%	1.00	09/03/2002 12:44	
4-Bromofluorobenzene-FID	84.7	50-150	%	1.00	09/03/2002 12:44	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Attn.: Neil Doran

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Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

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Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

CA DHS ELAP# 2496

Prep(s): 5030	Test(s): 8015M
5030	8021B
Sample ID: MW-2	Lab ID: 2002-08-0585 - 2
Sampled: 08/29/2002 12:55	Extracted: 9/4/2002 17:53
Matrix: Water	QC Batch#: 2002/09/04-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	1000	50	ug/L	1.00	09/04/2002 17:53	g
Benzene	66	0.50	ug/L	1.00	09/04/2002 17:53	
Toluene	2.6	0.50	ug/L	1.00	09/04/2002 17:53	
Ethyl benzene	12	0.50	ug/L	1.00	09/04/2002 17:53	
Xylene(s)	12	0.50	ug/L	1.00	09/04/2002 17:53	
Surrogates(s)						
Trifluorotoluene	91.8	58-124	%	1.00	09/04/2002 17:53	
4-Bromofluorobenzene-FID	109.1	50-150	%	1.00	09/04/2002 17:53	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

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Lafayette, CA 94549-4321

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 5030
5030
Sample ID: MW-3
Sampled: 08/29/2002 14:25
Matrix: Water
Test(s): 8015M
8021B
Lab ID: 2002-08-0585 - 3
Extracted: 9/4/2002 18:25
QC Batch#: 2002/09/04-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	6700	1000	ug/L	20.00	09/04/2002 18:25	g
Benzene	1700	10	ug/L	20.00	09/04/2002 18:25	
Toluene	55	10	ug/L	20.00	09/04/2002 18:25	
Ethyl benzene	49	10	ug/L	20.00	09/04/2002 18:25	
Xylene(s)	38	10	ug/L	20.00	09/04/2002 18:25	
Surrogates(s)						
Trifluorotoluene	107.4	58-124	%	20.00	09/04/2002 18:25	
4-Bromofluorobenzene-FID	88.2	50-150	%	20.00	09/04/2002 18:25	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

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www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 5030
5030
Sample ID: MW-4
Sampled: 08/29/2002 13:40
Matrix: Water
Test(s): 8015M
8021B
Lab ID: 2002-08-0585 - 4
Extracted: 9/3/2002 14:21
QC Batch#: 2002/09/03-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	3700	500	ug/L	10.00	09/03/2002 14:21	g
Benzene	260	5.0	ug/L	10.00	09/03/2002 14:21	
Toluene	ND	5.0	ug/L	10.00	09/03/2002 14:21	
Ethyl benzene	30	5.0	ug/L	10.00	09/03/2002 14:21	
Xylene(s)	28	5.0	ug/L	10.00	09/03/2002 14:21	
Surrogates(s)						
Trifluorotoluene	90.7	58-124	%	10.00	09/03/2002 14:21	
4-Bromofluorobenzene-FID	79.7	50-150	%	10.00	09/03/2002 14:21	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
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CA DHS ELAP# 2496

Prep(s):	5030	Test(s):	8015M
	5030		8021B
Sample ID:	MW-5	Lab ID:	2002-08-0585 - 5
Sampled:	08/29/2002 11:58	Extracted:	9/3/2002 14:53
Matrix:	Water	QC Batch#:	2002/09/03-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	09/03/2002 14:53	
Benzene	ND	0.50	ug/L	1.00	09/03/2002 14:53	
Toluene	ND	0.50	ug/L	1.00	09/03/2002 14:53	
Ethyl benzene	ND	0.50	ug/L	1.00	09/03/2002 14:53	
Xylene(s)	ND	0.50	ug/L	1.00	09/03/2002 14:53	
Surrogates(s)						
Trifluorotoluene	93.3	58-124	%	1.00	09/03/2002 14:53	
4-Bromofluorobenzene-FID	82.0	50-150	%	1.00	09/03/2002 14:53	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

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Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 5030 Test(s): 8015M
5030 8021B
Sample ID: MW-6 Lab ID: 2002-08-0585 - 6
Sampled: 08/29/2002 10:50 Extracted: 9/3/2002 15:26
Matrix: Water QC Batch#: 2002/09/03-01.05

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	09/03/2002 15:26	
Benzene	ND	0.50	ug/L	1.00	09/03/2002 15:26	
Toluene	ND	0.50	ug/L	1.00	09/03/2002 15:26	
Ethyl benzene	ND	0.50	ug/L	1.00	09/03/2002 15:26	
Xylene(s)	ND	0.50	ug/L	1.00	09/03/2002 15:26	
Surrogates(s)						
Trifluorotoluene	96.9	58-124	%	1.00	09/03/2002 15:26	
4-Bromofluorobenzene-FID	82.8	50-150	%	1.00	09/03/2002 15:26	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Method Blank

MB: 2002/09/03-01.05-003

Water

Test(s): 8015M

QC Batch # 2002/09/03-01.05

Date Extracted: 09/03/2002 08:08

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	09/03/2002 08:08	
Benzene	ND	0.5	ug/L	09/03/2002 08:08	
Toluene	ND	0.5	ug/L	09/03/2002 08:08	
Ethyl benzene	ND	0.5	ug/L	09/03/2002 08:08	
Xylene(s)	ND	0.5	ug/L	09/03/2002 08:08	
Surrogates(s)					
Trifluorotoluene	93.7	58-124	%	09/03/2002 08:08	
4-Bromofluorobenzene-FID	82.7	50-150	%	09/03/2002 08:08	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Method Blank

MB: 2002/09/04-01.05-003

Water

Test(s): 8015M

QC Batch # 2002/09/04-01.05

Date Extracted: 09/04/2002 08:18

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	09/04/2002 08:18	
Benzene	ND	0.5	ug/L	09/04/2002 08:18	
Toluene	ND	0.5	ug/L	09/04/2002 08:18	
Ethyl benzene	ND	0.5	ug/L	09/04/2002 08:18	
Xylene(s)	ND	0.5	ug/L	09/04/2002 08:18	
Surrogates(s)					
Trifluorotoluene	98.2	58-124	%	09/04/2002 08:18	
4-Bromofluorobenzene-FID	86.9	50-150	%	09/04/2002 08:18	

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike

Water

QC Batch # 2002/09/03-01.05

LCS 2002/09/03-01.05-004

Extracted: 09/03/2002

Analyzed: 09/03/2002 08:40

LCSD 2002/09/03-01.05-005

Extracted: 09/03/2002

Analyzed: 09/03/2002 09:12

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	88.7	90.4	100.0	88.7	90.4	1.9	77-123	20		
Toluene	88.4	90.3	100.0	88.4	90.3	2.1	78-122	20		
Ethyl benzene	89.5	91.8	100.0	89.5	91.8	2.5	70-130	20		
Xylene(s)	261	267	300	87.0	89.0	2.3	75-125	20		
Surrogates(s)										
Trifluorotoluene	456	473	500	91.2	94.6		58-124			

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Test(s): 8015M

Laboratory Control Spike

Water

QC Batch # 2002/09/03-01.05

LCS 2002/09/03-01.05-006

Extracted: 09/03/2002

Analyzed: 09/03/2002 09:44

LCSD 2002/09/03-01.05-007

Extracted: 09/03/2002

Analyzed: 09/03/2002 10:16

Compound	Conc. ug/L		Exp. Conc.	Recovery		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Gasoline	462	476	500	92.4	95.2	3.0	75-125	20		
Surrogates(s) 4-Bromofluorobenzene-FID	431	427	500	86.2	85.4		50-150			

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Test(s): 8021B

Laboratory Control Spike

Water

QC Batch # 2002/09/04-01.05

LCS 2002/09/04-01.05-004

Extracted: 09/04/2002

Analyzed: 09/04/2002 08:50

LCSD 2002/09/04-01.05-005

Extracted: 09/04/2002

Analyzed: 09/04/2002 09:22

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Benzene	93.6	93.6	100.0	93.6	93.6	0.0	77-123	20		
Toluene	93.6	94.8	100.0	93.6	94.8	1.3	78-122	20		
Ethyl benzene	93.9	97.0	100.0	93.9	97.0	3.2	70-130	20		
Xylene(s)	273	282	300	91.0	94.0	3.2	75-125	20		
Surrogates(s)										
Trifluorotoluene	477	485	500	95.4	97.0		58-124			

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 5030

Test(s): 8015M

Laboratory Control Spike

Water

QC Batch # 2002/09/04-01.05

LCS 2002/09/04-01.05-006

Extracted: 09/04/2002

Analyzed: 09/04/2002 09:54

LCSD 2002/09/04-01.05-007

Extracted: 09/04/2002

Analyzed: 09/04/2002 10:26

Compound	Conc. ug/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Gasoline	469	493	500	93.8	98.6	5.0	75-125	20		
Surrogates(s) 4-Bromofluorobenzene-FID	446	453	500	89.2	90.6		50-150			

Submission #: 2002-08-0585

Gas/BTEX by 8015M/8021

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Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Legend and Notes

Result Flag

g

Hydrocarbon reported in the gasoline range does not match
our gasoline standard.

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

SECOR- Lafayette

Attn.: Neil Doran

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	08/29/2002 09:50	Water	1
MW-2	08/29/2002 12:55	Water	2
MW-3	08/29/2002 14:25	Water	3
MW-4	08/29/2002 13:40	Water	4
MW-5	08/29/2002 11:58	Water	5

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

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CA DHS ELAP# 2496

Prep(s): 9056 Test(s): 9056
Sample ID: MW-1 Lab ID: 2002-08-0585 - 1
Sampled: 08/29/2002 09:50 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/08/30-01.41

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Nitrate	15	1.0	mg/L	1.00	08/30/2002	
Orthophosphate	ND	1.0	mg/L	1.00	08/30/2002	
Sulfate	65	2.0	mg/L	2.00	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Prep(s): 9056 Test(s): 9056
Sample ID: MW-2 Lab ID: 2002-08-0585 - 2
Sampled: 08/29/2002 12:55 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/08/30-01.41

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Nitrate	ND	1.0	mg/L	1.00	08/30/2002	
Orthophosphate	ND	1.0	mg/L	1.00	08/30/2002	
Sulfate	13	1.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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CA DHS ELAP# 2496

Prep(s): 9056 Test(s): 9056
Sample ID: MW-3 Lab ID: 2002-08-0585 - 3
Sampled: 08/29/2002 14:25 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/08/30-01.41

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Nitrate	ND	1.0	mg/L	1.00	08/30/2002	
Orthophosphate	ND	1.0	mg/L	1.00	08/30/2002	
Sulfate	ND	1.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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Project: 050T.50026.0004
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CA DHS ELAP# 2496

Prep(s): 9056 Test(s): 9056
Sample ID: MW-4 Lab ID: 2002-08-0585 - 4
Sampled: 08/29/2002 13:40 Extracted: 8/30/2002 00:00
Matrix: Water QC Batch#: 2002/08/30-01.41

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Nitrate	ND	1.0	mg/L	1.00	08/30/2002	
Orthophosphate	ND	1.0	mg/L	1.00	08/30/2002	
Sulfate	2.3	1.0	mg/L	1.00	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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CA DHS ELAP# 2496

Prep(s): 9056

Sample ID: MW-5

Sampled: 08/29/2002 11:58

Matrix: Water

Test(s): 9056

Lab ID: 2002-08-0585 - 5

Extracted: 8/30/2002 00:00

QC Batch#: 2002/08/30-01.41

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Nitrate	38	1.0	mg/L	1.00	08/30/2002	
Orthophosphate	ND	1.0	mg/L	1.00	08/30/2002	
Sulfate	61	2.0	mg/L	2.00	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 9056

Method Blank

MB: 2002/08/30-01.41-001

Water

Test(s): 9056

QC Batch # 2002/08/30-01.41

Date Extracted: 08/30/2002

Compound	Conc.	RL	Unit	Analyzed	Flag
Nitrate	ND	1.0	mg/L	08/30/2002	
Orthophosphate	ND	1.0	mg/L	08/30/2002	
Sulfate	ND	1.0	mg/L	08/30/2002	

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 9056

Test(s): 9056

Laboratory Control Spike

Water

QC Batch # 2002/08/30-01.41

LCS 2002/08/30-01.41-002

Extracted: 08/30/2002

Analyzed: 08/30/2002

LCSD 2002/08/30-01.41-003

Extracted: 08/30/2002

Analyzed: 08/30/2002

Compound	Conc. mg/L		Exp.Conc.	Recovery		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Nitrate	18.8	18.8	20.0	94.0	94.0	0.0	80-120	20		
Orthophosphate	19.2	19.1	20.0	96.0	95.5	0.5	80-120	20		
Sulfate	19.2	19.1	20.0	96.0	95.5	0.5	80-120	20		

Submission #: 2002-08-0585

Misc Anions by Ion Chromatograph

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Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 9056

Test(s): 9056

Matrix Spike (MS / MSD)

Water

QC Batch # 2002/08/30-01.41

MW-2 >> MS

Lab ID: 2002-08-0585 - 002

MS: 2002/08/30-01.41-004

Extracted: 08/30/2002

Analyzed: 08/30/2002

Dilution: 1.00

MSD: 2002/08/30-01.41-005

Extracted: 08/30/2002

Analyzed: 08/30/2002

Dilution: 1.00

Compound	Conc. mg/L			Spk.Level	Recovery			Limits %		Flags	
	MS	MSD	Sample		mg/L	MS	MSD	RPD	Rec.	RPD	MS
Nitrate	18.8	19.3	ND	20.0	94.0	96.5	2.6	80-120	20		
Orthophosphate	17.8	18.1	ND	20.0	89.0	90.5	1.7	80-120	20		
Sulfate	32.9	33.2	13.4	20.0	97.5	99.0	1.5	80-120	20		

Submission #: 2002-08-0585

Dissolved Metals

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Received: 08/29/2002 16:00

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CA DHS ELAP# 2496

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	08/29/2002 09:50	Water	1
MW-2	08/29/2002 12:55	Water	2
MW-3	08/29/2002 14:25	Water	3
MW-4	08/29/2002 13:40	Water	4
MW-5	08/29/2002 11:58	Water	5

Submission #: 2002-08-0585

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Dissolved Metals

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CA DHS ELAP# 2496

Prep(s): 3005A	Test(s): 6010B
Sample ID: MW-2	Lab ID: 2002-08-0585 - 2
Sampled: 08/29/2002 12:55	Extracted: 8/30/2002 05:29
Matrix: Water	QC Batch#: 2002/08/30-05.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	1.5	0.20	mg/L	1.00	08/30/2002 14:50	

Submission #: 2002-08-0585

Dissolved Metals

SECOR- Lafayette

Attn.: Neil Doran

57 Lafayette Circle, 2nd Floor

Lafayette, CA 94549-4321

Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004

Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
San Lorenzo, CA

SEVERN

TRENT

LABORATORY

STL San Francisco
1220 Quarry Lane
Pleasanton, CA 94566

Tel: (925) 484-1919
Fax: (925) 484-1096
www.stl-inc.com
www.chromalab.com

CA DHS ELAP# 2496

Prep(s): 3005A Test(s): 6010B
Sample ID: MW-3 Lab ID: 2002-08-0585 - 3
Sampled: 08/29/2002 14:25 Extracted: 8/30/2002 05:29
Matrix: Water QC Batch#: 2002/08/30-05.15

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Iron	8.3	0.20	mg/L	1.00	08/30/2002 14:54	

Submission #: 2002-08-0585

Dissolved Metals

SECOR- Lafayette

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Project: 050T.50026.0004
Bohannon Quarterly Monitoring - 3rd

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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3005A
Method Blank
MB: 2002/08/30-05.15-011

Water

Test(s): 6010B
QC Batch # 2002/08/30-05.15
Date Extracted: 08/30/2002 05:29

Compound	Conc.	RL	Unit	Analyzed	Flag
Iron	ND	0.20	mg/L	08/30/2002 13:44	

Submission #: 2002-08-0585

Dissolved Metals

SECOR- Lafayette

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Lafayette, CA 94549-4321
Phone: (925) 299-9300 Fax: (925) 299-9302

Project: 050T.50026.0004
Bohannon Quarterly Monitoring - 3rd

Received: 08/29/2002 16:00

Site: 575 Paseo Grande
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CA DHS ELAP# 2496

Batch QC Report

Prep(s): 3005A

Test(s): 6010B

Laboratory Control Spike

Water

QC Batch # 2002/08/30-05.15

LCS 2002/08/30-05.15-012

Extracted: 08/30/2002

Analyzed: 08/30/2002 13:49

LCSD 2002/08/30-05.15-013

Extracted: 08/30/2002

Analyzed: 08/30/2002 13:53

Compound	Conc. mg/L		Exp. Conc.	Recovery		RPD	Ctrl. Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Iron	5.13	5.16	5.00	102.6	103.2	0.6	80-120	20		

Table 3
Inorganic Chemical Results
575 Paseo Grande
San Lorenzo, California

	Dissolved Iron (mg/L)	Nitrate (mg/L)	Orthophosphate (mg/L)	Sulfate (mg/L)	Alkalinity (Total) (mg/L)
MW-1					
29-Aug-02	ND (<0.2)	15	ND (<1.0)	65	660
MW-2					
29-Aug-02	1.5	ND (<1.0)	ND (<1.0)	13	820
MW-3					
29-Aug-02	8.3	ND (<1.0)	ND (<1.0)	ND (<1.0)	870
MW-4					
29-Aug-02	4.8	ND (<1.0)	ND (<1.0)	2.3	650
MW-5					
29-Aug-02	ND (<0.2)	38	ND (<1.0)	61	450
MW-6					
29-Aug-02	NS	NS	NS	NS	NS
MW-7					
29-Aug-02	NS	NS	NS	NS	NS

Notes:

mg/L = Milligrams per liter

ND = Below laboratory detection limits (detection limit indicated in parentheses)

NS = Not Sampled

2002-08-0585

Chain-of Custody Number:

SECOR Chain-of Custody Record

68460

Field Office: 05 - San Francisco
Address: 57 Lafayette Circle 2nd Floor
Lafayette CA 94549

Additional documents are attached, and are a part of this Record.
Job Name: Bohannon Quarterly Monitoring - 3rd
Location: 575 Paseo Grande
San Lorenzo CA

Project # OSOT.50026 Task # 0004
Project Manager Neil Doran
Laboratory Chrom Lab
Turnaround Time Standard

Sampler's Name Dylan Cardiff
Sampler's Signature [Signature]

Analysis Request

Table with columns: Sample ID, Date, Time, Matrix, and various chemical analysis categories (HCID, TPH, Volatile Organics, etc.). Rows include MW-1 through MW-6 with corresponding analysis results marked with 'X'.

Special Instructions/Comments:
Fe2+ was field filtered
3.20C

Relinquished by: [Signature]
Sign [Signature]
Print [Signature]
Company SECOR
Time 1600 Date 08/29/02

Received by:
Sign [Signature]
Print [Signature]
Company
Time Date

Sample Receipt
Total no. of containers:
Chain of custody seals:
Rec'd in good condition/cold:
Confirms to record:

Relinquished by:
Sign
Print
Company
Time Date

Received by:
Sign [Signature]
Print [Signature]
Company STR
Time 1600 Date 08/29/02

Client: [Signature]
Client Contact: [Signature]
Client Phone:

Sample Receipt Checklist

Submission #: 2002- 08 - 0585

Checklist completed by: (initials) DSH Date: 08/29/02

Courier name: STL San Francisco Client _____

Custody seals intact on shipping container/samples

Yes ___ No ___ Not Present

Chain of custody present?

Yes No ___

Chain of custody signed when relinquished and received?

Yes No ___

Chain of custody agrees with sample labels?

Yes No ___

Samples in proper container/bottle?

Yes No ___

Sample containers intact?

Yes No ___

Sufficient sample volume for indicated test?

Yes No ___

All samples received within holding time?

Yes No ___

Container/Temp Blank temperature in compliance ($4^{\circ}C \pm 2$)?

Temp: 3.2 °C Yes No ___

Water - VOA vials have zero headspace?

No VOA vials submitted ___ Yes No ___

(if bubble is present, refer to approximate bubble size and itemize in comments as S (small - O), M (medium - O) or L (large - O))

Water - pH acceptable upon receipt? Yes No

pH adjusted- Preservative used: HNO₃ HCl H₂SO₄ NaOH ZnOAc

For any item check-listed "No", provided detail of discrepancy in comment section below:

Comments:

Project Management [Routing for instruction of indicated discrepancy(ies)]

Project Manager: (initials) _____ Date: ____/____/02

Client contacted: Yes No

Summary of discussion:

Corrective Action (per PM/Client):