

# RESOURCE MANAGEMENT AGENCY

Community and Economic Development  
Department of Planning and Building

Norman L. Allinder, AICP  
Director

*NLA*

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**PLANNING COMMISSION DATE:** March 5, 2013

**AGENDA ITEM:** #1

<b>CUP</b>	<b>#2013-002</b>	<b>Conditional Use Permit to allow an ozone sparging well to correct violations with underground contaminants.</b>
<b>APN</b>	<b>#066-010-029</b>	<b>Applicant: ASR Engineering</b>
<b>CEQA</b>	<b>ND #2013-01</b>	<b>Negative Declaration</b>

**REQUEST:**

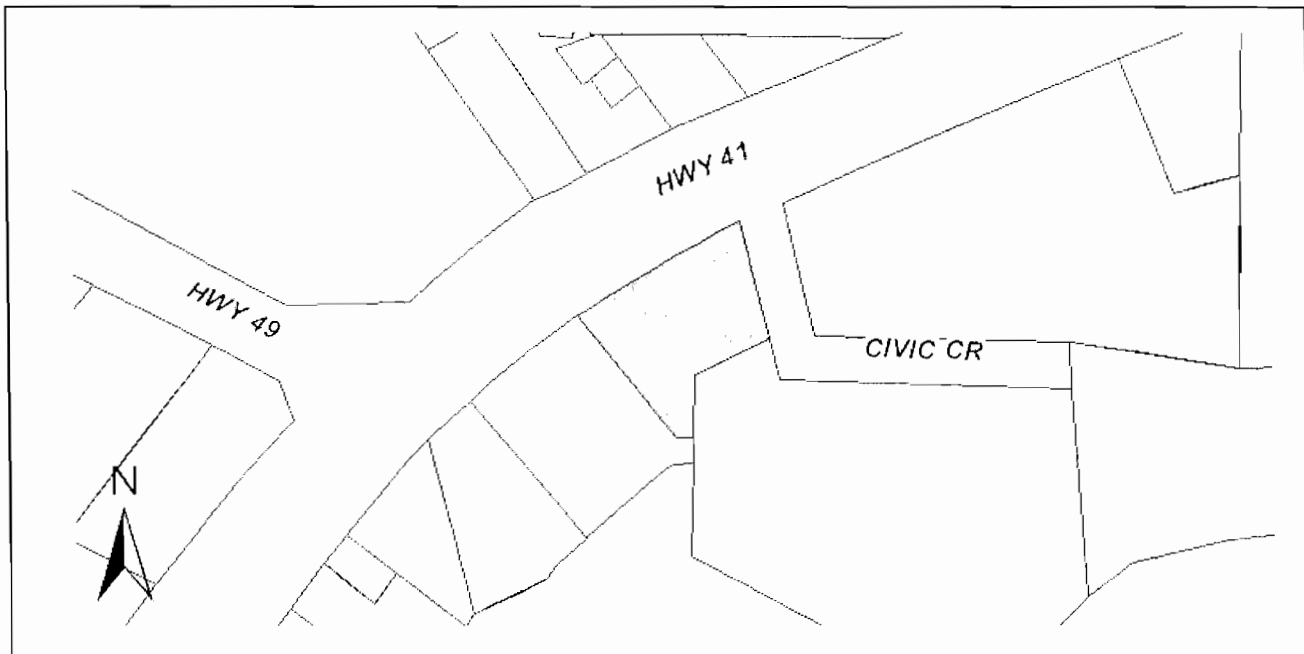
The application is for a conditional use permit to allow an ozone sparging well to mitigate underground contaminants.

**LOCATION:**

The project is located on the south side of Highway 41, at the intersection of Highway 41 and Civic Circle (40135 Highway 41), Oakhurst.

**ENVIRONMENTAL ASSESSMENT:**

A Mitigated Negative Declaration (ND #2013-01) has been prepared and is subject to the review and approval of the Planning Commission.



**RECOMMENDATION:** Approval of Conditional Use Permit #2013-002, Negative Declaration #2013-01 and Conditions of Approval Monitoring and Reporting Program.

**GENERAL PLAN DESIGNATIONS (Exhibit A-1):**

SITE: CC (Community Commercial) Designation

SURROUNDING: CC (Community Commercial) Designation , PI (Public Institution), OS (Open Space) Designation

**GENERAL PLAN DESIGNATIONS (Exhibit A-2):**

SITE: CC (Community Commercial) Designation

SURROUNDING: CC (Community Commercial) Designation, PI (Public Institution), OS (Open Space) Designation

**ZONING (EXHIBIT B)**

SITE: CUM (Commercial, Urban, Median) District

SURROUNDING: CUM (Commercial, Urban, Median) District, PDD (Planned Development District) District

**LAND USE:**

SITE: Commercial

SURROUNDING: Commercial

**SIZE OF PROPERTY (EXHIBIT C):** 1.23 acres

**ACCESS (EXHIBIT C):**

The property is accessed on Highway 41.

**WILLIAMSON ACT:**

The property involved in this proposal is not subject to a Williamson Act (Agricultural Preserve) contract.

**BACKGROUND AND PRIOR ACTIONS:**

The subject parcel has a previously approved conditional use permit for a car wash (CUP #83-27). Building permits were issued for the Mini Mart/Gas Station as well as the retail clothing store.

**PROJECT DESCRIPTION:**

The application is for a ozone sparging well which will be used to alleviate ground contaminants that were released by leaks in the underground tanks related to the gas station.

**ORDINANCES/POLICIES:**

Madera County County Code 18.32 governs allowed uses within the CUM (Commercial, Urban, Median) district.

Madera County County Code 18.92 governs the requirements for processing and reviewing conditional use permits.

Madera County General Plan Policy Document (page 7) outlines the allowable uses within the CC (Community Commercial) designation.

**ANALYSIS:**

The proposed project consists of the construction of an ozone sparging (injection) well that would be used to mitigate a prior unauthorized release of ground contaminants from the underground tanks associated with the gas station. The well is the applicant's proposal to

mediate violations that were originally noted by the Environmental Health Department in 1999 and would be permitted through the Regional Water Quality Control Board.

Ozone injection has been used as a treatment for municipal water systems for many years. It is used to disinfect the water below the water table as it forces oxidation of various contaminants. In this case, the ozone injection well would be used to treat the contamination left by the underground gas tanks. According to the applicant's submitted work plan (Exhibit H), an unauthorized release of hydrocarbons was the cause of an initial letter of violation from the Environmental Health Department in September 1999. At that time, it was determined that excavation of the contaminated material could not be done due to the proximity of a domestic water well and seasonal streambed. Therefore, the sparging/injection well has been proposed as an alternate method of correction for the contamination. Once the contaminants are extracted, the equipment would then be removed from the site completely. The anticipated time for completion is about 18 months according to the applicant.

No comments were received regarding this application from any agency. General statutes were given by County Departments; however, permitting for this project will be conducted and ultimately approved through the Regional Water Quality Control Board by using the attached environmental documentation (Negative Declaration).

#### GENERAL PLAN CONSISTENCY STATEMENT:

The Conditional Use Permit to allow the ozone sparging/injection well, if approved, would be consistent with Oakhurst Area Plan and General Plan. Policy 5.C.1 of the General Plan states a need to preserve groundwater resources by minimizing potential sources of pollution. The proposed well would extract contaminants from the property that could potentially damage groundwater resources in the Oakhurst area. Moreover, the construction of the well would enforce Goal 5.D to protect wetlands and riparian areas by removing contaminants that could potentially seep into nearby waterways in the Oakhurst area. Lastly, Goal 6.G along with policy 6.G.1 both state the County shall ensure disposal of hazardous materials with local, state, and federal standards. The proposed project would bring the subject property into compliance with the Environmental Health Department and Regional Water Quality Board and mitigate the unauthorized discharge of hydrocarbons into the ground and potentially the water table.

#### FINDINGS

The Madera County Zoning Ordinance requires that the following findings of fact must be made by the Planning Commission to grant approval of this permit:

1. *The proposed project does not violate the spirit or intent of the zoning ordinance.* The property is zoned CUM (Commercial, Urban, Median). The zone district allows for other commercial use which can be deemed consistent. The proposed use would be similar to other proposed wells that have been permitted through the conditional use permit process such as exploratory gas wells.
2. *The proposed project (request) is not contrary to the public health, safety or general welfare.* The proposed use would correct a potentially hazardous issue for residents in the vicinity. The granting of the conditional use permit would allow for the property owner to proceed with the Regional Water Quality Control Board permitting process to construct the ozone sparging well to remove potentially harmful groundwater contaminants from their parcel.
3. *The proposed project (request) is not hazardous, harmful, noxious, offensive, or a nuisance because of noise, dust, smoke, odor, glare, or similar factors.* The

proposal will not involve hazardous materials or result in the emission of hazardous materials. No emission of any kind will result. Minimal odors and noise will be produced from the proposed business and associated activities.

4. *The proposed project (request) will not for any reason cause a substantial, adverse effect upon the property values and general desirability of the neighborhood or of the County.* The proposal is consistent with other similar requests for various types of well facilities. The fact that this proposed well would be used to remove contaminants from potential groundwater and soil sources should help preserve values in the general area as well as maintain desirability of the adjacent properties for occupancy by tenants.

**RECOMMENDATION:**

Staff recommends approval of Conditional Use Permit #2013-002, Negative Declaration #2013-01 subject to conditions as shown in the Conditions of Approval Monitoring and Reporting Program.

**CONDITIONS:**

**Engineering Department**

1. No Comments. Comply with Statutes.

**Environmental Health Department**

1. No Comments. Comply with Statutes

**Fire Department**

1. No Comments. Comply with Statutes

**Planning Department:**

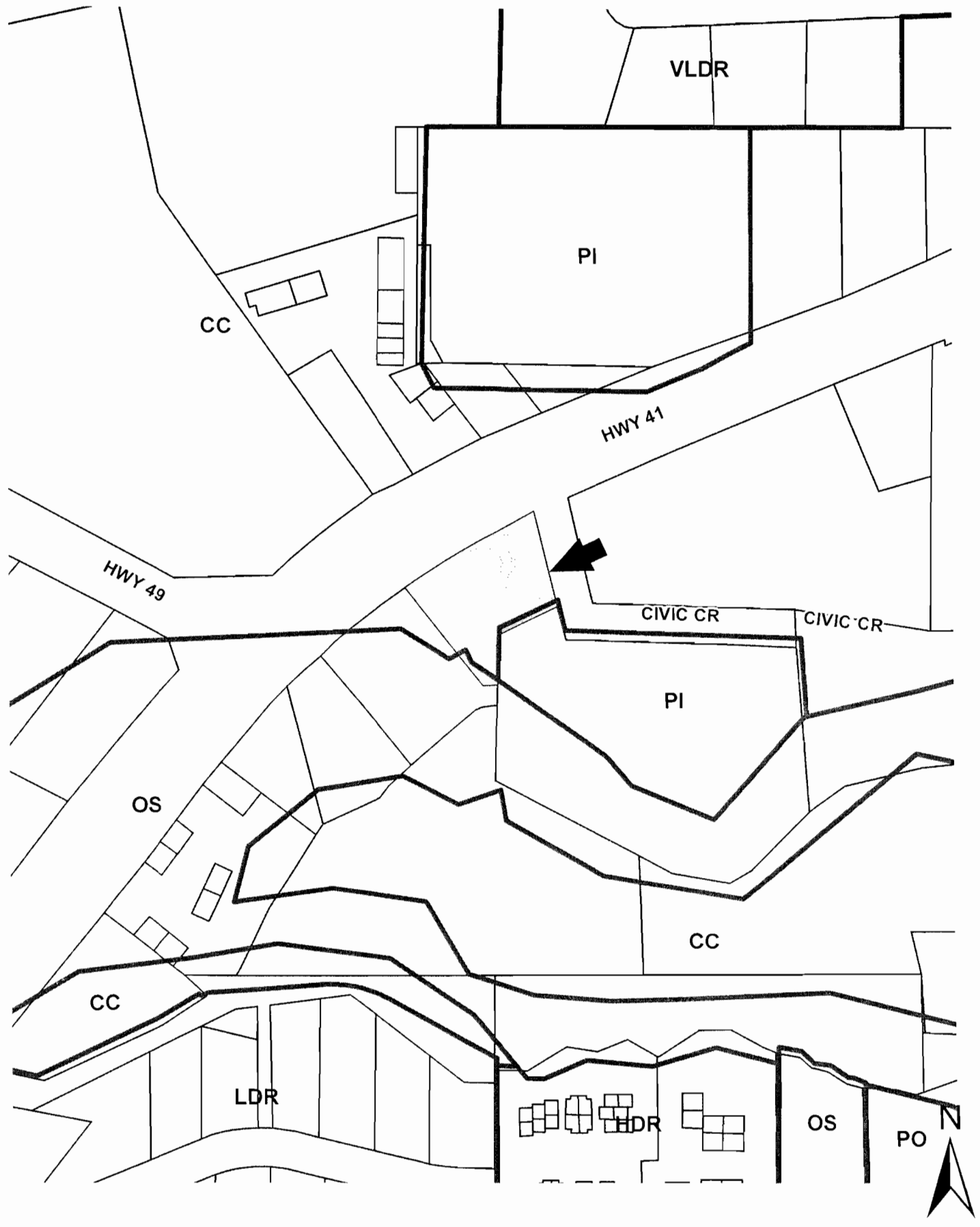
1. The proposed well shall comply with the submitted operational statement. Any changes or alteration will require an amendment to the Conditional Use Permit.
2. Development shall be in accordance with the plan(s) as submitted by the applicant and/or as modified by the Planning Commission.

**Road Department**

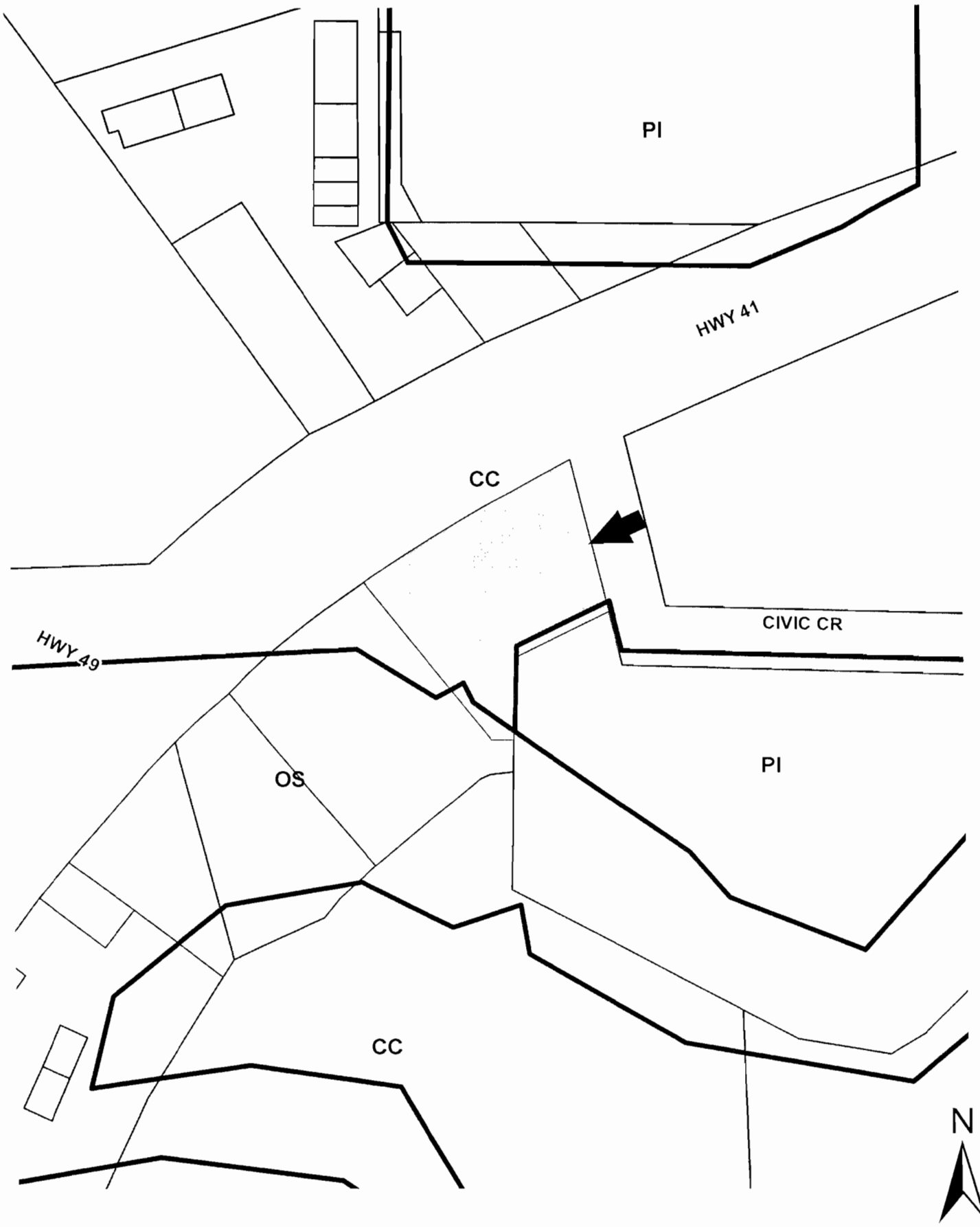
No Comments.

**ATTACHMENTS:**

1. Exhibit A-1, General Plan Map
2. Exhibit A-2, Oakhurst Area Plan Map
3. Exhibit B, Zoning Map
4. Exhibit C, Assessor's Map
5. Exhibit D, Site Plan
6. Exhibit E, Aerial Map
7. Exhibit F, Topographical Map
8. Exhibit G, Operational Statement
9. Exhibit H, Applicant's Proposed Work Plan
10. Exhibit I, Initial Study
11. Exhibit J, Negative Declaration #2013-01
12. Exhibit K, Conditions of Approval Monitoring and Reporting Program



GENERAL PLAN MAP





# EXHIBIT C

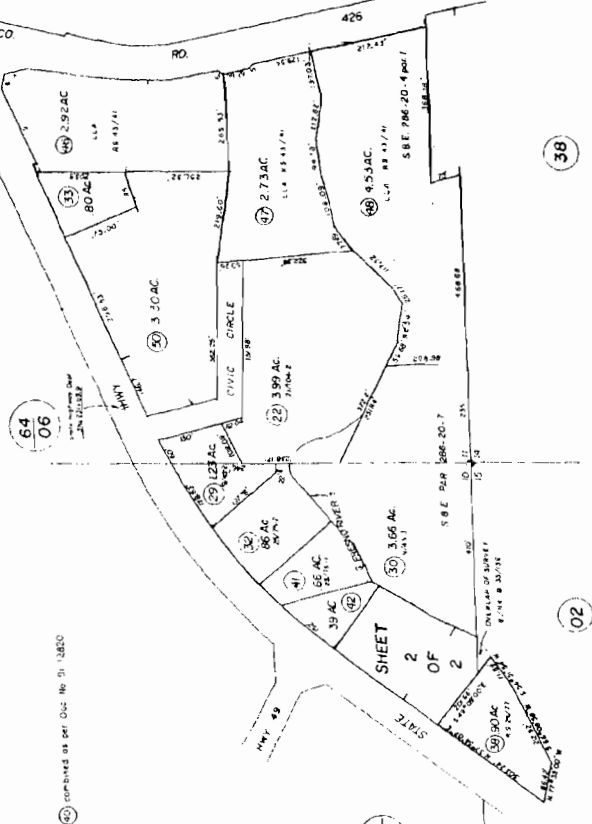
66-01  
SHEET  
1 OF 2

POR S 1/2 OF SW 1/4 OF SEC. 11, T.7S, R.21E.  
POR S 1/2 OF SE 1/4 OF SEC. 10, T.7S, R.21E.  
SEC. 15, T.7S, R.21E.



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64-06



NOTE: Parcel 60 combined as per Ord. No. 91-12820

64-07

38

02

Assessor's Map No. 66-01  
Bass Lake School Dist.  
County of Madera, Calif.  
SHEET 1 OF 2

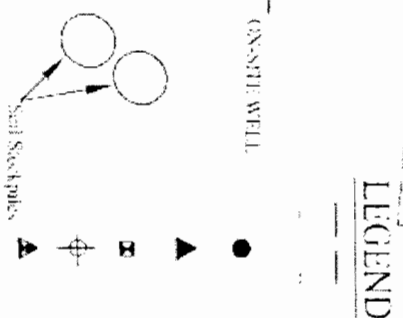
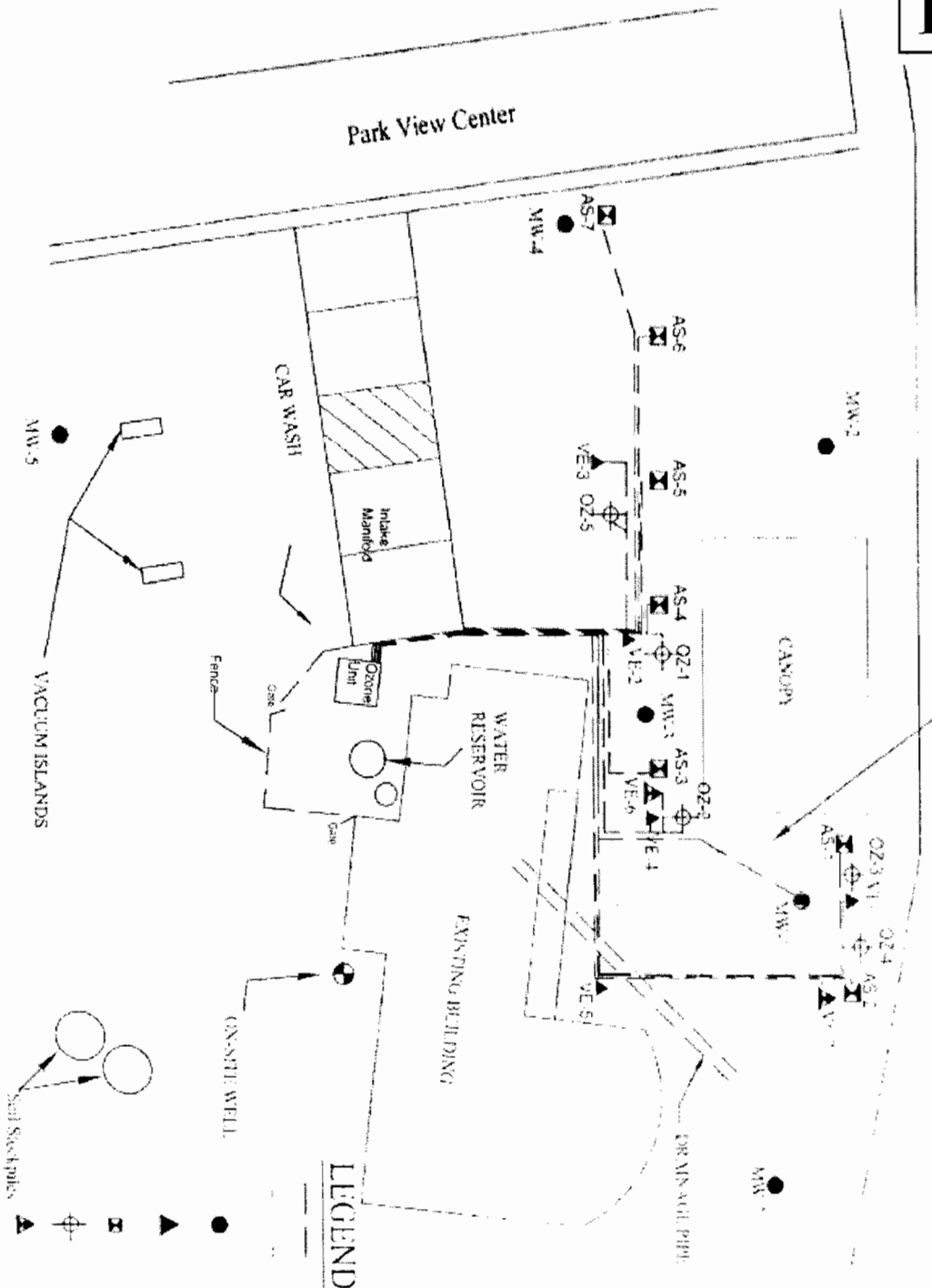
# ASSESSOR'S MAP



# EXHIBIT D

STATE HIGHWAY 41

FORMER EST. EXCAVATION



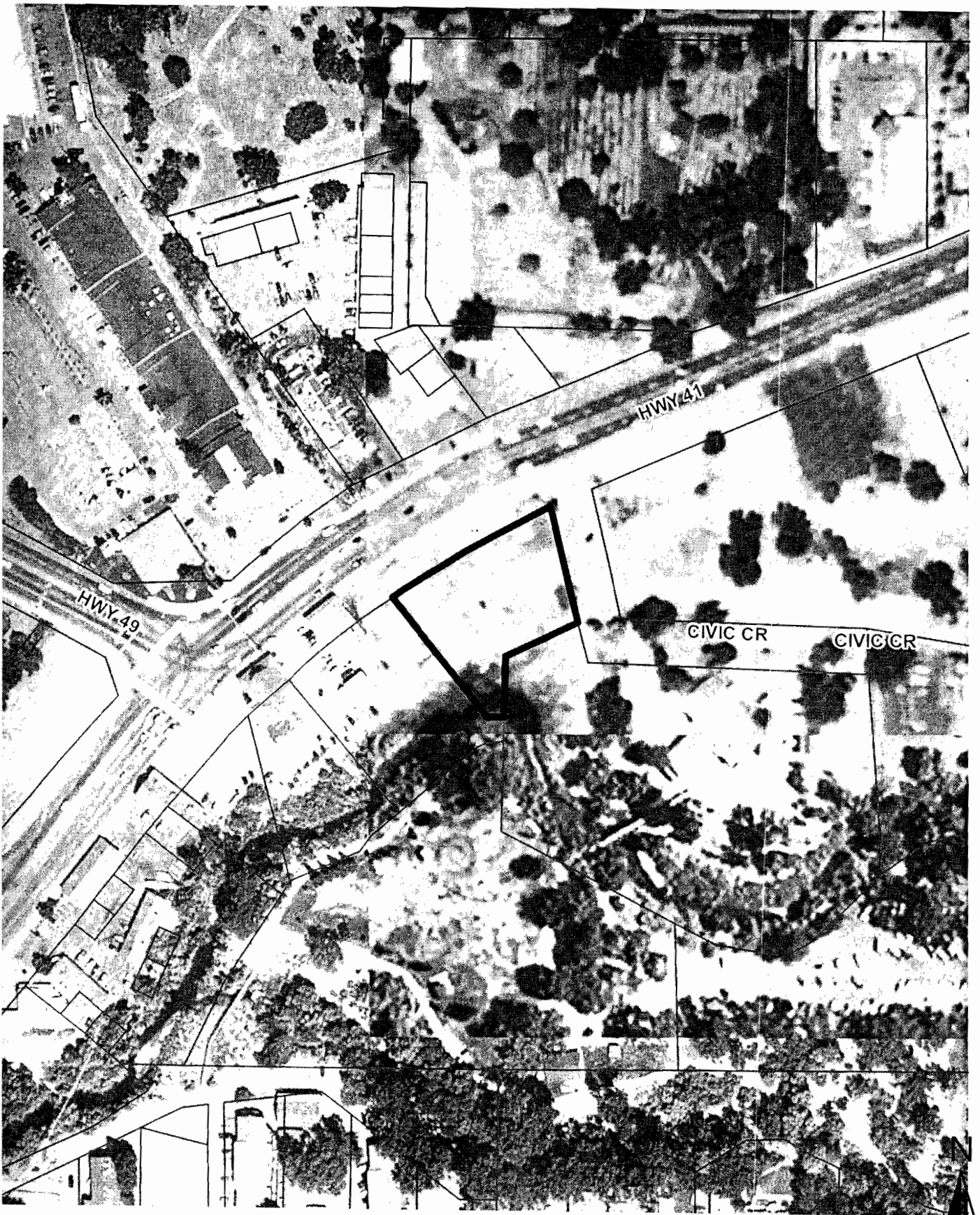
**LEGEND**

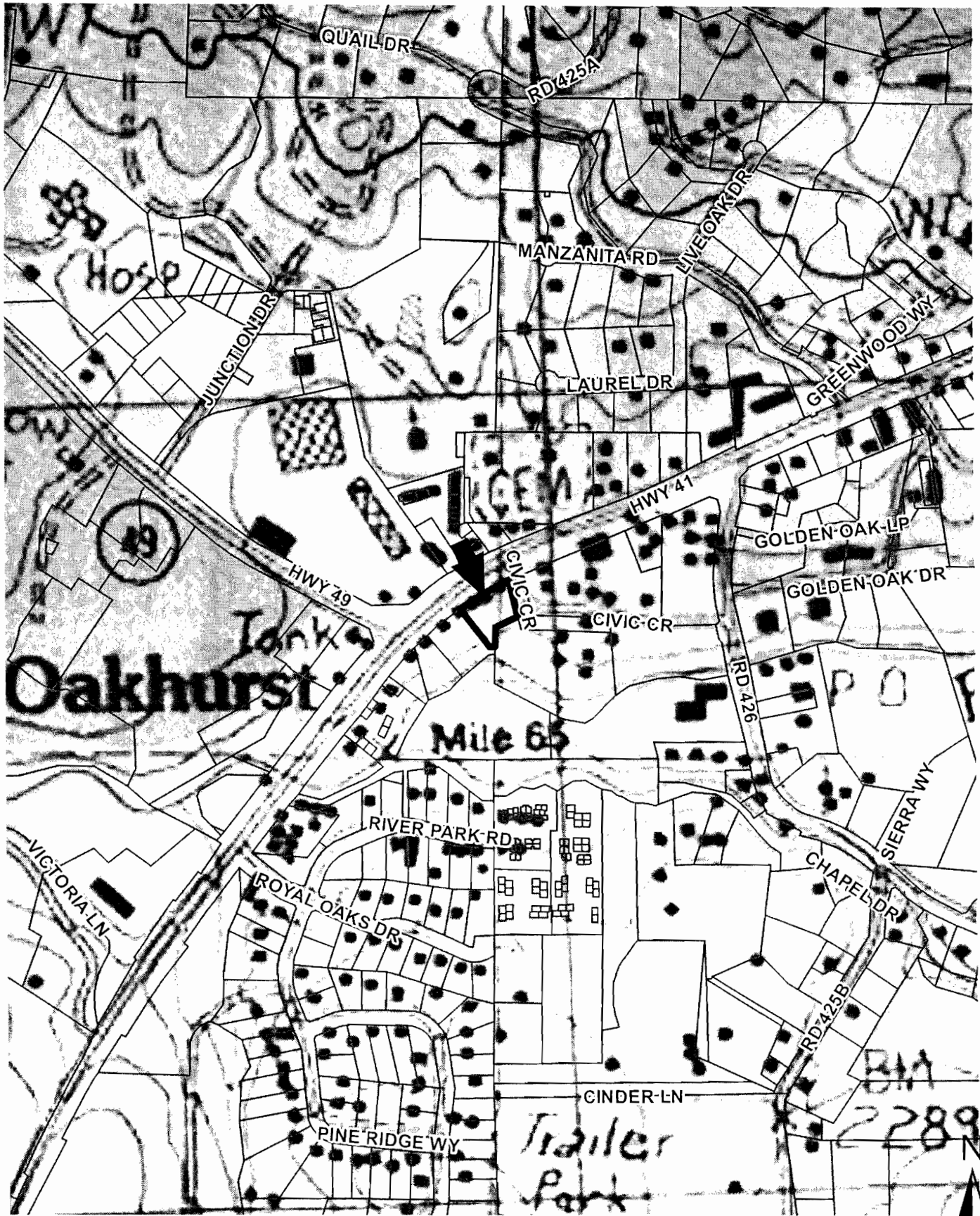
- Monitoring Well
- Vapor Line Location
- ▲ Approximate Location of Vapor Extraction Well
- ⊕ Approximate Location of Air Sparging Well
- ⊙ Approximate Location of Additional Vapor Extraction Well
- Gasoline Pump
- ⊙ Gasoline Well

Vapor Line & Orifice Contact Line (2" ID Sch. 40 PVC)  
 Attention: Air Sparging Line (4" or 6" O.D. & 3" or 4" ID Polyethylene)

Job No. 17-99063  
 June 2012  
 Figure 4

# SITE PLAN





TOPOGRAPHICAL MAP

Madera County Planning Department  
2037 W. Cleveland Avenue MS-G, Madera CA 93637

## OPERATIONAL/ENVIRONMENTAL STATEMENT CHECKLIST

It is important that the operational/environmental statement provides for a complete understanding of your project proposal. Please be as detailed as possible.

### 1. Please provide the following information

Assessor's Parcel Number: 066-010-029  
Applicant's Name: Mrs. Ruth Santos  
Address: 40135 Highway 41  
Phone Number: 559-675-7821

### 2. Describe the nature of your proposal/operation.

The nature of this operation is for the installation and operation of an Ozone injection Unit on the subject property located on 40135 Highway 41 in Oakhurst, California. The Ozone Unit would injection ozone into the soil to help remediate the constituents of concern. See Attached Ozone Sparging Well Installation and System Operation Work Plan.

### 3. What is the existing use of the property?

The property is a commercial facility with a functioning gas station with store, a self use car wash and a clothing store.

### 4. What products will be produced by the operation? Will they be produced onsite or at some other location? Are these products to be sold onsite?

The operation would produce ozone on site and will not be sold.

### 5. What are the proposed operational time limits?

Months (if seasonal):

Days per week: 7 days

Hours (from \_\_\_ to \_\_\_): 12 am to 12 pm

Total Hours per day: 24 hours

### 7. How many customers or visitors are expected?

Average number per day: none

Maximum number per day: none

What hours will customers/visitors be there? Once a week for monitoring

### 8. How many employees will there be?

Current: 0

Future: One employee, once a week

Hours they work: 2-3 hours

Do any live onsite? If so, in what capacity (i.e. caretaker)?

No

**9. What equipment, materials, or supplies will be used and how will they be stored? If appropriate, provide pictures or brochures.**

An Ozone injection unit and teflon delivery tubes will be installed and stored inside a small housing compound.

**10. Will there be any service and delivery vehicles?**

**Number:** 1

**Type:** Work Truck

**Frequency:** Once a Week

**11. Number of parking spaces for employees, customers, and service/delivery vehicles. Type of surfacing on parking area.**

Not parking spaces will be installed. The parking area is asphalt paved. The service vehicle will park in the back of the convenient store.

**12. How will access be provided to the property/project? (street name)**

There are several access points on Highway 41 and one (1) on Civic Cir Street

**13. Estimate the number and type (i.e. cars or trucks) of vehicular trips per day that will be generated by the proposed development.**

Once a week.

**14. Describe any proposed advertising including size, appearance, and placement.**

None

**15. Will existing buildings be used or will new buildings be constructed? Indicate which building(s) or portion(s) of will be utilized and describe the type of construction materials, height, color, etc. Provide floor plan and elevations, if applicable.**

Not applicable

**16. Is there any landscaping or fencing proposed? Describe type and location.**

None Area has been previously fenced

**17.**

**What are the surrounding land uses to the north, south, east and west property boundaries?**

Located to the north of the subject site is Highway 41 and across that there are commercial business. There are businesses to the west and an empty commercial lot to the east. The small creek is located to the south with recreational park located across the creek

**18.**

**Will this operation or equipment used, generate noise above other existing parcels in the area?**

This operation will not generate noise above existing parcel area

19. On a daily or annual basis, estimate how much water will be used by the proposed development, and how is water to be supplied to the proposed development (please be specific).  
None
20. On a daily or weekly basis, how much wastewater will be generated by the proposed project and how will it be disposed of?  
None
21. On a daily or weekly basis, how much solid waste (garbage) will be generated by the proposed project and how will it be disposed of?  
None
22. Will there be any grading? Tree removal? (please state the purpose, i.e. for building pads, roads, drainage, etc.)  
Not Applicable
23. Are there any archeological or historically significant sites located on this property? If so, describe and show location on site plan.  
None
24. Locate and show all bodies of water on application plot plan or attached map.  
Not applicable
25. Show any ravines, gullies, and natural drainage courses on the property on the plot plan.  
Not applicable
26. Will hazardous materials or waste be produced as part of this project? If so, how will they be shipped or disposed of?  
None
27. Will your proposal require use of any public services or facilities? (i.e. schools, parks, fire and police protection or special districts?)  
None
28. How do you see this development impacting the surrounding area?  
This operation will not have developmental impact on the surrounding area.
29. How do you see this development impacting schools, parks, fire and police protection or special districts?  
This operation will not impact school, parks, fire and police protection
30. If your proposal is for commercial or industrial development, please complete the following;

**Proposed Use(s):** Not Applicable

**Square feet of building area(s):**

**Total number of employees:**

**Building Heights:**

**31. If your proposal is for a land division(s), show any slopes over 10% on the map or on an attached map.**

Not Applicable

End



---

3629 W. Gettysburg Ave - Fresno, CA 93722  
Phone: (559) 271-5260 - Fax (559) 271-5267  
Email: asrengineering@sbcglobal.net

**OZONE SPARGING WELLS INSTALLATION AND  
SYSTEM OPERATION WORK PLAN  
MR. GAS TEXACO  
40135 HIGHWAY 41  
OAKHURST, CALIFORNIA**

**Prepared for:  
Mrs. Ruth Santos  
50652 Barcus Circle  
Oakhurst, California 93614**

**Prepared by:  
ASR Engineering, Inc.  
3629 W. Gettysburg Ave.  
Fresno, California 93722  
(559) 271-5260**

**Job No. 17-99063  
September 13, 2010**



September 13, 2010

Job No. 17-99063

Mrs. Ruth Santos  
50652 Barcus Circle  
Oakhurst, CA 93614

**Subject: Ozone Sparging Wells Installation and  
System Operation Work Plan  
Mr. Gas Texaco  
40135 Highway 41  
Oakhurst, California**

Dear Mrs. Santos:

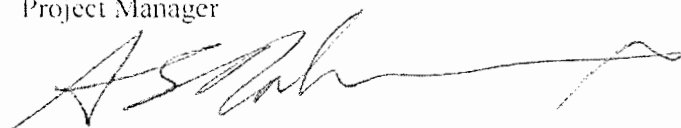
At your request and authorization, in response to a letter from the Regional Water Quality Control Board (RWQCB), Central Valley Region, dated April 28, 2010, ASR Engineering, Inc. (ASR) has prepared this Ozone Sparging Wells Installation & System Operation Work Plan (Work Plan) for the subject property.

We appreciate the opportunity to assist you with this project. Should you have questions or need additional information, please contact one of the undersigned at (559) 271-5260.

Respectfully submitted,  
ASR Engineering, Inc.



A. Zaki Niaz, P.E.  
Project Manager



A. Saboor Rahim, Ph.D., C.E., G.E., REA.  
Principal Engineer



Distribution: Mrs. Ruth Santos, Oakhurst  
Mr. Mark Matranga, SWRCB-USTCF, Sacramento (PDF)  
Mr. Jeff Hannel, RWQCB, Central Valley Region, Fresno  
Ms. Ann Rolan, Madera County Department of Environmental Health, Madera  
Ms. Stephanie Furgal, Chevron, San Ramon  
Mr. Christopher A. Brown, Dowling, Aaron and Keeler  
Mr. David Evans, BBL, Walnut Creek  
Mr. Keith Mayes, Twining Laboratories Inc., Fresno  
Mr. Pete Kanas, Pete's Place, Oakhurst  
Ms. Patricia Martin, Park View Shopping Center, Oakhurst

Re: Z:\Environmental\Env-1999\17-99063 Mr. Gas Texaco\17-99063 OS Wells Installation WP (Sep 2010).doc

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TABLE 3           SUMMARY OF SOIL CHEMICAL ANALYSES DATA  
                    Sampling Date: January 23, 2002

TABLE 4           SUMMARY OF SOIL CHEMICAL ANALYSES DATA  
                    Sampling Date: July 1 through July 3, 2003

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                    SUMMARY OF GROUNDWATER CHEMICAL ANALYSES  
                    BY EPA TEST METHODS 8015 AND 8020

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                    BY EPA TEST METHOD 8260

**FIGURES**

FIGURE 1	VICINITY MAP
FIGURE 2	CONFIRMATION SAMPLING LOCATION PLAN
FIGURE 3	MONITORING WELL LOCATION PLAN
FIGURE 4	PROPOSED OZONE SPARGING AND VAPOR EXTRACTION WELLS LOCATION PLAN
FIGURE 5	TYPICAL OZONE SPARGING WELL CONSTRUCTION DETAILS
FIGURE 6	TYPICAL VAPOR EXTRACTION WELL CONSTRUCTION DETAILS

**APPENDICES**

APPENDIX "A"

TABLE A	SVE WELLS (VE-1 THROUGH VE-5) AND AS WELLS (AS-1 THROUGH AS-7) CONSTRUCTION DETAILS
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TABLE C	WEEKLY VAPOR MONITORING DATA
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**OZONE SPARGING WELLS INSTALLATION AND  
SYSTEM OPERATION WORK PLAN  
MR. GAS TEXACO  
40135 HIGHWAY 41  
OAKHURST, CALIFORNIA**

---

**1.0 INTRODUCTION**

This Ozone Sparging Wells Installation and System Operation Work Plan (Work Plan) has been prepared for Mr. Gas Texaco service station located at 40135 Highway 41 in Oakhurst, California (see Figure 1, Vicinity Map). ASR Engineering, Inc. (ASR) has prepared this Work Plan on behalf of Mrs. Ruth Santos, the property owner, to fulfill the requirements of a Regional Water Quality Control Board (RWQCB), Central Valley Region, letter dated April 28, 2010. In the Fourth Quarter 2009 Progress Report, Soil Vapor Extraction (SVE) and Air Sparging (AS) System Operation (Report), dated February 5, 2010, ASR recommended using ozone injection as a means of active groundwater remediation. The RWQCB letter dated April 28, 2010 concurred with ASR's recommendations and requested preparation a work plan for the proposed work. The letter also recommended including a proposal to continue SVE using shallower wells and a low flow blower.

This Work Plan presents the details of field exploration for installation of ozone sparging (OS) and additional shallow Vapor Extraction (VE) wells and the associated soil sampling and chemical analyses. The Work Plan further presents procedures for installation, maintenance and monitoring of an OS system subsequent to trenching and installing ozone delivery tubes from the OS wells to a common manifold. The existing trench and piping would be used for installation of ozone delivery tubes and additional VE wells piping.

**2.0 SITE LOCATION AND DESCRIPTION**

Mr. Gas Texaco is located at 40135 Highway 41 in Oakhurst, California (see Figure 1, Vicinity Map). It occupies a portion of the southeast quarter of Section 10, Township 7 South, Range 21 East, Mount Diablo Base and Meridian. Ground surface elevation in the vicinity of the site is about 2,250 feet.

According to the information provided to us, three (3) underground gasoline storage tanks (USTs) and their associated dispensers were excavated from the site. The dispensers were located beneath a canopy southwest of the former locations of the USTs at the approximate locations shown on Figure 2, Confirmation Soil Sampling Location Plan.

Water to the site is provided by a domestic water well located southeast of the store building. In addition, at least three (3) domestic water wells are located on the properties southwest of the subject site. As indicated in the RWQCB letter dated 17 August 2000, one (1) of the water supply wells southwest of the site has been impacted by MTBE.

The property is owned by:

Mrs. Ruth Santos  
50652 Barcus Circle  
Oakhurst, California 93614

### **3.0 PROJECT HISTORY**

Three (3) USTs (TK-1 through TK-3) and their associated dispensers were excavated from the subject property by West Star Environmental Inc. (West Star) on September 8, 1999. The USTs were located adjacent to and to the northwest of an existing store building and approximately 25 feet northeast of an existing canopy. The dispensers were located underneath the canopy.

Confirmation soil samples collected following excavation of the USTs and the dispensers detected hydrocarbon constituents in subsurface soils.

In a letter dated September 27, 1999, the Madera County Department of Environmental Health (MCDEH) requested Mr. Santos to implement corrective action in response to this unauthorized release. In response to the MCDEH letter, West Star, the project contractor, requested excavation of the hydrocarbon impacted soil and aerating the excavated soil within the property located at 41468 Highway 41 in Oakhurst, California.

In a subsequent letter dated October 5, 1999, the MCDEH described the steps to be taken prior to excavation and aeration of hydrocarbon impacted soil. Among these steps, submittal of a work plan for excavation and aeration of the impacted soil was included.

Subsequent to a review of the proposed aeration site, in a letter dated October 13, 1999, the MCDEH denied aeration of the hydrocarbon impacted soil within the proposed aeration site. The reasons for the denial were high concentration of MTBE in the soil, the presence of a drinking water well in the vicinity of the aeration site and the presence of a seasonal streambed within the site.

At the time of excavation for removal the USTs and installation of the new USTs, excess excavated soil was stockpiled southwest of the canopy.

On April 14, 2000, ASR collected samples of stockpile soil for chemical analyses. The analyses data were submitted to Mr. Santos who provided the information to the contractors involved with the hauling and offsite disposal of the soil stockpile. Subsequently, the soil was hauled offsite by Kroeker, Inc. of Fresno, California.

ASR submitted a work plan to assess the extent of hydrocarbon impact on soil and groundwater beneath the site, on September 22, 2000. In a letter dated October 5, 2000, the RWQCB approved the work plan. Subsequently, ASR submitted a hydrocarbon impacted soil and groundwater contamination assessment report dated 27 April 2001.

Subsequent to review of the reports, the RWQCB, in a letter dated May 24, 2001 concurred with the recommendation included in the report and directed Mr. Santos to submit a plan for conducting an SVE pilot study. The letter also stated that further investigation is required to assess lateral extent of petroleum hydrocarbon in soil and groundwater. Furthermore, the letter recommended an assessment of the nature of the fractured bedrock aquifer and whether it has been impacted by the hydrocarbon release.

In response to the aforementioned RWQCB letter, ASR submitted a SVE Pilot Study Plan and Further Site Assessment Work Plan (Work Plan) dated 28 September 2001. In a letter dated October 18, 2001, the RWQCB approved the Work Plan.

ASR submitted an Additional Groundwater Monitoring Wells and SVE Wells Installation Report dated May 29, 2002. In the Report, installation of two (2) groundwater monitoring wells and two (2) SVE wells and associating soil sampling and chemical analyses was discussed.

ASR conducted a two-day SVE pilot study during the period February 14 and 15, 2002. Subsequently, ASR submitted a SVE Pilot Study Report and Remedial Action Plan (RAP) which documented the SVE pilot testing and recommended a suitable remedial alternative. The RAP concluded that SVE is the remedial method of choice. The RAP further indicated that additional SVE wells are necessary to remove hydrocarbon contamination from subsurface site soil.

The additional SVE wells proposed in the RAP and the AS wells proposed on the field at the time of installation of the additional SVE wells were installed at the subject site during the period July 1 through July 8, 2003. ASR submitted Additional SVE and AS Well Installation Report, dated February 10, 2004, which documented drilling for installation of the additional SVE wells, the AS wells and the associated soil sampling and chemical analyses.

Per tasks outlined in the RAP and our request to utilize a blower equipped with a thermal oxidizer instead of internal combustion engine, approved by RWQCB on March 5, 2007, active SVE system operation using a thermal oxidizer (TO) unit capable of flow rates up to 250 CFM commenced at the site during March 2006. Although the TO unit was delivered to the site during November 2005, due to the scheduling of additional activities such as propane tank



installation and hookup, TO unit hookup to electricity, building security fence around the whole system and other relevant tasks, operation of the TO was delayed until March of 2006.

ASR submitted a SVE (SVE) and AS Systems Installation and Operation Report (Report), dated March 8, 2007, containing the details of the procedures for installation of the SVE unit, the propane tank and other necessary pipings. The Report also included vapor chemical analyses data for the startup and the subsequent sampling events. It further included an evaluation of the SVE system effectiveness in removing gasoline hydrocarbons from subsurface site soil. The Report also discussed the startup of the AS system and its operation.

#### **4.0 PREVIOUS SOIL AND GROUNDWATER SAMPLING AND CHEMICAL ANALYSES**

##### **4.1 USTs and Dispensers Excavation Confirmation Soil Sampling**

Following excavation of the USTs and the dispensers on September 8, 1999, West Star collected six (6) confirmation soil samples, for chemical analyses, from beneath the USTs and one (1) confirmation soil sample from beneath each dispenser. The soil samples were collected from depths in the range of 4 to 16 feet below surface grade (bsg). In addition, a confirmation soil sample was collected from a depth of 20 feet from the location designated as T-1. A composite of four (4) discrete soil specimens was also collected from the excavated soil stockpile south of the canopy. The soil samples were collected from the excavator bucket by pushing 2-inch by 6-inch brass or stainless steel tubes into the soil. The sampling locations are shown on Figure 2, Confirmation Soil Sampling Location Plan.

The collected soil samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPH-G), hydrocarbon constituents Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX) and Methyl-t-Butyl Ether (MTBE). Chemical analyses data were submitted by West Star to the MCDEH. A summary of the analyses data is presented in Table 1.

##### **4.2 Soil Sampling During Initial Groundwater Assessment**

Five (5) test borings (MW-1 through MW-5) were drilled at the subject site at the approximate locations shown on Figure 3, Monitoring Well Location Plan. Monitoring Wells MW-3, MW-4, and MW-5 were installed on January 23, 2001. Monitoring Wells MW-1 and MW-2 were installed on February 27, and 28, 2001 respectively. Drilling was performed with a Mobile B-80 drill rig, using 8-inch diameter hollow stem augers.

At the time of drilling, soil samples were subjectively evaluated for the presence of petroleum hydrocarbons. Subjective analyses included observation of color changes, odor, and monitoring with an organic vapor meter (OVM). Visual observations and field screening by means of an OVM aided in deciding on selecting soil samples for chemical analyses. Chemical analyses data,

along with the related soil samples' depths are shown in Table 2, Summary of Soil Chemical Analysis Data.

The test borings for installation of groundwater monitoring wells extended to depths in the range of about 30 to 35 feet, approximately 8 to 12 feet below the first encountered groundwater. At the completion of drilling and soil sampling, the test borings were converted to monitoring wells. The test borings were drilled at the approximate locations shown on Figure 3, Monitoring Well Location Plan.

At the time of drilling, soil samples were subjectively evaluated for the presence of petroleum hydrocarbons. Approximate location of the test borings are shown on Figure 3, Monitoring Well Location Plan.

Soil samples from selected depths of the test borings (MW-1 to MW-5) were submitted to analytical laboratory for chemical testing. The collected samples were analyzed for TPH-G, BTEX, MTBE, constituents detectable by EPA Test Method 8260 and Total Lead. A summary of the chemical analyses data from the test borings along with their respective depth is presented in Table 2. As indicated in Table 2, hydrocarbon constituents were detected in the soil samples collected from Test Borings MW-1, MW-3, and MW-4 to the depths explored.

#### **4.3 Soil Sampling and Chemical Analyses during Installation of SVE Wells VE-1 and VE-2 and Additional Monitoring Well MW-6 and MW-7**

During the period January 21 through 23, 2002, four (4) test borings (MW-6, MW-7, VE-1 and VE-2) were drilled at approximate location shown on Figure 3. The test borings were converted to Monitoring Wells MW-6 and MW-7 and VE Wells VE-1 and VE-2. Soil samples from various depths were subjectively evaluated for the presence of petroleum hydrocarbons, including monitoring with an OVM. Soil samples which indicated relatively high OVM readings were retained for laboratory analyses. A total of five (5) soil samples were submitted to Castle Analytical Laboratory for analyses of TPH-G, BTEX, MTBE and constituents detectable by EPA Test Method 8260. Chemical analyses data and chain-of-custody documentation have been submitted previously. A summary of the chemical analyses data is presented in Table 3.

The data in Table 3 indicate the presence of relatively low concentrations of MTBE in the soil samples collected from depths of 5 feet and 15 feet bsg in SVE Well VE-2. The data in Table 3 further indicate that TPH-G was detected in three of the soil samples collected with the highest concentration in the soil sample collected from a depth of 20 feet bsg from SVE Well VE-1.

#### **4.4 Soil Sampling and Chemical Analyses during Installation of Additional SVE Wells VE-3 and VE-4 and Air Sparging Wells AS-1 through AS-7**

As indicated in Section 3.0, above, during installation of the additional SVE wells, it was considered to be cost effective to install seven (7) AS wells (AS-1 through AS-7) at the site, to remediate the underlying groundwater concurrent with SVE operation. The installation of the AS wells was approved by Mr. Jeff Hannel with the RWQCB, who was present at the site.

The test borings for installation of additional SVE wells and the AS wells were drilled at the approximate locations shown on Figure 4, Proposed OS and VE Well Location Plan.

Soil samples from the additional SVE wells were obtained from the test borings at five-foot-depth intervals. To expedite the process, no soil samples were collected from the test borings made for installation of the AS wells. Each of the test borings for installation of the additional SVE wells were advanced to a depth of approximately 20 feet bsg. Test borings for installation of AS wells were advanced to depths in the range 28 feet to 45 feet bsg. Drilling in some of these test borings was terminated due to auger refusal.

Soil samples collected from the test borings were subjectively evaluated for the presence of petroleum hydrocarbons. Subjective analyses included observation of color changes, odor, and monitoring with an OVM. Soil samples, collected from Test Borings VE-3 through VE-5, which indicated relatively high OVM readings were retained for laboratory analyses. A total of six soil samples were submitted to Castle Analytical Laboratory for analyses of TPH-G, BTEX, MTBE, oxygenates detectable by EPA Test Method 8260 and Total Lead. Chemical analyses data and chain-of-custody documentation have been submitted previously. A summary of the chemical analyses data is presented in Table 4.

The data in Table 4 indicate the presence of relatively low concentrations of TPH-G and BTEX in the soil samples collected from a depth of 20 feet in SVE Well VE-3 and from depths of 15 and 20 feet bsg in SVE Well VE-4. The data in Table 4 further indicate that MTBE was detected in the soil sample collected from a depth of 15 feet bsg from SVE Well VE-4. However, the presence of relatively low concentrations of MTBE was confirmed by EPA Method 8260 in the soil samples analyzed from SVE Well VE-4.

#### **4.5 Groundwater Sampling and Chemical Analyses**

In order to assess the presence and the extent of hydrocarbons in groundwater, five (5) groundwater Monitoring Wells (MW-1 through MW-5) were installed at the approximate locations shown on Figure 3, Monitoring Well Location Plan. As indicated in Section 4.3, above, two (2) additional groundwater monitoring wells (MW-6 and MW-7) were installed during the period January 21 through 27, 2003. Monitoring Well MW-6 was installed in the adjoining shopping center.

Groundwater samples, collected from the monitoring wells and the private wells, were submitted to the analytical laboratory for analyses of TPH-G, BTEX, MTBE, EPA Test Method 8260, and Total Lead. In addition, groundwater samples collected from selected monitoring wells were analyzed for General Minerals, Nitrates, and Total Kjeldahl Nitrogen (TKN) on two (2) non-successive quarterly monitoring events. Chemical analyses data for these constituents had been presented along with the related quarterly monitoring reports. A summary of the TPH-G, BTEX, MTBE and Total Lead analyses data for initial sampling event and the subsequent quarterly monitoring events is presented in Table 5.

Monitoring Wells MW-1 through MW-7 have been sampled for chemical analyses on a quarterly basis. Reports documenting the results of the groundwater monitoring at the site have been submitted subsequent to each sampling event. Summaries of the groundwater chemical analyses data are presented in Tables 5 and 6.

Quarterly and recently-modified semi-annual groundwater monitoring has been conducted in conjunction with another consultant's sampling and testing of the groundwater monitoring wells located in the vicinity of the project site in Oakhurst, California.

#### **4.6 Deep Zone Groundwater Sampling and Chemical Analyses**

Under observation of ASR, Bryan A. Stirrat and Associates (BAS) of Diamond Bar, California, in an effort to characterize hydrocarbon contamination within deep aquifer beneath the general vicinity of the subject site, installed three (3) groundwater monitoring wells (DW-1 through DW-3) in fractured bedrock. The deep zone groundwater monitoring wells were installed, using an air rotary drill rig, during the period April 8 through April 19, 2003. BAS documented the results of the investigation in Deep Zone Remedial Investigation Report dated July 30, 2003.

The wells were sampled initially by BAS on May 7, 2003 and subsequently by ASR on September 25, 2003. Subsequently sampling and chemical analyses of the deep zone monitoring wells were rolled into quarterly groundwater monitoring of the shallow monitoring wells. Chemical analyses performed on the water samples collected from the deep wells are summarized in Tables 5 and 6. Approximate location of the deep zone monitoring wells is shown on Figure 3, Monitoring Well Location Plan.

As indicate in Table 5, MTBE was detected in the groundwater samples collected from all three (3) deep wells. The highest concentration was detected in Monitoring Well DW-1 at 13 µg/L. The presence of MTBE in the groundwater samples collected from these wells was confirmed by EPA Test Method 8260 analyses as indicated in Table 6.

Historically, MTBE has been detected sporadically in the water samples collected from Deep Wells DW-1 and DW-2 and on one occasion in DW-3. TPH-G was detected in the water sample collected from Deep Well DW-3 and during the initial sampling event in the water

sample collected from Deep Well DW-1. No MTBE has been detected in the water sample collected Deep Well DW-1 since May 2005 sampling event. No TPH-G has been detected in the water sample collected from Deep Well DW-3 since March 2004 sampling event.

#### **4.7 Soil Vapor Extraction and Air Sparging Well Installations**

As indicated in Section 3.0, above, initially two (2) SVE wells (VE-1 and VE-2) and subsequently three (3) additional SVE Wells (VE-3 through VE-5) along with AS Wells AS-1 through AS-7 were installed throughout the site.

During installation of the additional SVE wells, it was considered to be cost effective to install seven (7) AS wells (AS-1 through AS-7) at the site, to remediate the underlying groundwater concurrent with SVE operation. The installation of the AS wells was approved by Mr. Jeff Hannel with the RWQCB, who was present at the site. The SVE and AS wells were installed at the approximate locations shown on Figure 4.

SVE Wells VE-1 and VE-2 were each screened from approximately 9 feet to 19 feet bsg, SVE Well VE-3 was screened in the interval of about 7.5 to 17.5 feet bsg and SVE Wells VE-4 and VE-5 were each screened from approximately 8.5 to 18.5 feet bsg..

The VE wells were constructed of 4-inch nominal diameter schedule 40 PVC casing and 0.020-inch slotted screen. Flush-joint well casing was utilized, and no chemical cements or solvents were used in the construction of the wells. The top of each well casing was covered with an airtight slip cap, and a threaded PVC plug was installed at the bottom of each well.

Seven (7) AS Wells, AS-1 through AS-7, were installed at the subject site during the period July 3 through July 8, 2003. AS wells locations were chosen to minimize down-gradient migration of contamination.

The AS wells were installed to approximate depths in the range 28 feet to 45 feet bsg, about 7 feet to 24 feet below encountered groundwater. Test borings made for some of the AS wells were terminated shorter than anticipated depths due to auger refusal. Each AS well consists of two (2) feet of screen at the bottom.

The AS wells were constructed with two (2) feet of 1-inch PVC with 0.02-inch continuous slotted screen installed at the bottom of the well. The sparge tips were connected to a 1-inch nominal diameter schedule 80 PVC riser. No chemical cements or solvents were used in the construction of the wells. The top of each well casing was covered with an airtight slip cap.

#### **4.8 Soil Vapor System Operations**

Operation of TO unit commenced at the site on March 30, 2006 and terminated on April 7, 2010. The data on the operation and chemical analyses of vapor samples collected from influent of the SVE system are presented in Tables A through E in Appendix "A." The data collected during operation of the SVE system and the chemical analyses performed on the vapor samples collected from individual wells and the vapor stream combined from VE Wells VE-1 through VE-5 and Monitoring Well MW-1 are summarized in Table B. Weekly vapor monitoring data performed on the SVE unit are presented in Table C. Table D presents the data on the operation periods, average concentration of extracted TPH-G in the vapor stream, average mass of TPH-G removed during the specified period, and the total mass of TPH-G removed from the subject facility since the start of the operation of the SVE unit.

As indicated in Table D, approximately 14,114.5 pounds of gasoline hydrocarbons have been removed from the subject facility by the SVE unit over an operational period of 612 days. Accordingly, the average removal rate of gasoline hydrocarbons since the start of operation of the SVE system was about 23.1 pounds per day.

#### **4.9 Air Sparging System Operations**

AS operation commenced at the site on July 12, 2006. Initially, a Becker Model DVT3.60 air compressor capable of producing up to 39 CFM of air flow at 23.7 pounds per square inch (psi) of pressure was delivered to the site with the TO unit. Subsequent to testing individual AS wells, it was determined that the pressure required to achieve breakthrough in each well was about 25 psi. A booster compressor was installed in the AS system line on July 12, 2006 to help the existing compressor overcome the breakthrough pressure required. AS system operation was suspended during May 2007 and November 2007 due to compressor malfunction. A new compressor similar to the model previously used at the site was installed on November 19, 2007. The AS system was shut off on February 5, 2009 in conjunction with the SVE system. Upon restarting the SVE unit the AS system was not sparging due to clogged filter. The filters were replaced on September 25, 2009 and the AS system was in operation until termination of the unit, on April 7, 2010.

AS operation commenced using AS Wells AS-1 through AS-4 due to their proximity to the location of former USTs and TPH-G contamination plume in groundwater. On August 12, 2008, AS Wells AS-2 and AS-4 were closed so that more time would be available for sparging through the AS wells closer to the area of concern. These AS wells were closed due to low concentration in the vapor samples collected. On September 30, 2009, AS Well AS-3 was closed to further concentrate the sparging operation closer to the area of concern. Subsequent to AS system startup, weekly monitoring was performed on this system in conjunction with the SVE system operation monitoring.

Monitoring of injection pressure and airflow, when available, in the AS wells and depth to groundwater and dissolved oxygen (DO) concentration in the nearby groundwater monitoring wells were performed during weekly monitoring of the AS system. The data collected during the field monitoring of AS systems are presented in Table E in Appendix "A."

Field monitoring data indicate that injection pressure varied from one (1) AS well to the next (AS-1 through AS 4) due to the time of the monitoring up to August 12, 2008. Injection was performed interchangeably in AS Wells AS-1 and AS-3, when the AS system was in operation each well was set for a 12-hour of sparging operation within a 24-hour period and this sequence was repeated at the completion of the 24-hour cycle.

On October 1, 2009, injection in AS Well AS-3 was turned off and only AS Well AS-1 was open for injection near Monitoring Well MW-1, the well with the highest concentration of petroleum hydrocarbons in groundwater, until termination of the unit.

## **5.0 GEOLOGIC AND HYDROGEOLOGIC CONDITIONS**

The subject property is located in the foothills region of the Sierra Nevada Mountains in eastern Madera County. The Sierra Nevada is classified as an asymmetrical fault block mountain range with a steep eastern escarpment and a long gentle western slope. The foothills region of the Sierra Nevada includes rocks ranging in age from Paleozoic to late Tertiary. The oldest rocks are a sequence of highly deformed slates, phylites and greenstones of the western metamorphic belt. The western metamorphic belt flanks intrusive igneous rocks of the Sierra Nevada batholith, which form the backbone of the Sierra Nevada Mountains. Also exposed in the region are a number of recent volcanic flows consisting mostly of latite basalts which form prominent, flat topping ridges rising above the generally rolling hillsides.

In the southern portion of the range, including eastern Madera County, granitic rocks of the Sierra Nevada batholith are the most widely exposed rock type.

Groundwater in the foothills region is derived predominantly from fractures in the basement rock and from the loose, weathered rock material overlying the basement rock. The amount of water available to public and private wells is dependent on the depth, width, and spacing of the fractures. Generally, the degree of fracturing in the bedrock decreases with increasing depth resulting in very limited storage capacity for aquifers in this terrain.

At the time of groundwater monitoring event (February 2010), groundwater was encountered at depths in the range of 15.53 and 21.38 feet below surface grade. Groundwater flow direction beneath the site was to the South-southwest with an approximate gradient of 0.0367 ft./ft. Groundwater in deeper aquifer during the same event was encountered at depths in the range of 13.04 and 23.61 feet bsg. Groundwater flow direction in the deeper aquifer was to South-southeast with an approximate gradient of 0.1032 ft./ft.

Recharge to the local aquifers occurs mainly from infiltration by rainfall with a smaller amount of water being supplied by losing streams in the area. Due to the reduced storage capacity of aquifers in granitic and metamorphic terrains, much of the water available for recharge is lost to runoff.

With the consideration of the terrain in the general area of the site, groundwater is anticipated to flow to the south and southeast (towards the Fresno River).

Water to the subject site is supplied by a well located east of the store building. Additional water supply wells provide water to the properties southwest of the subject site.

Fresno River, located immediately to the south and southeast of the subject property, is the closest surface water to the site.

## **6.0 TECHNICAL APPROACH**

The data in Table D indicate that during the first quarter of 2010 the SVE and AS units operated for a limited period of time. This was due to the extraction of significant amounts of condensate from the extraction wells which resulted in the filling of the knockout tank and the turning off of the unit shortly after emptying the knockout tank. This indicates that the SVE and AS units were not effective in extracting hydrocarbons from subsurface soil.

As indicated above, due to extraction of excessive amounts of condensate, the SVE and AS units have not operated in an effective manner. By installing a larger tank for automatic discharge from the knockout tank to this tank, the operation period of the SVE and AS units would increase, but the generated condensate would significantly increase the wastewater disposal charges. Moreover, chemical analyses data presented in Table 2 indicate that no significant concentrations have been detected in the vapor stream of the active wells open for extraction.

Groundwater chemical analyses data presented in the recent groundwater monitoring reports indicate the detection of significant concentrations of hydrocarbon constituents in the groundwater samples collected from Monitoring Wells MW-1, MW-3 and MW-6 and the detection of low concentrations of MTBE in the water samples collected from On-Site Well and Pete's Well.

Based on the above presentation, while the use of the SVE and AS units have been effective in remediating soil and groundwater beneath the site, continued operation of the SVE and AS units does not appear to be cost effective in cleaning up the subject site soil and groundwater.

In light of the above presentation, ASR proposes to utilize OS technology as a method to remediate the underlying groundwater impacted with petroleum hydrocarbons. Our experience with similar site conditions has indicated that use of OS technology has been effective in



remediating subsurface groundwater. The effectiveness of OS technology in remediating the underlying groundwater at the site would be assessed subsequent to its startup.

## **7.0 PURPOSE AND SCOPE OF SERVICES**

Preparation of an OS wells installation and system operation work plan is proposed in this phase of investigation. The purpose of the OS well installation and subsequently OS system operation using an appropriate size oxygen concentrator and ozone generator would be to assess the effectiveness of OS in stripping hydrocarbons from the underlying groundwater, establish the radius of influence of the OS wells to be installed at the site and generate data for the operation of appropriate size ozone generator. The scope of services would include the tasks outlined below:

- Preparation of this Plan.
- Acquiring a drilling permit from the MCDEH prior to the start of field exploration.
- Installing five (5) OS wells and two (2) shallow depth VE wells at the approximate locations shown on Figure 4, Proposed OS and VE Well Location Plan.
- Collecting soil samples from selected intervals in the test borings for screening of soil samples and drill cuttings for volatile hydrocarbons using a portable OVM or equivalent and for chemical analyses.
- Chemically analyzing approximately 1 to 2 soil samples from each test boring made for installation of the OS and VE wells. The collected soil samples would be analyzed at a State-certified analytical laboratory for the constituents indicated in Section 9.7, below.
- Excavating trenches for installation of conduits for ozone injection delivery tubes. The trenches would extent from the OS wells to the trenches for the existing SVE system. The existing VE pipes would be used as conduits for the OS wells. The conduits would be extended from each OS wellhead to a manifold near the remediation compound previously used for installation of remediation equipment near the southwest corner of the building.
- Excavating trenches for installation of the additional VE wells. The additional VE wells would be connected to the existing VE wells.
- Performing OS test in each of the OS wells to determine the breakthrough ozone injection pressure and airflow rate and determine the radius of influent of OS system.
- Commencing OS system operation using a suitable size ozone generator and oxygen concentrator with a booster compressor based on the data gathered during the initial OS tests.

- Preparing reports presenting results of our investigation, methodologies, chemical analyses data, conclusions and recommendations. The reports would be provided to Mrs. Ruth Santos and the concerned regulatory agencies at the completion of our study.

## **8.0 APPROVALS AND HEALTH & SAFETY**

Prior to implementation of the Work Plan, approval of the RWQCB would be obtained. Drilling permits would be obtained from the MCDEH prior to start of field exploration. Work would be conducted according to the guidelines specified in the Site Health & Safety Plan, a copy of which would be available at the time of field exploration.

## **9.0 DRILLING TEST BORINGS FOR OZONE SPARGING/VAPOR EXTRACTION WELL INSTALLATION**

### **9.1 Methodologies**

This Work Plan includes descriptions of methodologies, which may be utilized for installation of OS and VE wells and appropriate size OS compressor for remediating hydrocarbon-impacted subsurface soil and groundwater.

The work would be performed under the observation of Dr. A. Saboor Rahim, California Registered Civil Engineer (No. 41386), California Registered Geotechnical Engineer (No. 2073) and California Registered Environmental Assessor (No. 116).

Procedures utilized in drilling test borings for installation of OS and VE wells are presented herein.

### **9.2 Drilling and Soil Sampling**

Drilling for installation of the OS and VE wells would be performed by a truck mounted drill rig utilizing hollow stem augers. Prior to drilling, augers and sampling equipment would be decontaminated. Procedures for decontamination are presented in Section 9.5. At the conclusion of drilling, OS/VE wells would be installed in the test borings.

#### **9.2.1 Sample Locations and Depths**

The proposed test borings for installing OS and VE wells would be advanced at the approximate locations shown on Figure 4, Proposed OS and VE Well Location Plan. Test borings for installation of OS wells would extend to depths in the range of about 30 to 35 feet each. The VE wells would be installed at depths in the range of about 14 to 17 feet.

Soil samples would be obtained from the test boring at five-foot-depth intervals. Soil samples would be subjectively evaluated for the presence of petroleum hydrocarbons. Subjective analyses would include observation of color changes, odor, and monitoring with an OVM.

### **9.2.2 Soil Sampling Apparatus and Sample Shipment**

Soil samples would be collected with a split spoon sampler lined with brass or stainless steel tubes and driven through the center of the hollow-stem auger. Relatively undisturbed samples would be logged and selected samples would be retained for chemical analysis. Subsequent to collection, the ends of the sample tubes would be sealed with Teflon tape and covered with an airtight plastic cap.

Soil samples would be stored onsite in an ice chest and kept cool with "Blue-ice." Samples retained for chemical analyses would be shipped under appropriate Chain-of-Custody protocol to a State-certified analytical laboratory. Chain-of-Custody protocols are further described in Section 9.3.

### **9.2.3 Sample Labeling**

Each soil sample retained would be labeled. Labels would include, at a minimum, the following information:

- Sample Number
- Project Number
- Sampling Date
- Sampling Time
- Name of Sampling Personnel

Sample labels would be completed with waterproof ink.

## **9.3 Sample Chain-of-Custody**

Soil samples obtained for chemical analyses would be accompanied to the analytical laboratory by a Chain-of-Custody form. Chain-of-Custody forms would be initiated at the time of sampling. Duplicate Chain-of-Custody forms would be placed in the project file. Chain-of-Custody documentation would include the following information:

- Name of sampler
- Sample I.D. numbers
- Time of sample acquisition
- Requested analyses
- Remarks as warranted
- Signatures, times and dates of custody transfer

Sampling personnel would be responsible for the protection and custody of the samples until they are relinquished. When sample custody is transferred, the respective individuals relinquishing and receiving the samples would sign, date, and record the time on the Chain-of-Custody form.

#### **9.4 Field Logs/Documentation**

During drilling, site and equipment conditions, variances from the specified sampling procedures, the sampling personnel would document field observations, instrumentation readings, and measurements. Soils encountered during drilling would be visually classified according to ASTM Test Designation D2488. OVM readings would be recorded on the drilling logs.

#### **9.5 Equipment Decontamination**

Prior to drilling each boring, augers would be steam cleaned. Steam cleaning would be conducted over a decontamination trailer and rinsate water would be retained and transferred to a 55-gallon DOT drum.

Between soil-sampling attempts, soil samplers would be disassembled and washed in a solution of laboratory-grade detergent, rinsed with clean water, and reassembled with clean sample liners to minimize the potential of spreading possible contaminants among samples.

#### **9.6 Soil Cuttings and Wastewater Disposal**

Auger cuttings, generated during the assessment, and wastewater, including water generated during the decontamination of drill equipment, would be stored on-site in 55-gallon DOT drums. The drums would be left at the custody of the property owner. Results of chemical analyses would dictate appropriate disposal methods.

#### **9.7 Soil Chemical Analyses**

Chemical analyses would be performed at a State-certified chemical laboratory. The collected soil samples would be analyzed for TPH-G, BTEX, MTBE, tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary butyl alcohol (TBA), 1,2-dichloroethane (1,2-DCA), ethylene dibromide (EDB) and total lead.

Analyses for TPH-G would be conducted according to EPA Method 8015M. Analyses for BTEX would be conducted according to EPA Method 8020. Analyses for MTBE, 1,2-DCA, EDB, TAME, DIPE, ETBE and TBA would be conducted according to EPA Method 8260.

The desired detection limits for petroleum compounds in soil would be 0.005 milligrams per kilogram (mg/kg) for EPA Method 8260 constituents and 1 mg/kg for TPH. Matrix problems and QA/QC procedures may largely influence these Practical Quantitative Reporting Limits.

## **10.0 OZONE SPARGING WELLS INSTALLATION AND SYSTEM OPERATION**

Ozone is one of the oxidants used for in situ chemical oxidation (ISCO). Compared to other treatment methods, ISCO offers two (2) important advantages when used for the remediation of contaminated groundwater. First, it tends to minimize the amount of waste materials produced and second, treatment is often accomplished in a relatively shorter period of time.

Ozone gas is formed when oxygen molecules ( $O_2$ ) are exposed to a controlled high voltage electrical field. As oxygen molecules pass through this field, a portion of them are split, creating a pair of  $O_1$  atoms. Seeking molecular stability, these atoms recombine with other  $O_2$  molecules in the air stream to form ozone ( $O_3$ ). More soluble in water than oxygen, ozone is a more powerful oxidizer than other ISCO compounds, which include Permanganate ( $NaK$ ), Hydrogen Peroxide ( $H_2O_2$ ) and Sodium Persulfate ( $NaSO_4$ ).

Used for decades in municipal water treatment, ozone has recently become popular as an ISCO compound. Whether via direct or indirect (formation of the hydroxyl radical) oxidation, ozone is extremely effective in treating many groundwater pollutants, including:

- Benzene, toluene, ethylbenzene and xylenes (BTEX)
- Methyl tert-butyl ether (MTBE)
- TBA
- Total petroleum hydrocarbons (TPH)

Because ozone is a gas, ozone-based groundwater remediation processes are unique compared to other ISCO technologies and offer a number of distinct advantages:

- Ozone is generated on site, so storage and transportation of dangerous liquid chemicals is not required
- Equipment is compact, minimizing site disruption
- The by-product of oxidation with ozone is oxygen, so no additional compounds are added to site chemistry
- Ozone can be used to enhance other ISCO compounds, creating the conditions for Advanced Oxidation Process (AOP)

An estimated five (5) OS wells are proposed to be installed. All necessary permits will be obtained prior to initiation of the field work. A brief description of the OS unit, and the OS wells installation and the OS unit system operation is presented herein.

## **10.1 Ozone Sparge System Operation**

An OS unit Model OSU20-52 will be used to remediate the site. The OS unit utilizes ambient air which is pulled in through the oxygen concentrator which removes the nitrogen and noble gases. The oxygen gas is concentrated to 90 percent oxygen at a dew point of -100°F. The oxygen gas enters the ozone reaction chambers at 10 psi and 12 standard cubic feet per hour (SCFH). The ozone concentration out of each reaction chamber is 6 percent to 8 percent concentration by weight. The ozone gas is then boosted through the ozone delivery pump (at a maximum pressure of 55 psi). The ozone gas is then delivered to the sparge manifold where it blends with the compressed air from the air flow boost compressor. Both the ozone delivery pump and the air flow boost compressor will equilibrate to a common sparge pressure applied to the in situ oxidation point. The OS unit will generate 2.7 pounds per day of ozone.

Upon system start-up, the OS unit will perform a breakthrough sparge pressure in each well. Over time the breakthrough sparge pressure will decrease as the formation of the well is developed. The OS unit provides a breakthrough sparge pressure of 125 psi. The OS unit is factory set for a 3-minute high-pressure alarm delay (field programmable). If the breakthrough sparge pressure does not drop below 50 psi within 3 minutes, the program logic controller (PLC) would deactivate, record, and display a high pressure alarm on the panel view screen, and activate the next sparge port. The high pressure alarm will need to be acknowledged and cleared by the operator on-site in order for the sparge well to come back into operation. The OS unit model proposed for the subject site can be connected to up to 20 sparge wells through a 20-port manifold. Each sparge port has independent time duration control. The system will be monitored and the duration of ozone injection at each sparge well adjusted to obtain optimum performance.

The OS unit would be installed as shown on Figure 4 and electrical service is available at this location. Security fencing with privacy slats will be installed. Sound abatement measures will be taken only as necessary to conform to local ordinances.

## **10.2 Ozone Sparging Well Location and Depths**

It is proposed to install five (5) OS wells at the approximate locations shown on Figure 4. The OS wells will consist of 1-inch diameter blank schedule 80 PVC casing with a 25 micron pore size porous sparge point attached to the bottom. The sparge points will be installed to a depth of 10 to 15 feet below first encountered water about 30 to 35 feet bsg. The sparge wells will be connected to the OS unit via Teflon® tubing installed in conduits below grade.

### **10.3 Ozone Sparging Materials and Specifications**

The OS wells would be constructed with eighteen inches (18") of one and a half inch (1.5") outer diameter and one inch (1") inner diameter Polyvinylidene Fluoride (PVDF) with 25 micron pore size screen installed at the bottom of each well. The sparge tips would be connected to a 1-inch nominal diameter schedule 80 PVC riser. The well head connection would consist of ¼" stainless steel tee, ¼" stainless steel plug, ¼" stainless steel nipple and a ½" compression fitting for ozone delivery tubing. No chemical cements or solvents would be used in the construction of the wells.

The well annulus will be filled with No. 3 sand from the bottom to approximately one foot above the top of screen section in the OS wells. Time release bentonite pellets would be placed above the sand in the well annulus to about one foot above groundwater. Subsequently, a 3-foot thick layer of hydrated bentonite chips would be placed in the OS well. The remainder of the well annulus will be backfilled with a sand-cement slurry. Well casing, sand and bentonite pellets and chips would be placed through the center of the hollow-stem auger. The sand-cement backfill would be tremmied from the surface of the hydrated bentonite chips. A water and dust-resistant steel utility box would be placed over the well casing. The box would be set in place with concrete approximately 2 inches above the surrounding grade. Each well would be provided with a concrete apron, approximately 2 feet in radius. A typical OS well construction diagram is presented on Figure 5.

### **10.4 Ozone Sparging System Monitoring**

Prior to system startup, groundwater samples will be obtained from groundwater monitoring wells, during our quarterly sampling event, and analyzed for EC, pH, temperature, DO, TPH-G, BTEX, and fuel oxygenates. After system startup, Monitoring Wells MW-1 through MW-4 will be monitored on a daily basis for the first week and on a weekly basis thereafter for EC, pH, temperature, and DO. Groundwater samples will be obtained only from Monitoring Wells MW-1 through MW-4 after two weeks and four weeks of operation, and monthly thereafter and analyzed for EC, pH, temperature, DO, TPH-G, BTEX, and fuel oxygenates.

### **10.5 Reporting**

A system installation and startup report will be prepared and submitted after the first month of operation. Quarterly progress reports will be submitted thereafter.

### **10.6 Termination of Ozone Sparging**

Once monitoring results indicate that the OS unit is no longer effective and/or efficient in remediating groundwater and soil, a report will be prepared summarizing remedial activities and evaluating the need for further remediation.

## **11.0 ADDITIONAL SOIL VAPOR EXTRACTION OPERATIONS**

Subsequent to OS operations, it is proposed to continue with SVE using two (2) additional VE wells. As indicated in Section 6.0, the existing SVE system is ineffective due to extraction of significant amounts of condensate from the extraction wells. Therefore, it is proposed to install the additional VE wells to a shallower depth than the existing VE wells. The existing SVE system would be modified to operate in catalytic mode or, if necessary, converted to a carbon-based blower system.

The additional VE wells would be installed at the approximate locations shown on Figure 4, to depths in the range of about 14 to 17 feet bsg.

The VE well would be constructed of 4-inch nominal diameter schedule 40 PVC casing with 0.020-inch slotted screen. Flush-joint well casing would be utilized, and no chemical cements or solvents would be used in the construction of the wells. The top of each well casing would be covered with a locking water and airtight plug, and a threaded PVC plug would be installed at the bottom of each well.

The well annulus will be filled with No. 3 sand from the bottom to approximately one foot above the top of screen section. A 2-foot-thick bentonite seal would be placed above the sand. The bentonite seal would be hydrated to prevent water from entering the filter media. Subsequent to placement of the bentonite seal, the remainder of the well annulus will be backfilled with sand-cement slurry. Well casing, sand, and bentonite would be placed through the center of the hollow-stem auger. Grout backfill would be placed through the center of the augers or tremmied from the surface of the bentonite. A water and dust-resistant steel utility box would be placed over the well casing. The box would be set in place with concrete approximately 2 inches above the surrounding grade. Each well would be provided with a concrete apron, approximately 2 feet in radius. A typical well construction diagram for the VE wells is presented as Figure 6.

## **12.0 SCHEDULE**

We would acquire a permit for installation of the OS and VE wells from MCDEH within one to two weeks of approval of this Work Plan by the RWQCB and authorization of Mrs. Santos. Field exploration for OS and VE wells installation would commence within two (2) weeks of acquiring the necessary permits and would be completed in about two (2) weeks. We, therefore, anticipate submittal of the report documenting the results of well installation on the order of five (5) to six (6) weeks from the date of the start of field exploration. The RWQCB and other concerned regulatory agencies would be notified at least 72 hours prior to initiation of field exploration.



### **13.0 LIMITATIONS AND APPLICABILITY**

This Work Plan has been prepared for the exclusive use of Mrs. Ruth Santos for the specific project described herein. The Work Plan has been prepared in accordance with generally accepted engineering and environmental practices in California at the time of preparation of the Work Plan. No other warranties, expressed or implied, are made as to the professional advice provided under the terms of our agreement and included in this Work Plan.

This Work Plan is intended as a guide in achieving subsurface assessment under the observation of ASR Engineering, Inc. It is not a specification, and should not be used as such.

ASR Engineering, Inc.

**Table 1**  
**Summary of Confirmation Samples Chemical Analyses Data**  
**Sampling Date: September 8, 1999**

Sample Designation	B	T	E	X	TPH-G	MTBE
T-1 @ 15'	ND	ND	ND	0.074	ND	ND
T-1A @ 20'	ND	0.087	0.11	0.28	100	ND
T-2 @ 16'	ND	ND	ND	ND	ND	ND
T-3 @ 16'	ND	62	130	400	5700	130
T-4 @ 15'	ND	10	9.3	78	950	ND
T-5 @ 15'	ND	ND	ND	0.22	ND	ND
T-6 @ 16'	ND	ND	ND	0.24	ND	ND
D-7 @ 4'	ND	ND	0.070	0.34	ND	1.6
D-8 @ 5'	0.060	0.19	0.45	1.3	27	0.73
Composite	ND	ND	ND	0.24	62	ND

*Results in mg/Kg or parts per million (ppm)*

<i>B</i>	<i>= Benzene</i>	<i>TPH-G</i>	<i>= Total Petroleum Hydrocarbons as Gasoline</i>
<i>T</i>	<i>= Toluene</i>	<i>MTBE</i>	<i>= Methyl-t-Butyl Ether</i>
<i>E</i>	<i>= Ethyl-benzene</i>	<i>ND</i>	<i>= Not Detected</i>
<i>X</i>	<i>= Total Xylene</i>		

**Table 2**  
**Summary of Soil Chemical Analyses Data**  
**Sampling Dates: January 26 and March 8, 2001**

Sample Designation	B	T	E	X	TPH-G	MTBE*	Total Lead
B-1, MW-1 @ 20'	25	310	77	460	5700	ND	12
B-1, MW-1 @ 25'	1.7	46	18	110	1500	ND	11
B-2, MW-2, @ 10'	ND	ND	ND	ND	ND	ND	6.4
B-2, MW-2, @ 15'	ND	ND	ND	ND	ND	ND	6.8
B-2, MW-2, @ 20'	ND	ND	ND	ND	ND	ND	ND
B3-MW3-S14 @ 10'	0.0062	ND	0.034	0.31	11	0.033/0.030	4.2
B3-MW3-S16 @ 20'	0.0056	ND	ND	0.0072	ND	0.015/0.23	ND
B3-MW3-S18 @ 30'	ND	0.017	0.0089	0.031	ND	ND	ND
B4-MW4-S9 @ 15'	ND	ND	ND	0.011	5.9	ND	ND
B4-MW4-S11 @ 25'	ND	0.25	0.29	0.58	160	ND	ND
B5-MW5-S2 @ 10'	ND	ND	ND	ND	ND	ND	ND
B5-MW5-S4 @ 20'	ND	ND	ND	ND	ND	ND	5.2

*Results in mg/Kg or parts per million (ppm)*

*\* MTBE: EPA Test Method 8020 / EPA Test Method 8260*

<i>B</i>	<i>= Benzene</i>	<i>TPH-G</i>	<i>= Total Petroleum Hydrocarbons as Gasoline</i>
<i>T</i>	<i>= Toluene</i>	<i>MTBE</i>	<i>= Methyl-t-Butyl Ether</i>
<i>E</i>	<i>= Ethyl-benzene</i>	<i>ND</i>	<i>= Not Detected</i>
<i>X</i>	<i>= Total Xylene</i>		

**Table 3**  
**Summary of Soil Chemical Analyses Data**  
**Sampling Date: January 23, 2002**

<b>Sample Designation</b>	<b>B</b>	<b>T</b>	<b>E</b>	<b>X</b>	<b>TPH-G</b>	<b>MTBE</b>	
VE-1 @ 20'	5.1	110	43	240	3100	ND	ND*
VE-2 @ 5'	0.16	0.24	0.16	0.88	6.2	0.033	0.032*
VE-2 @ 15'	0.015	0.031	0.034	0.29	9.9	0.024	0.028*
VE-2 @ 20'	ND	ND	ND	ND	ND	ND	ND*
MW-7 @ 5'	ND	0.020	ND	0.037	ND	ND	ND*

*Results in mg/Kg or parts per million (ppm)*

*\* Results using EPA Test Method 8260*

<i>B</i>	<i>= Benzene</i>	<i>TPH-G</i>	<i>= Total Petroleum Hydrocarbons as Gasoline</i>
<i>T</i>	<i>= Toluene</i>	<i>MTBE</i>	<i>= Methyl-t-Butyl Ether</i>
<i>E</i>	<i>= Ethyl-benzene</i>	<i>ND</i>	<i>= Not Detected</i>
<i>X</i>	<i>= Total Xylene</i>		

**Table 4**  
**Summary of Soil Chemical Analyses Data**  
**Sampling Dates: July 1, 2003 through July 3, 2003**

Sample Designation	B	T	E	X	TPH-G	MTBE	
VE-3 @ 10'	ND	0.0061	ND	0.0052	ND	ND	ND*
VE-3 @ 20'	ND	0.0065	0.0064	0.015	58	ND	ND*
VE-4 @ 15'	0.028	ND	0.28	1.5	63	0.084	0.041*
VE-4 @ 20'	0.65	3.7	11	58	1000	ND	0.061*
VE-5 @ 10'	ND	ND	ND	0.0078	ND	ND	ND*
VE-5 @ 20'	ND	ND	ND	ND	ND	ND	ND*

*Results in mg/Kg or parts per million (ppm)*

*\* Results using EPA Test Method 8260*

<i>B</i>	<i>= Benzene</i>	<i>TPH-G</i>	<i>= Total Petroleum Hydrocarbons as Gasoline</i>
<i>T</i>	<i>= Toluene</i>	<i>MTBE</i>	<i>= Methyl-t-Butyl Ether</i>
<i>E</i>	<i>= Ethyl-benzene</i>	<i>ND</i>	<i>= Not Detected</i>
<i>X</i>	<i>= Total Xylene</i>		

**Table 5**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
MW-1 2270.97	03/08/2001	20.00	2250.97	—	—	—	—	—	—
	04/24/2001	18.86	2252.11	—	—	—	—	—	—
	03/19/2001	—	—	<500	9,300	28,000	1,800	11,000	110,000
	06/19/2001	19.40	2251.57	<500	13,000	46,000	3,000	17,000	190,000
	09/19/2001	20.68	2250.29	<500	11,000	35,000	2,200	12,000	110,000
	12/12/2001	19.94	2251.03	<500	14,000	47,000	3,200	18,000	160,000
	03/27/2002	19.40	2251.67	<500	10,000	37,000	2,500	15,000	150,000
	06/19/2002	17.95	2253.12	<500	12,000	38,000	2,400	14,000	140,000
	10/01/2002	19.50	2251.57	<500	11,000	35,000	2,600	15,000	130,000
	12/18/2002	19.31	2251.76	<500	12,000	37,000	2,700	15,000	150,000
2271.07*	03/12/2003	19.12	2251.95	<500	11,000	36,000	2,800	16,000	190,000
	06/19/2003	18.58	2252.49	<500	9,300	31,000	2,300	14,000	140,000
	09/25/2003	19.85	2251.22	<500	9,900	31,000	2,000	12,000	110,000
	12/22/2003	20.09	2250.98	<500	10,000	33,000	2,200	13,000	140,000
	03/18/2004	17.74	2253.33	430	2,800	11,000	850	6,400	52,000
	06/18/2004	20.51	2250.56	<500	11,000	31,000	1,800	11,000	120,000
	09/20/2004	22.20	2248.87	<500	8,900	31,000	2,000	13,000	120,000
	11/23/2004	20.74	2250.33	<500	8,500	29,000	2,100	12,000	110,000
	02/08/2005	19.21	2251.86	<500	9,300	31,000	2,000	13,000	130,000
	05/10/2005	12.51	2258.56	<10	290	140	37.0	670	5,900
	08/09/2005	17.01	2254.06	<10	360	650	52	500	5,100
	12/05/2005	20.44	2250.63	<25	940	1,300	310	2,300	17,000
	02/07/2006	18.43	2252.46	150	2,800	5,100	720	4,700	32,000
	05/09/2006	12.72	2258.35	<25	470	930	140	1,900	9,600
	08/07/2006	15.25	2255.82	<25	520	2,000	44	2,800	16,000
11/09/2006	20.73	2250.34	<25	500	2,000	170	4,800	20,000	
02/09/2007	21.58	2249.49	43	390	1,600	76	1,400	7,900	
05/07/2007	21.41	2249.66	<100	1,300	3,600	240	5,800	25,000	
08/06/2007	21.33	2249.74	<250	3,000	11,000	860	8,400	53,000	
11/05/2007	22.75	2248.32	<250	3,300	11,000	780	7,800	55,000	

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	02/04/2008	22.07	2249.00	<10	188	500	<10	320	2,000
	05/05/2008	16.38	2254.69	<50	1,300	3,200	79	2,200	14,000
	08/04/2008	21.22	2249.85	<50	1,400	4,600	130	2,300	15,000
	11/03/2008	22.00	2249.07	<50	1,300	3,600	170	2,000	15,000
	02/02/2009	20.85	2250.22	<5.0	170	630	22	450	2,500
	05/04/2009	17.32	2253.25	<250	2,900	12,000	890	11,000	71,000
	11/02/2009	16.87	2254.20	<100	2,700	8,700	640	8,200	48,000
	02/01/2010	16.04	2255.03	<100	1,700	5,500	380	5,700	29,000
<b>MW-2</b>									
2269.19	03/08/2001	19.20	2249.99	—	—	—	—	—	—
	04/24/2001	18.92	2250.27	—	—	—	—	—	—
	03/19/2001	—	—	420	6.5	<1.0	<1.0	3.3	190
	06/19/2001	18.86	2250.33	750	15	15	8.6	27	810
	09/19/2001	19.75	2249.44	440	3.8	<0.50	<0.50	1.4	240
	12/12/2001	19.08	2250.11	780	2.6	13	9.9	34	500
2269.31*	03/27/2002	18.20	2251.11	1100	1.7	<0.50	<0.50	<0.50	490
	06/19/2002	18.01	2251.30	1500	<1.0	<1.0	<1.0	<1.0	470
	10/01/2002	18.80	2250.51	770	<0.50	<0.50	<0.50	0.91	300
	12/18/2002	18.60	2250.71	740	0.72	<0.50	<0.50	0.88	270
	03/12/2003	18.51	2250.80	790	<0.50	<0.50	<0.50	0.51	370
	06/19/2003	18.16	2251.15	800	<0.50	<0.50	<0.50	<0.50	310
	09/25/2003	19.00	2250.31	820	<0.50	<0.50	<0.50	<0.50	270
	12/22/2003	19.07	2250.24	680	<0.50	<0.50	<0.50	<0.50	270
	03/18/2004	18.10	2251.21	660	<1.0	<1.0	<1.0	<1.0	280
2269.31*	06/18/2004	19.53	2249.78	290	<0.50	1.4	.63	2.8	86
	09/20/2004	20.93	2248.38	70	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	19.75	2249.56	74	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	18.80	2250.51	240	1.6	7.7	<1.0	4.8	170
	05/10/2005	16.27	2253.04	500	<0.50	<0.50	<0.50	<0.50	230
	08/09/2005	18.42	2250.89	120	8.3	<0.50	<0.50	0.67	77

Table 5 Continued  
 Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	12/05/2005	19.70	2249.61	21	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	18.51	2250.80	91	<0.50	<0.50	<0.50	<0.50	88
	05/09/2006	16.25	2253.06	43	4.3	0.57	<0.50	5.0	74
	08/07/2006	18.38	2250.93	19	7.4	<0.50	4.1	<0.50	140
	11/09/2006	19.91	2249.40	14	3.6	<0.50	<0.50	0.80	<50
	02/09/2007	20.30	2249.01	18	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	20.57	2248.74	3.4	<0.50	4.8	<0.50	12	63
	08/06/2007	20.16	2249.15	2.3	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	21.33	2247.98	4.0	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	21.08	2248.23	5.0	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	19.84	2249.47	7.3	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	20.21	2249.10	1.8	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	20.67	2248.64	3.4	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	19.46	2249.85	31	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	18.31	2251.00	55	1.2	8.2	0.67	8.4	86
	11/02/2009	18.05	2251.26	49	<0.50	<0.50	<0.50	<0.50	52***
	02/10/2010	17.57	2251.74	42	<0.50	<0.50	<0.50	<0.50	<50
<b>MW-3</b>									
	02/07/2001	—	—	300	1,000	2,500	1,200	2,600	26,000
2270.35	03/08/2001	21.40	2248.95	—	—	—	—	—	—
	04/24/2001	20.75	2249.60	—	—	—	—	—	—
	06/19/2001	21.28	2249.07	290	830	3,600	1,000	3,200	30,000
	09/19/2001	21.96	2248.39	570	1,400	11,000	2,000	7,600	51,000
	12/12/2001	21.20	2249.15	360	590	1,500	760	2,100	18,000
2270.55*	03/27/2002	20.50	2250.05	68	97	55	150	250	6,100
	06/19/2002	20.25	2250.30	87	44	4.5	13	21	2,200
	10/01/2002	21.05	2249.50	98	95	82	81	180	4,400
	12/18/2002	20.51	2250.04	86	940	3.5	8.6	20	3,800
	03/12/2003	20.80	2249.75	200	290	3.5	9.4	18	3,300
	06/19/2003	20.71	2249.84	390	310	22	99	170	5,600



**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	09/25/2003	21.18	2249.37	330	450	290	200	540	8,500
	12/22/2003	21.98	2248.57	360	240	1,200	340	1,400	12,000
	03/18/2004	20.30	2250.25	440	170	22	37	99	3,900
	06/18/2004	21.70	2248.85	200	410	2,100	670	2,800	22,000
	09/20/2004	23.09	2247.46	370	510	5,900	860	3,500	32,000
	11/23/2004	21.61	2248.94	230	470	5,600	1,000	4,400	31,000
	02/08/2005	20.87	2249.68	190	41	48	25	79	3,200
	05/10/2005	18.78	2251.77	330	140	24	37	97	3,900
	08/09/2005	21.29	2249.26	510	340	900	490	2,100	16,000
	12/05/2005	21.88	2248.67	240	400	3,600	740	3,300	26,000
	02/07/2006	21.21	2249.34	190	170	120	120	350	6,700
	05/09/2006	19.24	2251.31	390	260	48	130	400	6,500
	08/07/2006	21.55	2249.00	290	52	440	19	1200	7,800
	11/09/2006	22.40	2248.15	110	13	96	<20	1,400	7,700
	02/09/2007	23.32	2247.23	56	20	15	<10	250	4,400
	05/07/2007	23.40	2247.15	120	50	640	21	1,300	8,600
	08/06/2007	22.31	2248.24	150	82	1,100	110	2,200	11,000
	11/05/2007	21.33	2247.98	40	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	23.60	2246.95	44	7.6	15	13	400	2,300
	05/05/2008	22.48	2248.07	68	10	12	6.8	230	2,800
	08/04/2008	26.68	2246.87	62	7.4	2.9	5.0	51	1,100
	11/03/2008	23.03	2247.52	16	0.99	<0.50	0.71	9.5	340
	02/02/2009	22.28	2248.27	46	3.0	1.9	2.4	23	760
	05/04/2009	20.34	2250.21	120	6.2	1.0	<1.0	2.3	800
	11/02/2009	20.06	2250.49	320	6.4	<1.0	<1.0	1.4	1,000
	02/01/2010	19.86	2250.69	360	3.5	<1.0	1.0	13	820
<b>-MIW-4</b>									
2268.84*	02/07/2001	-	-	200	-	-	-	3.5	380
	03/08/2001	20.95	2247.75	-	-	-	-	-	-
	04/24/2001	22.95	2245.75	-	-	-	-	-	-

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	06/19/2001	20.99	2247.71	210	<0.50	<0.50	<0.50	<0.50	130
	09/19/2001	21.41	2247.29	280	<0.50	<0.50	4.3	5.9	480
	12/12/2001	20.81	2247.89	150	<0.50	<0.50	<0.50	2.2	78
	03/27/2002	20.90	2247.94	310	<0.50	<0.50	<0.50	<0.50	140
	06/19/2002	20.62	2248.22	390	<0.50	<0.50	<0.50	0.89	290
	10/01/2002	20.85	2247.99	170	<0.50	<0.50	<0.50	3.4	570
	12/18/2002	20.65	2248.19	140	<0.50	<0.50	<0.50	<0.50	58
	03/12/2003	20.71	2248.13	100	<0.50	0.62	<0.50	0.51	<50
	06/19/2003	20.68	2248.16	55	<5.0	<5.0	<5.0	2.2	390
	09/25/2003	20.97	2247.84	46	<0.50	<0.50	<0.50	0.66	230
	12/22/2003	20.82	2248.02	40	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	20.51	2248.33	33	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	20.88	2247.96	21	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	21.69	2247.15	7.3	<0.50	<0.50	<0.50	<0.50	120
	11/23/2004	20.93	2247.91	37	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	20.47	2248.37	10	0.59	3.6	<0.50	2.7	<50
	05/10/2005	20.09	2248.75	14	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	20.86	2247.98	17	<0.50	<0.50	<0.50	<0.50	170
	12/05/2005	20.88	2247.96	5.9	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	20.72	2248.12	9.4	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	19.7	2249.14	9.3	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	20.85	2247.99	7.1	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	21.16	2247.68	3.1	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	21.22	2247.62	2.5	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	29.15	2239.69	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	21.53	2247.31	0.77	<0.50	<0.50	<0.50	<0.50	90
	11/05/2007	21.86	2246.98	<0.50	1.0	0.69	2.7	4.3	570
	02/04/2008	21.62	2247.22	<0.50	0.78	<0.50	1.1	2.2	330
	05/05/2008	21.28	2247.56	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	21.58	2247.26	<0.50	<0.50	<0.50	<0.50	0.52	130
	11/03/2008	21.74	2247.10	0.79	1.1	<0.50	2.4	4.9	570

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	02/02/2009	20.97	2247.87	0.75	<0.50	<0.50	<0.50	0.64	<50
	05/04/2009	20.58	2248.26	<1.0	8.7	49	3.2	38	250
	11/02/2009	20.58	2248.26	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	20.15	2248.69	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>MW-5</b>									
2269.41	02/07/2001	-	-	52	6.2	2.1	4.0	8.6	420
	03/08/2001	23.00	2246.41	-	-	-	-	-	-
	04/24/2001	20.73	2248.68	-	-	-	-	-	-
	06/19/2001	23.71	2245.70	150	<0.50	<0.50	<0.50	0.58	460
	09/19/2001	24.27	2245.14	160	<0.50	<0.50	0.56	1.4	510
	12/12/2001	23.08	2246.33	150	11	1.0	2.2	3.7	110
	03/27/2002	22.70	2246.76	97	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	22.84	2246.62	170	<0.50	0.56	<0.50	<0.50	200
2269.46*	10/01/2002	23.18	2246.28	99	<0.50	1.8	<0.50	<0.50	190
	12/18/2002	22.28	2247.18	1.3	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	22.81	2246.65	12	<0.50	1.9	<0.50	<0.50	<50
	06/19/2003	22.91	2246.55	14	<0.50	1.3	<0.50	<0.50	<50
	09/25/2003	23.40	2246.06	38	4.6	<0.50	<0.50	<0.50	<50
	12/22/2003	22.98	2246.48	7.1	<0.50	0.55	<0.50	<0.50	<50
03/18/2004	22.45	2247.01	38	<0.50	1.6	<0.50	<0.50	<50	<50
	06/18/2004	23.14	2246.32	14	<0.50	2.0	<0.50	1.4	<50
	09/20/2004	24.40	2245.06	26	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	22.96	2246.50	23	<0.50	2.3	<0.50	<0.50	<50
	02/08/2005	22.16	2247.30	5.7	0.65	<0.50	<0.50	<0.50	62
	05/10/2005	21.79	2247.67	3.0	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	23.75	2245.71	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	23.54	2245.92	<0.50	<0.50	3.4	<0.50	<0.50	<50
	02/07/2006	23.75	2245.71	0.73	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	21.10	2248.36	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	23.56	2245.90	-	-	-	-	-	-

Table 5 Continued  
 Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	11/09/2006	23.65	2245.81	-	-	-	-	-	-
	02/09/2007	23.70	2245.76	-	-	-	-	-	-
	05/07/2007	-	-	-	-	-	-	-	-
	08/06/2007	-	-	-	-	-	-	-	-
	11/05/2007	-	-	-	-	-	-	-	-
	02/04/2008	-	-	-	-	-	-	-	-
	05/05/2008	23.65	2245.81	9.9	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	24.28	2245.18	4.1	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	24.13	2245.33	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	22.94	2246.52	5.7	1.3	3.4	0.50	3.2	<50
	05/04/2009	22.11	2247.35	4.4	1.4	11	1.0	12	68
	11/02/2009	22.26	2247.20	8.2	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	21.38	2248.08	5.3	<0.50	<0.50	<0.50	<0.50	<50
<b>MW-6</b>									
2266.29*	03/27/2002	19.01	2247.28	5.3	<5.0	<5.0	<5.0	<5.0	1,500
	06/19/2002	18.90	2247.39	2.2	1.2	<1.0	<1.0	1.4	1,300
	10/01/2002	18.98	2247.31	11	<1.0	<1.0	<1.0	<1.0	1,200
	12/18/2002	18.72	2247.57	9.2	1.5	5.1	1.3	2.7	1,000
	03/12/2003	18.90	2247.39	2.2	0.65	0.53	0.59	0.94	730
	06/19/2003	18.95	2247.34	4.5	0.79	<0.50	0.62	0.92	790
	09/25/2003	19.25	2247.04	15	2.1	<0.50	1.2	0.80	1,400
	12/22/2003	18.81	2247.48	13	<0.50	<0.50	0.60	0.56	720
	03/18/2004	18.73	2247.56	3.6	<0.50	<0.50	0.56	0.66	710
	06/18/2004	19.30	2246.99	11	<2.5	7.8	<2.5	5.2	760
	09/20/2004	20.29	2246.00	18	1.0	2.2	0.63	1.9	430
	11/23/2004	18.80	2247.49	6.9	<0.50	3.3	1.4	4.2	450
	02/08/2005	18.92	2247.37	3.1	0.53	1.3	0.61	1.4	470
	05/10/2005	18.49	2247.80	0.65	<0.50	<0.50	<0.50	<0.50	120
	08/09/2005	20.12	2246.17	0.74	<0.50	<0.50	<0.50	0.89	220
	12/05/2005	19.77	2246.52	<0.50	1.6	12	4.4	25	250

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	02/07/2006	19.47	2246.82	<0.50	<0.50	0.58	<0.50	0.92	110
	05/09/2006	18.36	2247.93	0.58	<0.50	0.85	<0.50	3.4	58
	08/07/2006	19.89	2246.40	0.56	<0.50	2.0	<0.50	4.4	110
	11/09/2006	19.43	2246.86	2.6	<0.50	<0.50	<0.50	0.59	150
	02/09/2007	19.36	2246.93	8.0	<0.50	1.1	<0.50	1.2	210
	05/07/2007	32.81	2233.48	14	0.91	5.3	0.97	13	370
	08/06/2007	20.04	2246.25	6.9	1.3	12	2.3	23	630
	11/05/2007	19.70	2246.59	4.9	15	12	1.8	15	1,000
	02/04/2008	19.40	2246.77	6.3	1.4	1.1	<0.50	6.1	700
	05/05/2008	19.37	2246.92	3.0	2.9	<2.5	<2.5	<2.50	1,100
	08/04/2008	20.36	2245.93	4.7	1.8	0.75	<0.50	0.54	520
	11/03/2008	19.77	2246.52	7.4	12	32	2.2	13	930
	02/02/2009	19.35	2246.94	7.7	1.7	<1.0	1.2	1.2	730
	05/04/2009	18.66	2247.63	11	0.58	2.6	<0.50	3.1	200
	11/02/2009	14.78	2251.51	14	8.4	39	3.2	35	300
	02/01/2010	18.61	2247.68	8.8	<0.50	<0.50	<0.50	<0.50	190
<b>MW-7</b>									
2272.76*	03/27/2002	18.04	2254.72	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	17.42	2255.34	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	19.48	2253.28	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	19.47	2253.29	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	18.88	2253.88	<0.50	<0.50	4.2	0.86	4.6	<50
	06/19/2003	18.15	2254.61	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	19.84	2252.92	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	20.18	2252.58	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	18.22	2254.54	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	21.30	2251.46	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	23.07	2249.69	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	21.54	2251.22	<0.50	<0.50	19	4.4	20	120
	02/08/2005	19.92	2252.84	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msf)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	05/10/2005	15.46	2257.30	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	18.15	2254.61	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	21.29	2251.47	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	19.27	2253.49	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	14.66	2258.1	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	17.19	2255.57	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	21.68	2251.08	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	22.56	2250.20	<0.50	<0.50	1.9	<0.50	2.5	<50
	05/07/2007	30.33	2242.43	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	21.5	2251.26	<2.5	8.2	85	12	130	600
	11/05/2007	23.51	2249.25	<0.50	18	170	16	200	1,000
	02/04/2008	21.52	2252.06	<0.50	0.92	6.4	<0.50	8.7	55
	05/05/2008	19.15	2253.61	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	20.88	2251.88	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	22.10	2250.66	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	20.65	2252.11	<0.50	2.7	0.81	1.0	2.2	<50
	05/04/2009	18.21	2254.55	<0.50	0.93	<0.50	<0.50	0.90	<50
	11/02/2009	16.02	2256.74	<0.50	1.7	<0.50	<0.50	0.52	<50
	02/01/2010	15.53	2257.23	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>DW-1</b>									
2268.14 **	05/07/2003	17.90	2250.24	-	<0.50	<0.50	<0.50	<0.50	145
	09/25/2003	18.80	2249.34	13	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	19.02	2249.12	12	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	17.91	2250.23	19	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	19.41	2248.73	9.9	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	20.89	2247.25	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	19.26	2248.88	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	18.54	2249.60	0.58	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	17.14	2251.00	12	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	18.85	2249.29	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	12/05/2005	19.57	2248.57	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	18.75	2249.39	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	17.95	2250.19	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	19.13	2249.01	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	19.93	2248.21	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	20.30	2247.84	0.55	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	20.61	2247.53	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	20.04	2248.10	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	21.30	2246.84	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	20.70	2247.44	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	19.72	2248.42	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	20.02	2248.12	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	20.31	2247.83	0.62	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	19.44	2248.70	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	18.05	2250.09	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	17.74	2250.40	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	17.41	2250.73	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>DW-2</b>									
2270.31 **	05/07/2003	23.11	2247.20	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	24.00	2246.31	0.99	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	26.30	2244.01	0.74	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	23.25	2247.06	0.68	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	23.87	2246.44	0.78	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	26.32	2243.99	0.86	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	23.61	2246.70	0.61	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	24.25	2246.06	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	22.46	2247.85	0.67	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	25.07	2245.24	0.60	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	24.52	2245.79	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	24.05	2246.26	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	05/09/2006	23.85	2246.46	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	25.29	2245.02	1.1	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	24.89	2245.42	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	25.50	2244.81	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	25.92	2244.39	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	25.36	2244.95	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	26.72	2243.59	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	25.20	2245.11	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	25.97	2244.34	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	25.47	2244.84	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	25.90	2244.41	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	25.21	2245.10	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	23.73	2246.58	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	23.48	2246.83	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	23.61	2246.70	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>DW-3</b>									
2261.55 **	05/07/2003	13.15	2248.40	<0.50	<0.50	<0.50	<0.50	<0.50	67
	09/25/2003	14.20	2247.35	0.64	3.1	<0.50	<0.50	<0.50	740
	12/22/2003	14.75	2246.80	<0.50	<0.50	<0.50	<0.50	<0.50	240
	03/18/2004	13.18	2248.37	<0.50	0.94	<0.50	<0.50	<0.50	110
	06/18/2004	15.33	2246.22	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	16.05	2245.50	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	14.06	2247.49	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	13.84	2247.71	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	11.93	2249.62	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	14.59	2246.96	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	14.56	2246.99	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	13.83	2247.72	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	13.10	2248.45	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	14.91	2246.64	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50



**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	11/09/2006	14.99	2246.56	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	15.82	2245.73	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	16.13	2245.42	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	15.70	2245.85	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	16.90	2244.65	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	15.46	2246.09	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	15.75	2245.80	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	25.47	2246.24	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	15.92	2245.63	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	15.29	2246.26	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	13.38	2248.17	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	13.48	2248.07	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	13.04	2248.51	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>On-Site Well</b>									
<b>(Untreated)</b>									
	03/19/2001	-	-	0.76	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2001	-	-	-	-	-	-	-	-
	09/19/2001	-	-	14	<0.50	<0.50	<0.50	<0.50	<50
	12/12/2001	-	-	0.87	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	04/16/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	1.0	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	1.4	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	0.68	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	11/23/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	-	-	3.0	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	-	-	0.76	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	-	-	5.1	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	-	-	3.5	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	-	-	7.0	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	-	-	5.5	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	-	-	2.0	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	-	-	2.7	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	-	-	2.2	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>On-Site Well</b>									
<b>(Treated)</b>									
	12/12/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	0.73	<0.50	<0.50	<0.50	<0.50	<50
	04/16/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	12/18/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	-	-	-	-	-	-	-	-
	11/23/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	-	-	0.72	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	-	-	5.6	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	-	-	3.9	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	-	-	0.91	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	-	-	1.1	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	-	-	1.3	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	-	-	1.0	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

Table 5 Continued  
 Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
Pete's Well									
(Untreated)									
	03/19/2001	-	-	3.7	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2001	-	-	5.8	<0.50	<0.50	<0.50	<0.50	<50
	09/19/2001	-	-	5.6	<0.50	<0.50	<0.50	<0.50	<50
	12/12/2001	-	-	4.4	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	3.6	<0.50	<0.50	<0.50	<0.50	<50
	04/16/2002	-	-	4.6	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	11.0	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	5.9	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	-	-	5.1	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	2.4	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	1.4	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	3.6	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	2.3	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	3.3	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	4.3	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	-	-	3.6	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	-	-	2.4	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	-	-	1.7	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	0.92	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	-	-	0.96	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	-	-	0.83	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	-	-	1.9	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	-	-	1.8	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	-	-	3.3	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	-	-	0.78	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	-	-	1.1	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	-	-	1.4	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	-	-	0.80	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	05/05/2008	-	-	1.2	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	-	-	1.7	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	-	-	1.0	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	-	-	1.4	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	-	-	0.79	<0.50	1.6	<0.50	<0.50	<50
	02/01/2010	-	-	0.92	<0.50	<0.50	<0.50	<0.50	<50
<b>Pete's Well</b>									
<b>(Treated)</b>									
	12/12/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	3.4	<0.50	<0.50	<0.50	<0.50	<50
	04/16/2002	-	-	6.8	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	1.2	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	1.9	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	2.9	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	2.4	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	2.7	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	3.4	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	-	-	1.3	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	-	-	1.8	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/09/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	-	-	0.64	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	-	-	1.5	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

Table 5 Continued  
 Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	05/07/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	-	-	0.64	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	-	-	0.67	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	-	-	0.96	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	-	-	1.4	<0.50	<0.50	<0.50	<0.50	<50
	02/02/2009	-	-	1.6	<0.50	<0.50	<0.50	<0.50	<50
	05/04/2009	-	-	1.3	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	-	-	0.84	<0.50	<0.50	<0.50	<0.50	<50
<b>Shopping Center Well</b>									
	03/19/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/19/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/12/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	-	-	-	-	-	-
	12/18/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	0.63	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/20/2004	-	-	<0.50	<0.50	5.7	<0.50	<0.50	<50
	11/23/2004	-	-	<0.50	<0.50	0.98	<0.50	<0.50	<50
	02/08/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
**by EPA Test Methods 8015 and 8020**

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	08/09/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/05/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/07/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/09/2006	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/09/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/07/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/06/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/05/2007	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/04/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/05/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/04/2008	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/03/2008	-	-	<0.50	<0.50	32	<0.50	9.7	170
	02/02/2009	-	-	<0.50	<0.50	5.1	<0.50	<0.50	<50
	05/04/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/02/2009	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/01/2010	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>Hondo's Restaurant Well</b>	12/12/2001	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/27/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2002	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2002	-	-	0.63	<0.50	<0.50	<0.50	<0.50	<50
	12/18/2002	-	-	0.77	<0.50	<0.50	<0.50	<0.50	<50
	03/12/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/19/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/25/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/22/2003	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/18/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50

ASR Engineering, Inc.

**Table 5 Continued**  
**Groundwater Level Measurement Data and Summary of Groundwater Chemical Analyses Data**  
 by EPA Test Methods 8015 and 8020

WELL ID TOC (ft.)	DATE	DTW (ft.)	GWE (msl)	MTBE (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-G (ppb)
	09/20/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/23/2004	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/08/2005	-	-	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/10/2005	-	-	-	-	-	-	-	-
	08/09/2005	-	-	-	-	-	-	-	-
	12/05/2005	-	-	-	-	-	-	-	-
	02/07/2006	-	-	-	-	-	-	-	-
	05/09/2006	-	-	-	-	-	-	-	-
	08/07/2006	-	-	-	-	-	-	-	-
	11/09/2006	-	-	-	-	-	-	-	-
	02/09/2007	-	-	-	-	-	-	-	-
	05/07/2007	-	-	-	-	-	-	-	-
	08/06/2007	-	-	-	-	-	-	-	-
	11/05/2007	-	-	-	-	-	-	-	-
	02/04/2008	-	-	-	-	-	-	-	-
	05/05/2008	-	-	-	-	-	-	-	-
	08/04/2008	-	-	-	-	-	-	-	-
	11/03/2008	-	-	-	-	-	-	-	-
	02/02/2009	-	-	-	-	-	-	-	-
	05/04/2009	-	-	-	-	-	-	-	-
	11/02/2009	-	-	-	-	-	-	-	-
	02/01/2010	-	-	-	-	-	-	-	-

**Explanations:**

\* Elevation of the top of Well Casing was surveyed by Smith & Co. Surveying Services, Inc. with respect to the mean sea level (MSL).

\*\* Elevation of the top of Well Casing was obtained from Deep Zone Remedial Investigation Report, Dated 7/30/03 by BAS.

\*\*\* Gasoline value due to MTBE.

TOC = Top of well casing      B = Benzene      TPH-G = Total Petroleum Hydrocarbons as Gasoline  
 DTW = Depth to water      T = Toluene  
 GWE = Groundwater elevation      E = Ethylbenzene      < = below the detection limit  
 MTBE = Methyl tert-butyl ether      X = Total xylenes      - = Not sampled/analyzed  
 ft = feet      msl = mean sea level      ppb = parts per billion



**Table 6**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
MW-1	03/19/2001	190	<5.0	<5.0	<5.0	<200	330	88	460
	06/19/2001	3.2	<5.0	<5.0	<5.0	<2,000	3.9	1.2	600
	09/19/2001	160	<5.0	<5.0	<5.0	<2,000	<5.0	120	60
	12/12/2001	140	<5.0	<5.0	<5.0	<2,000	<5.0	<5.0	60
	03/27/2002	160	<5.0	<5.0	<5.0	<5.0	<5.0	150	-
	06/19/2002	130	<5.0	<5.0	<5.0	<2,000	<5.0	99	160
	10/01/2002	130	<10	<10	<10	<400	11	96	330
	12/18/2002	120	<10	<10	<10	<400	20	120	140
	03/12/2003	150	<5.0	<5.0	<5.0	<2,000	<5.0	97	120
	06/19/2003	81	<5.0	<5.0	<5.0	<2,000	<5.0	94	94
	09/25/2003	85	<25	<25	<25	<1,000	<25	99	70
	12/22/2003	52	<25	<25	<25	<1,000	<25	130	37
	03/18/2004	400	<25	<25	<25	<1,000	<25	45	130
	06/18/2004	150	<5.0	<5.0	<5.0	<2,000	<5.0	80	26
	09/20/2004	150	<5.0	<5.0	<5.0	<2,000	<5.0	<5.0	48
	11/23/2004	130	<5.0	<5.0	<5.0	<200	10	80	64
	02/08/2005	260	<5.0	<5.0	<5.0	<200	13	83	69
	05/10/2005	9.5	<1.0	<1.0	<1.0	<40	<1.0	<1.0	22
	08/09/2005	3.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	21
	12/05/2005	56	<5.0	<5.0	<5.0	<200	<5.0	9.4	53
02/07/2006	140	<0.50	<0.50	0.89	61	6.3	28	39	
05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0	
08/07/2006	<5.0	<5.0	<5.0	<5.0	<200	<5.0	<5.0	5.1	
11/09/2006	30	<5.0	<5.0	<5.0	<200	<5.0	15	190	
02/09/2007	21	<0.50	<0.50	0.95	18	0.76	8.6	240	
05/07/2007	53	<10**	<10**	<10**	<400**	<10**	<10**	99	
08/06/2007	62	<10**	<10**	<10**	<400**	<10**	<10**	110	
11/05/2007	31	<5.0	<5.0	<5.0	<200	<5.0	<5.0	96	
02/04/2008	7.5	<1.0	<1.0	<1.0	<10	<1.0	<1.0	60	
05/05/2008	11	<1.0	<1.0	<1.2	58	2.9	20	20	

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	08/04/2008	6.6	<5.0**	<5.0**	<5.0**	<200**	<5.0**	21	110
	11/03/2008	5.8	<5.0	<5.0	<5.0	<200	<5.0	6	84
	02/02/2009	0.86	<0.50	<0.50	<0.50	<20	<0.50	2.4	7.6
	05/04/2009	11	<10**	<10**	<10**	<400**	<10**	<10**	-
	11/02/2009	<10**	<10**	<10**	<10**	<400**	<10**	32	-
	02/01/2010	<12.5**	<12.5**	<12.5**	<12.5**	<500**	<12.5**	17	-
<b>MW-2</b>	03/19/2001	400	<0.50	<0.50	<0.50	<20	<0.50	<0.50	700
	06/19/2001	800	<0.50	<0.50	3.7	220	2.1	<0.50	330
	09/19/2001	280	<0.50	<0.50	1.3	<20	0.52	<0.50	410
	12/12/2001	690	<1.0	<1.0	2.6	77	1.9	<1.0	<50
	03/27/2002	1,200	<2.5	<2.5	6	<100	6.9	<2.5	60
	06/19/2002	860	<2.5	<2.5	4.2	<100	7.7	<2.5	130
	10/01/2002	830	<0.50	<0.50	2	<20	2.9	<0.50	300
	12/18/2002	730	<50	<50	<50	<2,000	<50	<50	180
	03/12/2003	820	<2.5	<2.5	4	<100	7.8	<2.5	160
	06/19/2003	890	<1.0	<1.0	2.7	<40	8.3	<1.0	<50
	09/25/2003	680	<1.0	<1.0	1.4	<40	5.3	<1.0	5.4
	12/22/2003	690	<2.5	<2.5	2.5	<100	3.5	<2.5	<5.0
	03/18/2004	760	<1.0	<1.0	1.1	<40	4.5	<1.0	<5.0
	06/18/2004	230	<10.0	<10.0	<10.0	<400	<10.0	<10.0	<5.0
	09/20/2004	75	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	74	<1.0	<1.0	<1.0	<40	<1.0	<1.0	<5.0
	02/08/2005	250	<0.50	<0.50	0.87	<20	1.1	<0.50	<5.0
	05/10/2005	660	<1.0	<1.0	2.5	<40	5	<1.0	<5.0
	08/09/2005	87	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	25	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	110	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/09/2006	61	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	15	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	11/09/2006	12	<0.50	<0.50	<0.50	<20	<0.50	<50	<5.0
	02/09/2007	27	<0.50	<0.50	<0.50	<20	<0.50	<0.50	5.3
	05/07/2007	4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	13
	08/06/2007	3.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	2.1
	11/05/2007	4.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	2.0
	02/04/2008	5.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	7.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	2.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/03/2008	2.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/02/2009	36	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	05/04/2009	53	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/02/2009	48	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	45	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
<b>MW-3</b>									
	02/07/2001	230	<0.50	<0.50	<0.50	<20	<0.50	<0.50	260
	06/19/2001	15	<10	<10	<10	<400	1.4	<0.50	200
	09/19/2001	440	<10	<10	<10	<400	<10	<10	140
	12/12/2001	330	<5.0	<5.0	15	<200	<5.0	<5.0	<50
	03/27/2002	48	<5.0	<5.0	1.7	26	1.1	<0.50	230
	06/19/2002	120	<5.0	<5.0	<5.0	140	7.4	<5.0	<50
	10/01/2002	21	<1.0	<1.0	<1.0	96	1.3	<1.0	160
	12/18/2002	70	<1.0	<1.0	<1.0	220	4.6	<1.0	80
	03/12/2003	210	<0.50	<0.50	1.4	<20	6.7	<0.50	230
	06/19/2003	400	<0.50	<0.50	2.9	310	6.4	<0.50	<50
	09/25/2003	270	<0.50	<0.50	<0.50	130	5	<0.50	7.2
	12/22/2003	330	<5.0	<5.0	<5.0	260	<5.0	<5.0	6.8
	03/18/2004	440	<1.0	<1.0	2.6	280	6.5	<1.0	<5.0
	06/18/2004	130	<10.0	<10.0	<10.0	<400	<10.0	<10.0	10
	09/20/2004	330	<10.0	<10.0	12	<400	<10.0	<10.0	17
	11/23/2004	190	<10.0	<10.0	<10.0	<400	<10.0	<10.0	26

ASR Engineering, Inc.

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	02/08/2005	180	<0.50	<0.50	1.3	110	3.1	<0.50	<5.0
	05/10/2005	470	<1.0	<1.0	3.7	240	3.4	<1.0	<5.0
	08/09/2005	330	<0.50	<0.50	8.4	62	<0.50	<0.50	98
	12/05/2005	320	<5.0	<5.0	9.7	<200	<5.0	<5.0	17
	02/07/2006	230	<0.50	<0.50	6.1	64	1.1	<0.50	92
	05/09/2006	530	<0.50	<0.50	7.4	190	<0.50	<0.50	7.6
	08/07/2006	250	<5.0	<5.0	7.3	<200	<5.0	<5.0	<52
	11/09/2006	120	<5.0	<5.0	<5.0	<200	<5.0	<5.0	86
	02/09/2007	70	<0.50	<0.50	1.9	64	<0.50	<0.50	120
	05/07/2007	120	<5.0**	<5.0**	<5.0**	<200**	<5.0**	<5.0**	57
	08/06/2007	170	<5.0**	<5.0**	8.5	<200**	<5.0**	<5.0**	65
	11/05/2007	220	<5.0**	<5.0**	7.9	<200**	<5.0**	<5.0**	44
	02/04/2008	50	<1.0	<1.0	1.8	72	<1.0	<1.0	18
	05/05/2008	69	<1.0	<1.0	3.1	61	<1.0	<1.0	28
	08/04/2008	78	<0.50	<0.50	2.6	46	<0.50	<0.50	18
	11/03/2008	17	<0.50	<0.50	0.74	21	<0.50	<0.50	38
	02/02/2009	55	<0.50	<0.50	2.9	22	<0.50	<0.50	6.6
	05/04/2009	120	<0.50	<0.50	1.6	79	0.57	<0.50	-
	11/02/2009	310	<0.50	<0.50	2.0	160	1.8	<0.50	-
	02/01/2010	410	<0.50	<0.50	1.9	240	1.1	<0.50	-
<b>MW-4</b>									
	02/07/2001	150	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5,000
	06/19/2001	210	<0.50	<0.50	0.84	78	4.3	<0.50	<50
	09/19/2001	180	<0.50	<0.50	0.86	43	3.2	<0.50	<50
	12/12/2001	160	<0.50	<0.50	0.67	39	2.4	<0.50	<50
	03/27/2002	350	<0.50	<0.50	1.5	31	2.8	<0.50	-
	06/19/2002	190	<5.0	<5.0	<5.0	<200	<5.0	<5.0	320
	10/01/2002	100	<0.50	<0.50	0.58	<20	0.84	<0.50	500
	12/18/2002	120	<2.50	<2.50	<2.50	<100	<2.50	<2.50	120
	03/12/2003	65	<0.50	<0.50	<0.50	<20	0.58	<0.50	70

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	06/19/2003	50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	97
	09/25/2003	36	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/22/2003	43	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	39	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	17	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	7.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	38	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	13	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	21	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	12	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	6.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	13	<0.50	<0.50	<0.50	<20	<0.50	<0.50	6
	05/09/2006	15	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	7.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	2.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	5.2
	02/09/2007	2.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	1.1
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	2.8
	08/06/2007	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	1.7
	11/05/2007	2.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/04/2008	0.66	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	7.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/03/2008	0.55	<0.50	<0.50	<0.50	110	<0.50	<0.50	<5.0
	02/02/2009	0.68	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	0.69	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
MW-5	02/07/2001	36	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2001	140	<0.50	<0.50	<0.50	40	<0.50	<0.50	<50
	09/19/2001	130	<0.50	<0.50	0.63	22	0.68	<0.50	<50
	12/12/2001	170	<0.50	<0.50	0.54	25	<0.50	<0.50	<50
	03/27/2002	97	<0.50	<0.50	<0.50	<20	<0.50	<0.50	620
	06/19/2002	120	<0.50	<0.50	<0.50	<20	<0.50	<0.50	550
	10/01/2002	59	<1.0	<1.0	<1.0	<40	<1.0	<1.0	1,100
	12/18/2002	1.2	<1.0	<1.0	<1.0	<40	<1.0	<1.0	<50
	03/12/2003	13	<0.50	<0.50	<0.50	<20	<0.50	<0.50	400
	06/19/2003	15	<0.50	<0.50	<0.50	<20	<0.50	<0.50	140
	09/25/2003	34	<0.50	<0.50	<0.50	<20	<0.50	<0.50	26
	12/22/2003	7.7	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	43	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	9.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	27	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	25	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	6.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	19
	05/10/2005	3.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	22
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<43
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	0.86	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<100**
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	11
	08/07/2006	-	-	-	-	-	-	-	43
	11/09/2006	-	-	-	-	-	-	-	-
	02/09/2007	-	-	-	-	-	-	-	-
	05/07/2007	-	-	-	-	-	-	-	-
	08/06/2007	-	-	-	-	-	-	-	-
	11/05/2007	-	-	-	-	-	-	-	-
02/04/2008	-	-	-	-	-	-	-	-	
05/05/2008	9.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0	

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	08/04/2008	4.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	15
	11/03/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	14
	02/02/2009	8.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	4.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	9.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	5.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>MW-6</b>									
	03/27/2002	4.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<50
	06/19/2002	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	50
	10/01/2002	8.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	540
	12/18/2002	8.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<50
	03/12/2003	2.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	150
	06/19/2003	4.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	82
	09/25/2003	14	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/22/2003	11	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	3.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	7.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	19	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	7.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	3.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	0.84	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	0.77	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	0.68	<0.50	<0.50	<0.50	<20	<0.50	<0.50	10
	05/09/2006	0.91	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	0.62	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/09/2007	8.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	5.4
	05/07/2007	15	<0.50	<0.50	<0.50	<20	<0.50	<0.50	6.3
	08/06/2007	8.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	8.2
			<0.50	<0.50	<0.50	<20	<0.50	<0.50	22
			<0.50	<0.50	<0.50	<20	<0.50	<0.50	7.8

ASR Engineering, Inc.

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
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WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	11/05/2007	8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	2.3
	02/04/2008	0.64	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	7.5	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	08/04/2008	6.1	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	7.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	5.8
	02/02/2009	9.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	9.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	15	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	9.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>MW-7</b>									
	03/27/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	820
	06/19/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	840
	10/01/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	1,900
	12/18/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	190
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	190
	06/19/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	100
	09/25/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	13
	12/22/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	89
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	8.4
									<5.0



**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
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WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	02/09/2007	<0.50	<0.50	<0.50	<0.50	<20	60	<0.50	14
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	79
	08/06/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	10
	11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	<0.50	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	0.55	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
<b>DW-1</b>									
	05/07/2003	1.36	<0.50	<0.50	<0.50	<20	<0.50	<0.50	5.6
	09/25/2003	1.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/22/2003	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	2.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	7.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	0.68	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	1.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/09/2007	0.53	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.58

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Table 6 Continued  
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WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	08/06/2007	0.59	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.65
	11/05/2007	0.74	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.66
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	<0.50	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	0.56	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
<b>DW-2</b>									
	05/07/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/25/2003	1.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/22/2003	0.73	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	0.84	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	0.67	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	0.87	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	0.67	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	0.94	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	0.65	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	0.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/09/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.54
	08/06/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.8
	11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	<0.50	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	0.56	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>DW-3</b>									
	05/07/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/25/2003	0.66	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/22/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	03/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	06/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	11/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/09/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/06/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.62
	11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	0.73
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	08/04/2008	<0.50	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	11/03/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	02/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<5.0
	05/04/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
<b>On-Site Well (Untreated)</b>	03/19/2001	0.97	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/19/2001	—	—	—	—	—	—	—	—
	09/19/2001	12	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/12/2001	0.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/27/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	04/16/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/19/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	10/01/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/18/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/19/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	09/25/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/22/2003	1.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/18/2004	1.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/18/2004	0.53	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	11/09/2006	0.56	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/09/2007	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/07/2007	5.7	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/06/2007	4.9	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/05/2007	8.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/04/2008	6.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/05/2008	3.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/04/2008	2.3	<0.50	<0.50	<0.50	26	<0.50	<0.50	-
	11/03/2008	3.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/02/2009	2.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/04/2009	0.55	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>On-Site Well (Treated)</b>									
	12/12/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/27/2002	1.3 *	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	04/16/2002	<0.50 *	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	10/01/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/18/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/25/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/22/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/20/2004	-	-	-	-	-	-	-	-
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-

ASR Engineering, Inc.

Table 6 Continued  
 Summary of Groundwater Chemical Analyses  
 by EPA Test Method 8260

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/09/2006	0.54	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/09/2007	1.0	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/07/2007	6.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/06/2007	4.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/05/2008	<0.50	<0.50	<0.50	<20	<0.50	<0.50	<0.50	<5.0
	08/04/2008	1.0	<0.50	<0.50	<0.50	26	<0.50	<0.50	-
	11/03/2008	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/02/2009	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/04/2009	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>Pete's Well</b>									
<b>(Untreated)</b>									
	03/19/2001	4.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2001	6.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/19/2001	4.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/12/2001	3.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/27/2002	4.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	04/16/2002	3.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2002	6.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	10/01/2002	4.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/18/2002	4.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/12/2003	2.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2003	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	09/25/2003	2.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/22/2003	2.7	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/18/2004	3.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/18/2004	2.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/20/2004	3.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/23/2004	2.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/08/2005	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/10/2005	1.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/09/2005	1.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/05/2005	0.73	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/07/2006	0.99	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/09/2006	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/07/2006	1.7	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/09/2006	2.4	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/09/2007	0.64	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/07/2007	1.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/06/2007	0.92	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/05/2007	1.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/04/2008	0.91	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/05/2008	0.92	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/04/2008	1.7	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/02/2009	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/04/2009	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	1.7	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	0.94	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
<b>Pete's Well</b>									
<b>(Treated)</b>	12/12/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/27/2002	4.0*	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	04/16/2002	4.6*	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-

Job No. 17-99063, September 13, 2010

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
	06/19/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	10/01/2002	1.0	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/18/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2003	1.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/25/2003	2.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/22/2003	2.8	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/18/2004	3.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/18/2004	2.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/20/2004	1.2	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/08/2005	1.3	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/05/2005	0.57	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/07/2006	0.72	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/09/2006	0.89	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/09/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/06/2007	0.95	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/04/2008	0.99	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	1.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/02/2009	1.5	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/04/2009	1.1	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/01/2010	0.65	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-



**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/ Dissolved Lead (ppb)
Shopping Center Well	03/19/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/19/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/12/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/27/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	10/01/2002	-	-	-	-	-	-	-	-
	12/18/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/19/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/25/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/22/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	03/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	06/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	05/10/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	08/09/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
	12/05/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-
02/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
05/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
08/07/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
11/09/2006	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
02/09/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
05/07/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
08/06/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
11/05/2007	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
02/04/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	
05/05/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	-	

ASR Engineering, Inc.

**Table 6 Continued**  
**Summary of Groundwater Chemical Analyses**  
**by EPA Test Method 8260**

WELL ID	DATE	MTBE (ppb)	DIPE (ppb)	ETBE (ppb)	TAME (ppb)	TBA (ppb)	1,2-DCA (ppb)	EDB (ppb)	Total/Dissolved Lead (ppb)
	08/04/2008	<0.50	<0.50	<0.50	<0.50	26	<0.50	<0.50	<5.0
	11/03/2008	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	05/04/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/02/2009	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/01/2010	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
<b>Hondos' Restaurant Well</b>									
	12/12/2001	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/27/2002	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/19/2002	0.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	10/01/2002	0.6	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/18/2002	0.53	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/12/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/19/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	09/25/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	12/22/2003	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	03/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	06/18/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	09/20/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	11/23/2004	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—
	02/08/2005	<0.50	<0.50	<0.50	<0.50	<20	<0.50	<0.50	—

**Explanations:**

\* Subsequent to the detection of MTBE, the treated water was re-sampled. Subsequently, the Central Valley Culligan was requested to back-flush the treatment unit.

\*\* Report Limit raised due to matrix interference

MTBE = Methyl tert-butyl ether

DIPE = Di-isopropyl Ether

ETBE = Ethyl tert-Butyl Ether

TAME = tert-Amyl Methyl Ether

TBA = tert-Butanol

1,2-DCA = 1,2-Dichloroethane

EDB = Ethylene Dibromide

ppb = Parts per billion

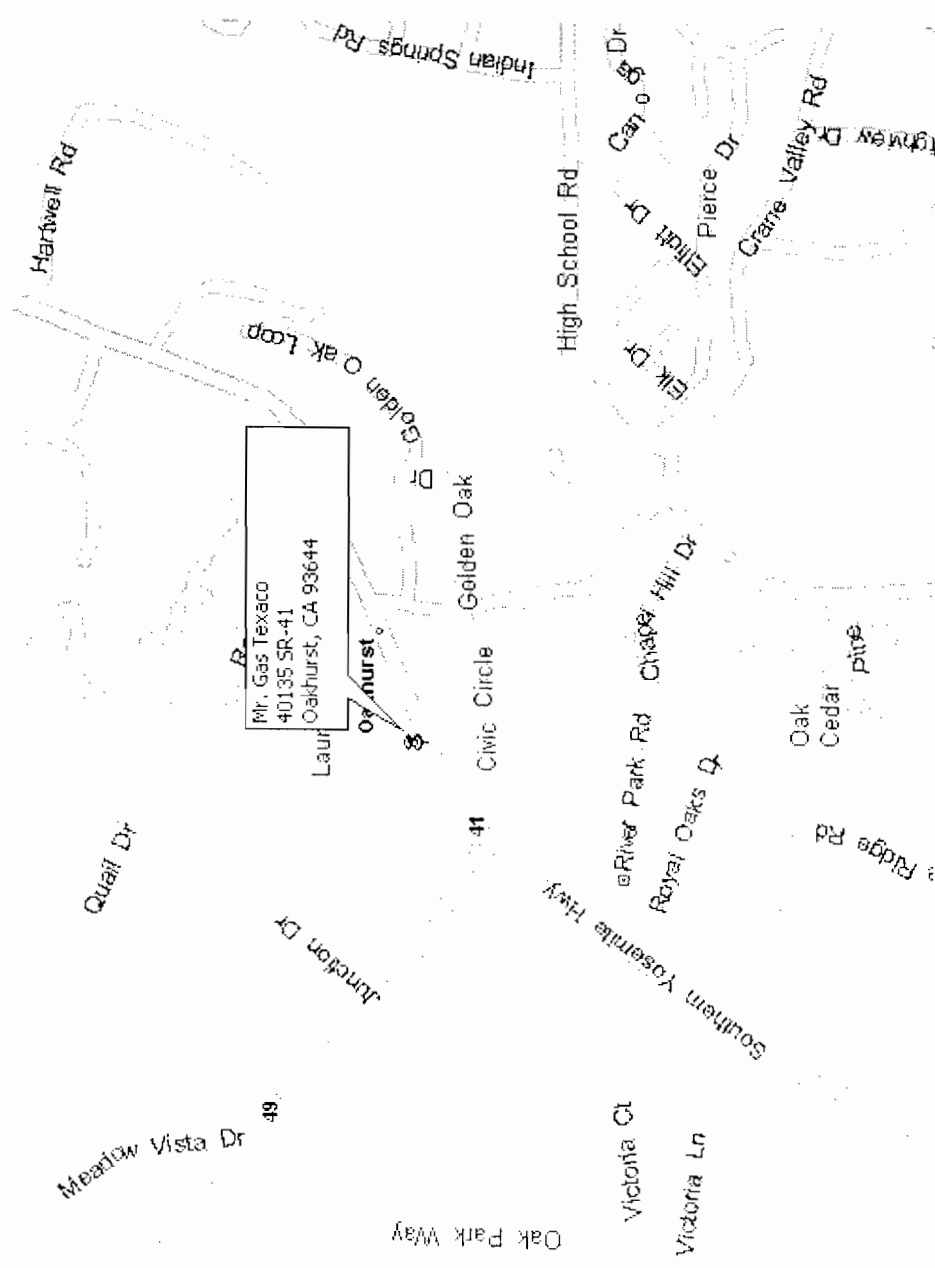
< = below the detection limit

— = not sampled/analyzed



## **FIGURES**

Job No. 17-99063  
 September 2010  
 Figure 1



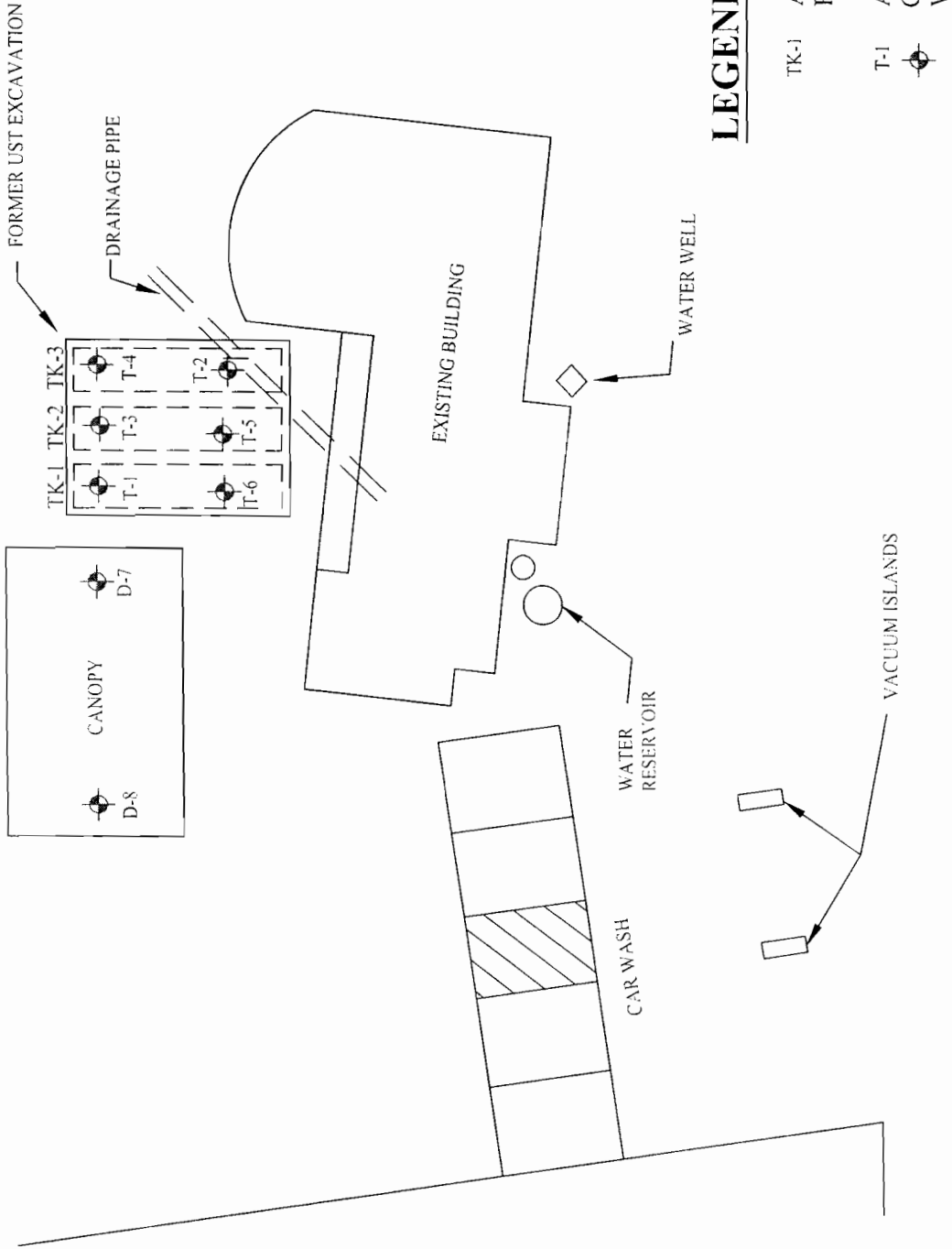
Vicinity Map

Mr. Gas Texaco  
 40135 Highway 41  
 Oakhurst, California



ASR Engineering, Inc.  
 3629 W Gettysburg Ave, Fresno, CA 93722

HIGHWAY 41

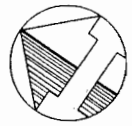


**LEGEND**

- TK-1 APPROXIMATE LOCATION OF FORMER TANK NO. 1
- T-1 APPROXIMATE LOCATION OF CONFIRMATION SOIL SAMPLE NO. 1 WITHIN THE UST AREA
- D-7 APPROXIMATE LOCATION OF CONFIRMATION SOIL SAMPLE WITHIN THE DISPENSER AREA

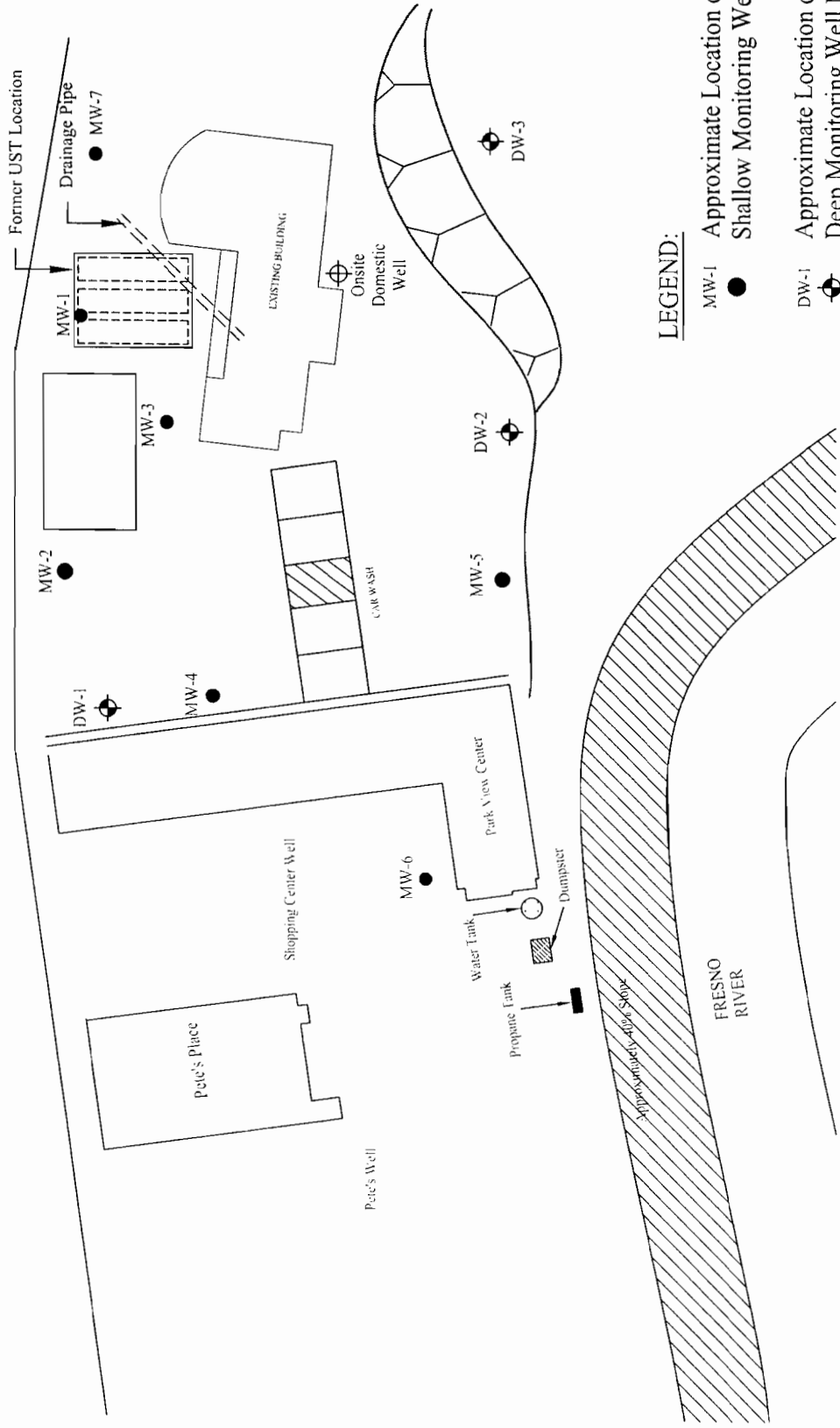
**CONFIRMATION SOIL SAMPLING LOCATION PLAN**

MR. GAS TEXACO  
 40135 HIGHWAY 41  
 OAKHURST, CALIFORNIA



SCALE: 1" = 30' (±)

STATE HIGHWAY 41



**LEGEND:**

- MW-1 ● Approximate Location of Shallow Monitoring Well MW-1
- DW-1 ⊕ Approximate Location of Deep Monitoring Well MW-1

**MONITORING WELL LOCATION PLAN**

MR. GAS TEXACO  
 40135 HIGHWAY 41  
 OAKHURST, CA



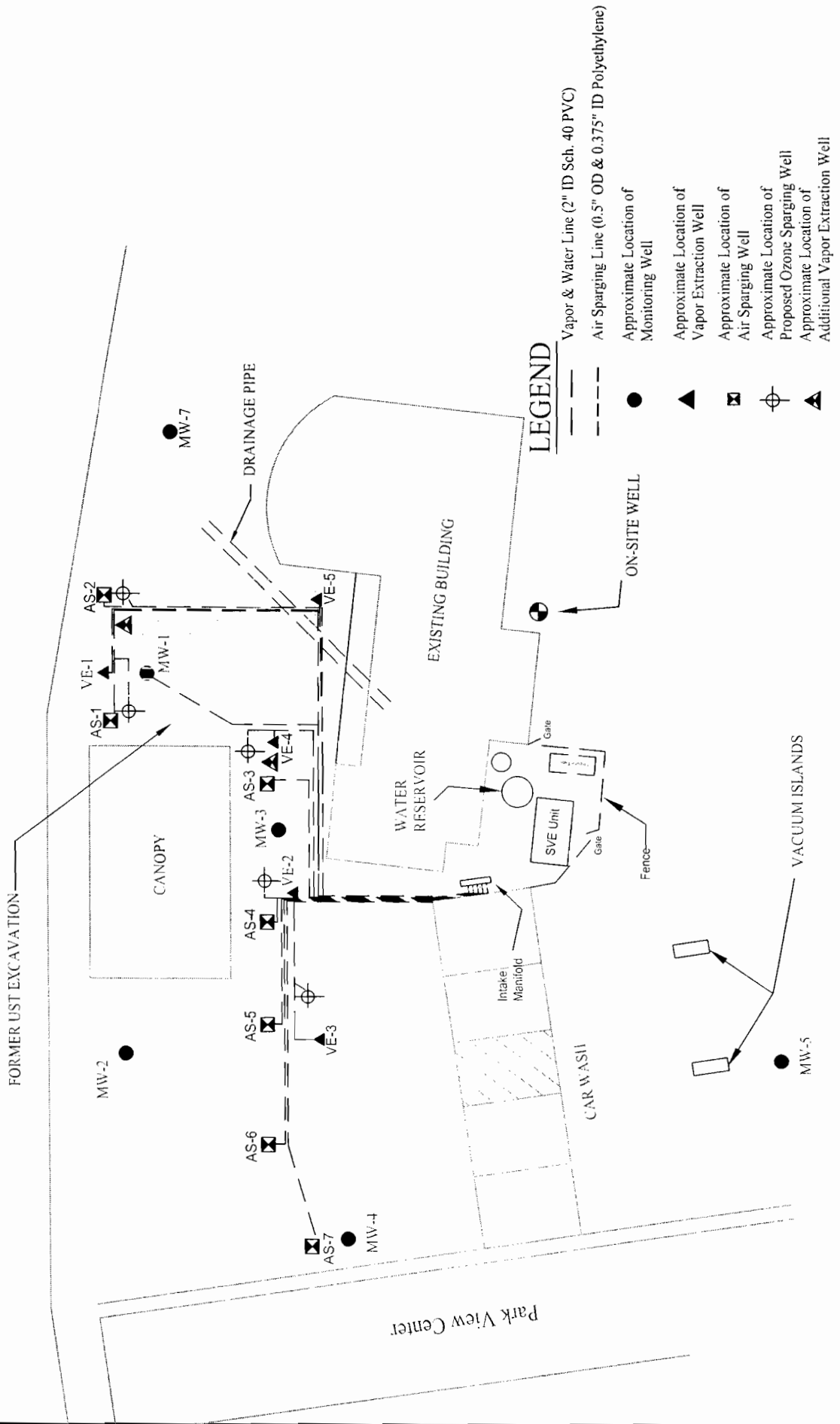
Scale: 1" = 50'

**ASR Engineering, Inc.**

GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION TESTING  
 3629 W Gettysburg Ave, Fresno, CA 93722

STATE HIGHWAY 41

FORMER UST EXCAVATION

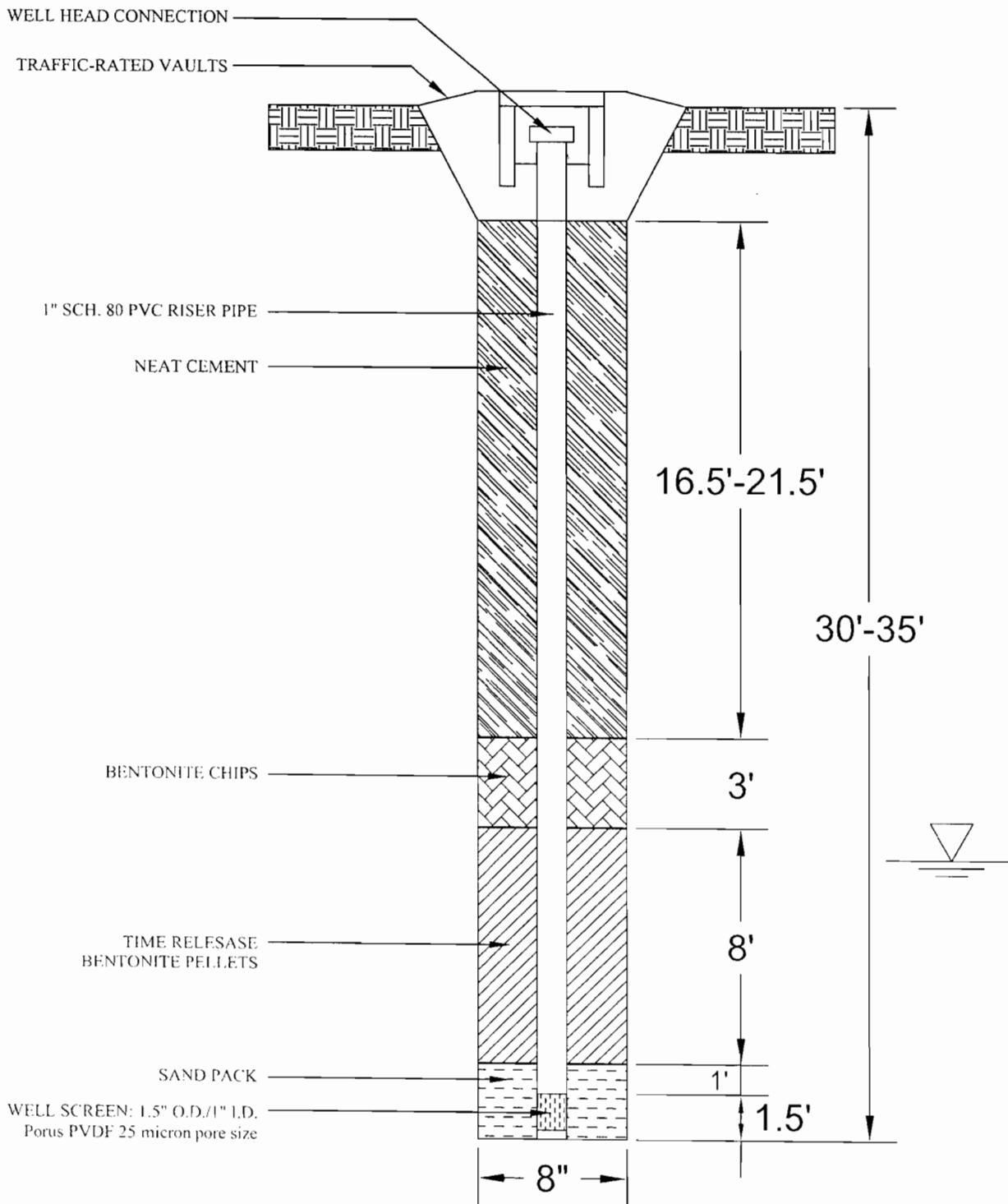


**PROPOSED OS AND VE WELL LOCATION PLAN**  
 MR. GAS TEXACO  
 40135 HIGHWAY 41  
 OAKHURST, CALIFORNIA



SCALE: 1" = 30' (±)

GEOTECHNICAL • ENVIRONMENTAL • CONSTRUCTION TESTING  
 3629 W. Gettysburg Ave., Fresno, California 93722



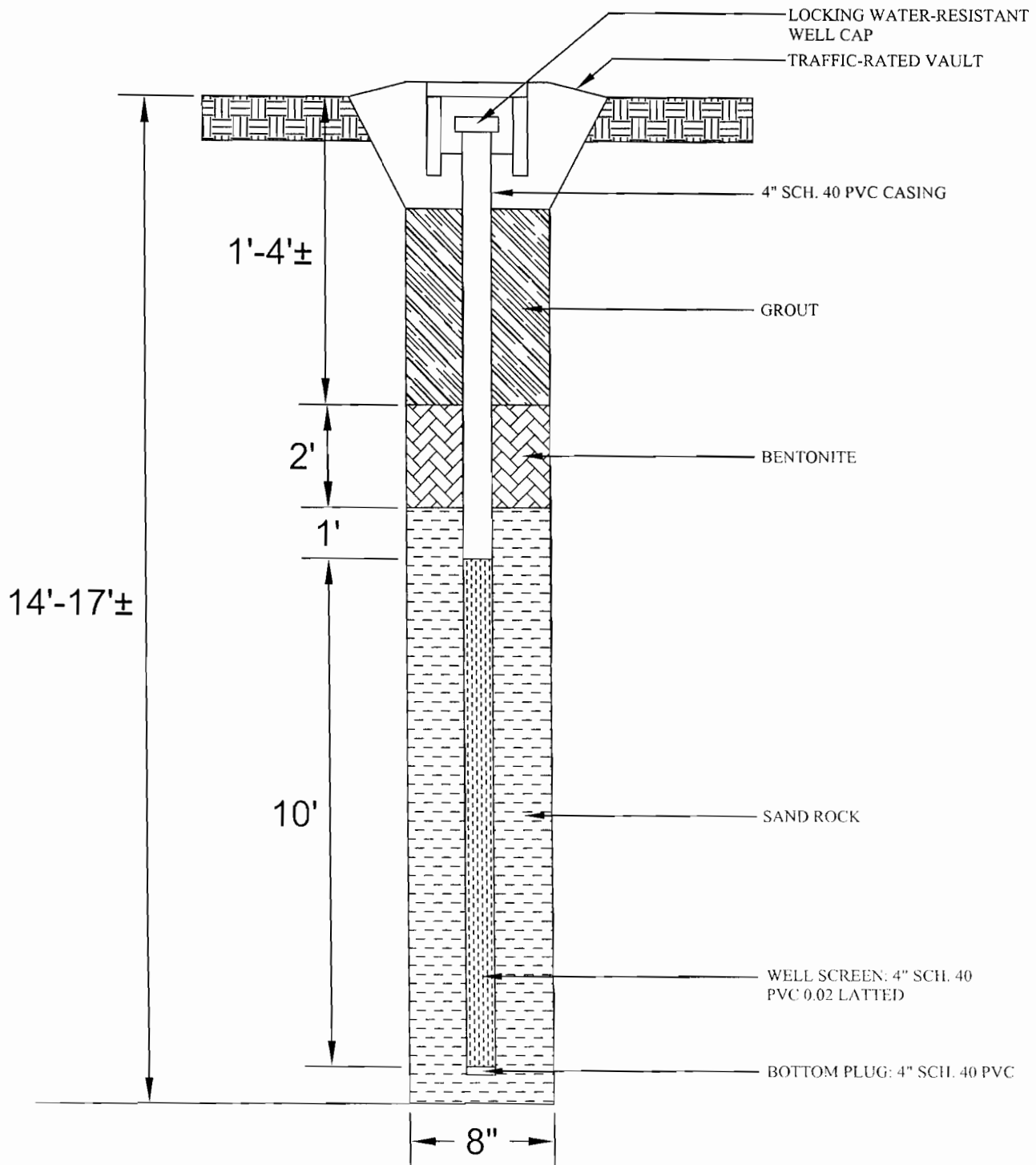
**ASR Engineering, Inc.**

GEOTECHNICAL • ENGINEERING • CONSTRUCTION TESTING  
 883629 W GETTYSBURG AVE. FRESNO, CALIFORNIA 93722

NOT  
 TO  
 SCALE

TYPICAL OZONE SPARGING WELL  
 CONSTRUCTION DETAILS  
 MR. GAS TEXACO  
 40135 HIGHWAY 41  
 OAKHURST, CALIFORNIA





**ASR Engineering, Inc.**

GEOTECHNICAL • ENGINEERING • CONSTRUCTION TESTING  
3629 W GETTYSBURG AVE. FRESNO, CALIFORNIA 93722

NOT  
TO  
SCALE

TYPICAL SOIL VAPOR EXTRACTION WELL  
CONSTRUCTION DETAILS  
MR. GAS TEXACO  
40135 HIGHWAY 41  
OAKHURST, CALIFORNIA



**APPENDIX "A"**

**Table A**  
**Construction Details of**  
**SVE Wells (VE-1 through VE-5) and AS Wells (AS-1 through AS-7)**

Well No.	Installation Date	Boring Depth (ft.)	Well Depth (ft.)	Screen Depth Interval (ft.)	Sand Depth (ft.)	Seal Depth (ft.)
VE-1	01/21/2002	20	19	9 – 19	7	5
VE-2	01/21/2002	20	18.5	8.5 – 18.5	6.5	4.5
VE-3	07/01/2003	20	17.5	7.5 – 17.5	5.5	2.5
VE-4	07/01/2003	20	18.5	8.5 – 18.5	6.5	3.5
VE-5	07/03/2003	20	18.5	8.5 – 18.5	7.5	5.5
AS-1	07/03/2003	40	40	38 – 40	36	19
AS-2	07/07/2003	40	40	37 – 39	36	21
AS-3	07/08/2003	28	27.5	25.5 – 27.5	24.5	19
AS-4	07/08/2003	30	29.5	27.5 – 29.5	26	19
AS-5	07/02/2003	45	41	39 – 41	37	18
AS-6	07/01/2003	40	39.5	37.5 – 39.5	36	18
AS-7	07/08/2003	30	29	27 – 29	25	20

**Table B**  
**Summary of Vapor Chemical Analyses Data**

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
VE-1 Influent	03/30/2006	<0.50	2.2	0.96	0.55	1.1	770
	07/27/2006	<2.5	8.2	2.7	<2.5	3.9	2,900
	08/17/2006	<25	59	270	<25	210	26,000
	09/13/2006	220	21	14	6.3	72	9,800
	10/18/2006	<13	42	<13	<13	26	11,000
	01/16/2007	<0.50	1.1	<0.50	<0.50	2.7	320
	02/26/2007	<1.0	2.5	2.7	1.0	18	1,500
	03/24/2007	<0.50	<0.50	<0.50	<0.50	0.83	200
	04/26/2007	<1.0	3.0	2.3	<1.0	6.0	1,300
	05/24/2007	<1.0	3.2	2.8	<1.0	6.0	1,800
	06/21/2007	<2.5	10	6.5	<2.5	15	2,600
	07/26/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/29/2007	<5.0	18	11	<5.0	5.5	6,700
	09/07/2007	—	—	—	—	—	—
	10/23/2007	<0.50	1.0	<0.50	<0.50	1.2	240
	11/19/2007	<1.0	6.8	2.9	1.1	11	1,700
	12/19/2007	<1.0	5.6	3.1	<1.0	6.9	1,100
	01/30/2008	<1.0	4.3	2.6	<1.0	3.3	980
	02/13/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	04/22/2008	<0.50	<0.50	<0.50	<0.50	<0.50	81
	05/21/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/17/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	07/30/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/28/2008	—	—	—	—	—	—
	10/29/2008	<0.50	0.74	<0.50	<0.50	<0.50	240
	11/19/2008	<0.50	<0.50	2.6	0.94	11	190
	12/17/2008	<0.50	<0.50	<0.50	<0.50	1.4	<50
01/21/2009	<1.0	<1.0	2.3	5.5	64	900	
07/22/2009	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
10/01/2009	<0.50	<0.50	0.98	<0.50	0.88	<50	
10/14/2009	<0.50	6.9	22	1.4	24	200	
10/22/2009	—	—	—	—	—	—	

**Table B Continued**  
**Summary of Vapor Chemical Analyses Data**

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
<b>VE-1 Influent</b>	11/18/2009	<0.50	2.3	7.0	<0.50	4.9	<50
	01/28/2010	<0.50	1.3	0.79	<0.50	3.2	450
	02/17/2010	<2.5	5.6	6.3	<2.5	4.6	1,600
	03/30/2010	<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>VE-2 Influent</b>	03/30/2006	<10	46	13	38	53	12,000
	07/27/2006	<0.50	0.51	0.62	<0.50	4.1	250
<b>VE-3 Influent</b>	10/29/2008	—	—	—	—	—	—
		<0.50	<0.50	<0.50	<0.50	<0.50	<50
<b>VE-4 Influent</b>	03/30/2006	<0.50	1.9	1.8	3.9	7.4	820
	07/27/2006	<25	92	<25	<25	<25	23,000
	08/17/2006	<25	97	44	<25	45	31,000
	09/13/2006	190	21	13	4.7	40	7,900
	10/18/2006	<5.0	25	16	<5.0	67	7,100
	01/16/2007	<0.50	0.68	0.81	<0.50	3.2	210
	02/26/2007	<5.0	33	85	7.1	290	8,000
	03/24/2007	<5.0	32	73	8.8	150	7,400
	04/26/2007	<5.0	33	82	7.7	120	7,100
	05/24/2007	<5.0	32	89	6.2	98	6,900
	06/21/2007	<5.0	40	100	6.0	120	6,700
	07/26/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/29/2007	<10	31	49	<10	46	8,300
	09/07/2007	—	—	—	—	—	—
10/23/2007	<10	37	78	<10	120	6,000	
11/19/2007	<10	28	92	<10	150	5,900	
12/19/2007	<10	33	88	<10	110	5,900	
01/30/2008	<5.0	19	23	<5.0	73	3,700	
02/13/2008	<2.5	<2.5	6.1	<2.5	35	2,100	
04/22/2008	<12.5	<12.5	<12.5	<12.5	<12.5	1,000	
05/21/2008	<0.50	1.2	1.0	<0.50	2.9	430	

**Table B Continued**  
**Summary of Vapor Chemical Analyses Data**

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
<b>VE-4 Influent</b>	06/17/2008	<0.50	<0.50	<0.50	<0.50	0.56	330
	07/30/2008	<0.50	1.6	1.3	<0.50	3.9	540
	08/28/2008	<0.50	1.9	1.2	<0.50	5.6	690
	10/29/2008	<0.50	<0.50	<0.50	<0.50	0.82	<50
<b>VE-5 Influent</b>	03/30/2006	<0.50	<0.50	<0.50	<0.50	1.2	60
<b>MW-1 Influent</b>	03/30/2006	<0.50	0.91	1.9	0.95	4.2	130
	07/30/2008	—	—	—	—	—	—
	08/28/2008	<0.50	3.4	10	<0.50	33	810
	10/29/2008	<2.5	6.2	3.3	<2.5	2.8	2,000
	11/19/2008	<0.50	0.56	5.0	2.3	24	320
	12/17/2008	<0.50	<0.50	<0.50	<0.50	1.6	64
	02/02/2009	<2.5	<2.5	7.0	19	210	2,700
	07/22/2009	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	10/01/2009	<0.50	<0.50	1.0	<0.50	1.6	<50
	10/14/2009	<0.50	11	33	2.4	37	340
<b>Active Wells Influent</b>	10/22/2009	—	—	—	—	—	—
	11/18/2009	<0.50	6.0	21	1.4	21	180
	01/28/2010	<0.50	1.5	0.91	<0.50	4.2	480
	02/17/2010	<2.5	6.6	6.5	<2.5	4.6	2,000
	03/30/2010	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	04/05/2006*	<1.0	3.5	4.2	8.8	9.0	1,500
	05/02/2006*	3.5	<0.50	0.63	1.4	2.2	370
	05/31/2006*	<25	32	110	<25	99	8,000
	07/27/2006**	54	6.0	<5.0	<5.0	<5.0	2,000
	08/17/2006***	<10	49	110	<10	94	11,000
09/13/2006***	140	16	11	<10	26	5,100	
10/18/2006***	<5.0	12	8.5	<5.0	32	3,100	
01/16/2007***	<0.50	1.3	0.88	<0.50	3.6	440	
02/26/2007***	<1.0	3.8	9.0	1.2	25	1,400	

Table B Continued  
Summary of Vapor Chemical Analyses Data

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
Active Wells Influent	03/24/2007***	<1.0	5.8	11	1.5	20	1,300
	04/26/2007***	<1.0	8.7	17	1.8	25	2,100
	05/24/2007***	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/21/2007***	<5.0	14	31	<5.0	42	3,700
	07/26/2007***	<0.50†	<0.50†	0.67	<0.50†	3.6	<50†
	08/29/2007***	<0.50	0.99	0.68	<0.50	0.75	230
	09/07/2007***	<2.5	4.8	17	0.46	18	2,000
	10/23/2007***	<1.0	8.2	15	<1.0	23	1,400
	11/19/2007***	<2.5	9.9	22	<2.5	39	2,500
	12/19/2007***	<2.5	13	23	<2.5	29	2,300
	01/30/2008***	<2.5	8.3	7.8	<2.5	23	1,800
	02/13/2008***	<0.50	<0.50	1.7	<0.50	9.8	680
	04/22/2008***	<0.50	<0.50	<0.50	<0.50	1.2	370
	05/21/2008***	<0.50	<0.50	<0.50	<0.50	0.88	150
	06/17/2008***	<0.50	<0.50	<0.50	<0.50	0.63	150
	07/30/2008***	<0.50	0.54	0.71	<0.50	2.6	180
	08/28/2008‡	<0.50	1.5	2.5	<0.50	14	580
	10/29/2008‡‡	<0.50	<0.50	<0.50	<0.50	1.6	140
	11/19/2008‡	<0.50	<0.50	1.8	0.50	7.0	150
	12/17/2008‡	<0.50	<0.50	<0.50	<0.50	1.8	64
01/21/2009‡	<1.0	<1.0	1.7	3.9	36	560	
07/22/2009‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
10/01/2009‡	<0.50	0.70	2.2	<0.50	2.9	<50	
10/14/2009‡	—	—	—	—	—	—	
10/22/2009‡	<0.50	4.9	16	0.88	16	150	
11/18/2009‡	<0.50	7.2	29	2.2	29	220	
01/28/2010	<0.50	1.8	1.1	0.56	3.8	580	
02/17/2010	<2.5	6.2	6.4	<2.5	4.7	1,800	
03/30/2010	<0.50	<0.50	<0.50	<0.50	<0.50	<50	

Table B Continued  
Summary of Vapor Chemical Analyses Data

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
Active Wells Effluent	04/05/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/02/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/31/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	07/27/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/17/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/13/2006	<0.50	<0.50	<0.50	<0.50	6.0	<50
	10/18/2006	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	01/16/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/26/2007	<0.50	<0.50	<0.50	<0.50	<0.50	69
	03/24/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	04/26/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	05/24/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	06/21/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	07/26/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	08/29/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	09/07/2007	<2.5	<0.25	0.26	<0.25	1.3	32
	10/23/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/19/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	12/19/2007	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	01/30/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50
02/13/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
04/22/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
05/21/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
06/17/2008	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
07/30/2008***	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
08/28/2008‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
10/29/2008‡‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
11/19/2008‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
12/17/2008‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
01/21/2009‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
07/22/2009‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	
10/01/2009‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50	



Table B Continued  
Summary of Vapor Chemical Analyses Data

Well ID	Date	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TPH-G (µg/L)
Active Wells	10/14/2009‡	—	—	—	—	—	—
Effluent	10/22/2009‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	11/18/2009‡	<0.50	<0.50	0.78	<0.50	0.50	<50
	01/28/2010‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	02/17/2010‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50
	03/30/2010‡	<0.50	<0.50	<0.50	<0.50	<0.50	<50

TOC	=	Top of well casing	B	=	Benzene	TPH-G	=	Total Petroleum Hydrocarbons as Gasoline
DTH	=	Depth to water	T	=	Toluene	<	=	below the detection limit
GWE	=	Groundwater elevation	E	=	Ethylbenzene	—	=	Not sampled/analyzed
MTBE	=	Methyl tert-butyl ether	X	=	Total xylenes			

**Explanations:**

- ‡ Not Detected due to Inconsistent Readings
- \* Vapor Extraction Wells open during this event: VE-2 and VE-4
- \*\* Vapor Extraction Wells open during this event: VE-1, VE-2 and VE-4
- \*\*\* Vapor Extraction Wells open during this event: VE-1 and VE-4
- ‡ Vapor Extraction Wells open during this event: VE-1 and MW-1
- ‡‡ Vapor Extraction Wells open during this event: VE-1, VE-3, VE-4 and MW-1

**Table C**  
**Weekly Vapor Monitoring Data**

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
03/30/2006	135	-	-	1,435	104	-	-	-
04/13/2006	112	-	6.0	1,451	340	7	-	-
04/18/2006	97.6	-	5.0	1,461	75	27	-	-
04/25/2006	167	-	4.9	1,442	236	211	-	-
05/02/2006	131	-	5.0	1,457	52	3.7	-	-
05/23/2006	100	-	5.0	1,419	88	7	-	-
05/31/2006	-	-	4.9	1,439	291	11	-	-
06/15/2006	144	-	6.0	1,441	87	16	-	-
07/12/2006	125	-	12.0	1,445	586	6	-	-
07/18/2006	42.4	-	5.5	1,446	139	4	-	-
07/27/2006	121.5	-	10.0	1,445	59	4	-	-
08/03/2006	29.8	-	3.0	1,459	92	9	-	-
08/10/2006	53.8	-	4.0	1,433	165	2	-	-
08/17/2006	184	-	5.0	1,453	391	26	-	-
08/25/2006	182.5	-	3.0	1,456	357	24	-	-
09/08/2006	108.6	-	2.0	1,458	117	31	-	-
09/13/2006	150	-	2.0	1,444	339	39	-	-
09/22/2006	96.4	-	3.0	1,449	202	75	-	-
09/29/2006	87.2	-	4.0	1,463	131	14	-	-
<b>Unit down due to mechanical failure between October 1 and October 16, 2006</b>								
10/05/2006	-	-	-	-	-	-	-	-
10/13/2006	-	-	-	-	-	-	-	-
10/16/2006	-	-	2.5	1,443	-	-	-	-
10/18/2006	106.7	-	2.0	1,446	141	32	-	-
11/03/2006	94	-	3.0	1,425	533.6	172.5	-	-
12/08/2006	97.4	-	2.5	1,454	17	13	-	-
<b>Unit down due to mechanical failure as of December 15, 2006</b>								
12/15/2006	-	-	-	-	-	-	-	-
01/05/2007	-	-	-	-	-	-	-	-
01/11/2007	248	-	10.0	1,443	109	13.7	-	-
01/16/2007	248	-	10.5	1,453	45	14	-	-
02/04/2007	248	-	11.5	1,449	199	37	-	-

Table C Continued  
Weekly Vapor Monitoring Data

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
02/09/2007	165	-	7.0	1,453	50	5	-	-
02/15/2007	116.3	-	9.0	1,452	93	61	-	-
02/26/2007	173	-	9.0	1,444	-	-	-	-
03/09/2007	248	-	12.5	1,448	72	23	-	-
03/16/2007	80	-	10.0	1,450	25	25	-	-
03/24/2007	180	-	10.0	1,458	122	53	-	-
03/30/2007	171	-	11.5	1,460	138	-	-	-
04/05/2007	165.5	-	12.5	1,441	97	-	-	-
04/17/2007	201	-	12.6	1,453	123	0	-	-
04/26/2007	164	-	14.0	1,457	-	-	-	-
05/20/2007	248	-	11.0	1,456	109	3	-	-
05/24/2007	239	-	14.25	1,444	7	6	-	-
05/30/2007	248	-	12.5	1,461	326	10	-	-
06/08/2007	79.8	-	13	1,453	149	5	-	-
06/15/2007	99.3	-	12	1,446	71	6	-	-
06/21/2007	88.8	-	11	1,447	131	13	-	-
06/29/2007	75.9	-	10	1,459	47	6	-	-
07/03/2007	81.0	-	13	1,451	323	73	-	-
07/12/2007	88.2	-	9	1,475	58	5	-	-
07/17/2007	108	-	6	1,428	102	5	-	-
07/26/2007	89.1	-	7	1,445	133	12	-	-
08/02/2007	103.9	-	7.5	1,450	122	15	-	-
08/09/2007	-	-	7	112	-	-	-	-
08/15/2007	-	-	6	1,448	122	12	-	-
08/29/2007	-	-	3	1,453	7	4	-	-
09/07/2007	-	-	-	-	-	-	-	-
09/12/2007	-	-	4	1,450	12	5	-	-
09/21/2007	-	-	-	-	13	6	-	-
10/10/2007	125	-	5	1,468	106	2	-	-
10/17/2007	-	-	4.5	1,458	38	3	-	-
10/23/2007	209	-	6	1,448	35	9	-	-
10/30/2007	212	-	6	1,445	32	8	-	-

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Table C Continued  
Weekly Vapor Monitoring Data

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
11/05/2007	257	—	6	1,446	41	4	—	—
11/19/2007	148	—	—	1,450	90	6	—	—
11/29/2007	238	—	6	1,462	50	5	—	—
12/11/2007	258	—	6	1,451	56	1	—	—
12/19/2007	258	198	7	1,459	7.5	3	—	—
12/26/2007	164	137	5	1,461	24	3	—	—
12/31/2007	294	235	8	1490	—	—	—	—
01/10/2008	217	155	8.5	1,445	31	7	—	—
01/17/2008	294	235	6	1,441	58	4	—	—
01/23/2008	294	235	6	1,460	—	—	—	—
01/30/2008	111	89	6	1,451	42	4	—	—
02/13/2008	294	235	6	1,456	22	3	—	—
02/20/2008	125	92	8	1,449	21	3	—	—
02/26/2008	—	—	—	—	—	—	—	—
03/07/2008	177	111	11	1,451	106	1	—	—
Unit down due to mechanical failure between March 11 through April 17, 2008								
04/18/2008	128	102.3	6	700	55	2	—	—
04/22/2008	135	107.9	6	820	36.1	3	—	—
04/29/2008	146	121.6	5	825	37.2	15	—	—
05/05/2008	86	57.3	10	844	32.8	6	—	—
05/16/2008	101	80.7	6	845	23.2	8	—	—
05/21/2008	165	131.9	6	845	—	—	—	—
05/28/2008	166	132.7	6	820	30.2	4	—	—
06/04/2008	—	—	—	—	—	—	—	—
06/11/2008	22.5	21.9	0.74	657	3.8	0.9	—	—
06/17/2008	22.0	21.0	1.32	653	8.1	4.5	—	—
06/24/2008	24.5	23.4	1.32	642	17.3	3.8	—	—
07/02/2008	—	—	1.47	—	—	—	—	—
07/25/2008	—	69.5	5.15	665	23.3	2.3	—	—
07/30/2008	—	58.0	4.41	661	16.5	1.3	—	—
08/04/2008	—	48.1	4.78	662	19	1.3	—	—
08/08/2008	—	—	—	—	—	—	—	—

**Table C Continued**  
**Weekly Vapor Monitoring Data**

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
08/12/2008	125	-	4.41	684	25.8	7.9	-	-
08/22/2008	132	-	4.41	680	24.3	5.3	-	-
08/28/2008	92.5	-	4.85	640	29.7	5.2	-	-
Unit was not working properly due to mechanical failure between September 1 and September 30, 2008								
09/02/2008	142	-	4.56	640	35.1	4	-	-
09/04/2008	-	-	4.56	650	-	-	-	-
09/10/2008	117	-	4.56	664	28.4	4.8	-	-
09/17/2008	168	-	0.74	658	24.6	4.7	-	-
09/24/2008	-	-	-	-	-	-	-	-
09/30/2008	-	-	-	-	-	-	-	-
10/02/2008	277	-	7.0	657	93.1	1.3	-	-
10/03/2008	-	-	3.5	670	-	-	-	-
10/06/2008	306	-	2.4	663	20.3	4.4	-	-
10/07/2008	247	-	2.5	639	-	-	-	-
10/08/2008	330	-	3.0	633	-	-	-	-
10/17/2008	310	-	1.62	665	0	1	-	-
10/22/2008	305	-	1.76	630	12	3	-	-
10/29/2008	258	-	1.62	648	15.9	2.4	-	-
11/05/2008	339	-	2.0	645	-	-	-	-
11/12/2008	69.0	-	8.0	640	56.6	4.1	-	-
11/19/2008	115	-	6.0	662	23.9	6.1	-	-
11/24/2008	131	-	7.0	659	46.3	1.7	-	-
12/03/2008	212	-	6.5	670	36.8	5.2	-	-
12/10/2008	86.4	-	7.0	636	81.7	12.1	-	-
12/17/2008	246	-	6.6	641	9.2	2.1	-	-
01/16/2009	118	-	5.0	652	39.6	6.2	-	-
01/21/2009	110	-	-	647	73.3	3.2	-	-
01/27/2009	-	-	5.0	655	-	-	-	-
02/05/2009	128	-	-	650	80.3	2.4	-	-

Unit turned off on 02/05/2009 for rebound test  
Attempts were made to turn unit on June 9, 2009 but to no avail.

Table C Continued  
Weekly Vapor Monitoring Data

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
07/10/2009	117	-	5.0	648	2.8	0.4	-	-
07/15/2009	121	-	4.0	649	7.6	1.3	-	-
07/22/2009	62.5	-	5.0	649	12.2	1.9	-	-
07/29/2009	182	-	-	650	13.3	1.2	-	-
Unit down due to mechanical failure between July 29 through September 3, 2009.								
09/03/2009	71.3	-	-	655	3.4	0.01	-	-
09/10/2009	118.9	-	5.0	673	5.6	0.9	-	-
09/25/2009	250.0	-	5.0	667	24.1	-	-	-
09/30/2009	232.4	-	-	649	1.7	0.4	-	-
10/01/2009	248.0	-	5.5	654	182.2	2.3	-	-
10/09/2009	241.0	203.0	5.5	655	23.0	3.4	-	-
10/14/2009	230.0	191.0	-	646	69.6	1.7	-	-
10/19/2009	-	-	-	650	-	-	-	-
10/22/2009	107.0	90.0	7.0	641	85.0	3.0	-	-
10/28/2009	175.0	142.0	6.0	641	12.4	0.9	-	-
11/02/2009	47.0	39.0	5.0	647	-	-	-	-
11/05/2009	247.0	205.0	6.0	705	43.9	1.9	-	-
11/11/2009	249.0	206.0	6.0	692	44.8	0.5	-	-
11/18/2009	247.0	204.0	5.0	695	28.4	3.6	-	-
11/25/2009	249.0	211.0	6.0	795	52.3	2.4	-	-
12/02/2009	44.0	36.0	6.0	696	156.9	7.9	-	-
12/09/2009	168.0	139.0	6.0	712	28.8	8.5	-	-
12/17/2009	47.0	39.0	6.0	696	60.3	3.6	-	-
12/24/2009	55.0	45.0	5.0	705	75.0	13.0	-	-
12/30/2009	248.0	202.0	6.0	711	31.9	35.2	-	-
12/31/2009	-	-	-	-	-	-	-	-
01/07/2010	-	-	-	-	-	-	-	-
01/08/2010	249	204	7.0	719	184.5	20.2	-	-
01/12/2010	41	35	5.5	700	174.5	8.9	-	-
01/20/2010	-	-	-	-	-	-	-	-
01/28/2010	98	82	5.5	682	88	10.4	-	-
02/01/2010	161	133	5.0	716	82	1	-	-

**Table C Continued**  
**Weekly Vapor Monitoring Data**

Date	Well (ACFM)	Air (SCFM)	Well Vac. (In. Hg.)	Burner Temp. (°F)	Influent (ppmv)	Effluent (ppmv)	Influent O <sub>2</sub> (% Vol)	Influent CO <sub>2</sub> (% Vol)
02/04/2010	-	-	-	-	55	3	-	-
02/10/2010	297	249	5.0	723	53	7.8	-	-
02/17/2010	162	130	6.5	712	125	6	-	-
02/23/2010	309	248	-	698	-	-	-	-
03/03/2010	209	170	6.0	707	33.8	4.9	-	-
03/11/2010	-	-	-	-	-	-	-	-
03/19/2010	-	-	-	-	-	-	-	-
03/22/2010	45	34	7.5	736	22.0	0	-	-
03/30/2010	322	248	7.5	699	28.0	3.8	-	-

*TOC Concentrations are measured using an organic vapor meter (OVM).*

\* Values measured by an OTC 5 - Gas analyzer.

- Values could not be measured.

CFM Cubic Feet per Minute      GPH Gallons per Hour      N/A Not Available

**Table D**  
**Data on the SVE System Operation and Cumulative Mass of TPH-G Removed**

Operation Period	No. of Days <sup>1</sup>	Average Flow (CFM)	Average Concentration (µg/L) <sup>2</sup>	Mass removed during the Period (lbs)	Average Mass removed during the Period (lbs/day)	Cumulative Mass Removed (lbs)
Mar 30* to May 2**, 2006	22	128.5	935	237.9	10.8	237.9
May 2** to May 31**, 2006	15	115.5	4,185	652.5	43.5	890.4
May 31 to July 27**, 2006	23	108.2	5,000	1,119.9	48.7	2,010.3
July 27 to Aug 17**, 2006	21	97.3	6,500	1,195.3	56.9	3,205.6
Aug 17 to Sep 13**, 2006	27	156.3	8,050	3,057.5	113.2	6,263.1
Sep 13 to Oct 18**, 2006	20	110.1	4,100	812.5	40.6	7,075.6
Oct 18** to Jan 16**, 2007	63	158.8	1,770	1593.7	25.3	8,669.3
Jan 16** to Feb 26**, 2007	26	190	920	409.0	15.7	9,078.3
Feb 26** to Mar 24**, 2007	11	170.3	1,350	227.6	20.7	9,305.9
Mar 24** to Apr 26**, 2007	6	176.3	1,700	161.8	27.0	9,467.8
Apr 26** to May 24**, 2007	7	217	3,325	440.9	63.0	9,908.7
May 24** to Jun 21**, 2007	8	151	4,025	437.6	54.7	10,346.3
Jun 21** to Aug 29**, 2007	20	93.2	1,965	329.6	16.5	10,676.0
Aug 29** to Sep 7**, 2007	3	93.2†	1,115	28.1	9.4	10,704.0
Sep 7** to Oct 23**, 2007	21	167	1,700	536.6	25.6	11,240.6
Oct 23** to Nov 19**, 2007	3	206.5	1,950	108.7	36.2	11,349.3
Nov 19** to Dec 19**, 2007	8	213.2	2,400	368.4	46.1	11,717.7



**Table D Continued**  
**Data on the SVE System Operation and Cumulative Mass of TPH-G Removed**

Operation Period	No. of Days <sup>1</sup>	Average Flow (CFM)	Average Concentration (µg/L) <sup>2</sup>	Mass removed during the Period (lbs)	Average Mass removed during the Period (lbs/day)	Cumulative Mass Removed (lbs)
Dec 19***, 2007 to Jan 30***, 2008	34	175.8	2.050	1102.8	32.4	12,820.5
Jan 30***, 2008 to Feb 13***, 2008	12	132.0	1240	176.8	14.7	12,997.3
Feb 13***, 2008 to Apr 22***, 2008	26	114.1	370	140.2	5.4	13,137.5
Apr 22***, 2008 to May 21***, 2008	29	99.9	150	67.8	2.3	13,205.3
May 21***, 2008 to Jun 17***, 2008	20	66.2	150	17.9	0.9	13,223.1
Jun 17***, 2008 to Jul 20***, 2008	21	43.0	165	13.4	0.6	13,236.5
Jul 20***, 2008 to Aug 28†, 2008	15	91.1	380	46.7	3.1	13,283.3
Aug 28† to Oct 29‡‡, 2008	40	232.1	360	300.8	7.5	13,584.1
Oct 29‡‡ to Nov 19‡, 2008	13	195.3	145	33.1	2.5	13,617.2
Nov 19‡ to Dec 17‡, 2008	16	156.1	107	24.1	1.5	13,641.3
Dec 17‡ to Jan 21, 2009	20	129.1	312	72.6	3.6	13,713.9
Jan 21, 2009 to Jul 22, 2009±	28	115.1	305	88.5	3.2	13,802.3
Jul 22, 2009± to Oct 1, 2009±	12	139.7	50	33.2	2.8	13,835.5
Oct 1, 2009± to Oct 14, 2009±	0.5	200.5	125	0.9	1.8	13,836.4
Oct 14, 2009± to Oct 22, 2009±	0.3	140.1	175	0.5	1.7	13,836.9
Oct 22, 2009± to Nov 14, 2009±	1	147.6	185	2.5	2.5	13,839.5
Nov 14, 2009± to Dec 30, 2009±	0.8	125.2	220	1.8	2.2	13,841.2

**Table D Continued**  
**Data on the SVE System Operation and Cumulative Mass of TPH-G Removed**

Operation Period	No. of Days <sup>1</sup>	Average Flow (CFM)	Average Concentration (µg/L) <sup>2</sup>	Mass removed during the Period (lbs)	Average Mass removed during the Period (lbs/day)	Cumulative Mass Removed (lbs)
Dec 30, 2009± to Jan 28, 2010±	1.1	130.7	400	5.2	4.7	13,844.6
Jan 28± to Feb 17, 2010±	1.5	148.3	1,230	24.6	16.4	13,869.3
Feb 17± to Mar 30, 2010±	17	166.1	965	245.2	14.4	14,114.5

**Explanations**

1. The number of days the unit was in service during the operation period
2. Average Concentration is selected as the average value for the two sampling events covering the operation period. For Example, for operation period between March 30, 2006 and May 2, 2006, average TPH-G concentrations for the former and latter dates were utilized.

Extraction Wells Open during Vapor Sampling:

\* (VE-1, VE-2, VE-4, VE-5 and MW-1)

\*\* (VE-2 and VE-4)

\*\*\* (VE-1 and VE-4)

‡ (MW-1 and VE-4)

± (MW-1 and VE-1)

‡‡ Vapor Extraction Wells open during this event: VE-1, VE-3, VE-4 and MW-1

† Avg. Air Flow used from prior sampling date due to non-availability of flow measurements

Table E

Air Sparging System Monitoring Data

Date	AS-1		AS-2		AS-3		AS-4		AS-5		AS-6		AS-7		MW-1		MW-2		MW-3		MW-4		MW-5		MW-7			
	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO
07/18/2006	7	-	8	-	19	-	3	-	-	-	-	-	-	-	13.3	0.1	17.3	0.4	20.3	6.9	-	-	-	-	-	-	-	-
07/27/2006	7	-	20	-	3	-	4	-	-	-	-	-	-	-	13.1	5.7	17.8	0.3	20.6	0.7	-	-	-	-	-	-	-	-
08/03/2006	7	-	20	-	2	-	0	-	-	-	-	-	-	-	13.7	0.3	18.3	0.6	21.1	6.7	-	-	-	-	-	-	-	-
08/10/2006	7	-	20	-	1.5	-	1	-	-	-	-	-	-	-	16.7	3.5	18.5	0.7	21.6	2.5	-	-	-	-	-	-	-	-
08/17/2006	7	-	20	-	1.5	-	2.5	-	-	-	-	-	-	-	21.7	0.6	18.7	0.8	18.1	4.4	-	-	-	-	-	-	-	-
08/25/2006	7	-	1	-	19	-	3	-	-	-	-	-	-	-	18.4	0.8	18.3	1.2	20.5	6.8	-	-	-	-	-	-	-	-
09/08/2006	6	-	0	-	19	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09/13/2006	4	-	20	-	1.5	-	2	-	-	-	-	-	-	-	18.6	1	19.3	0.3	22.2	0.3	-	-	-	-	-	-	-	-
09/22/2006	6.5	-	20	-	1.5	-	2.5	-	-	-	-	-	-	-	18.8	2.9	18.8	0.5	21.7	0.8	-	-	-	-	-	-	-	-
09/29/2006	6.5	-	0	-	19	-	2.5	-	-	-	-	-	-	-	19.3	0.9	19.2	1.6	22	5.2	-	-	-	-	-	-	-	-
10/05/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/13/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/16/2006	2	-	20	-	3.5	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/18/2006	3	-	20	-	1.5	-	2.5	-	-	-	-	-	-	-	19.3	2.3	19.4	0.9	22.3	1.4	-	-	-	-	-	-	-	-
11/03/2006	3	-	20	-	1.5	-	2	-	-	-	-	-	-	-	19.7	2.2	19.5	0.7	22.1	0.5	-	-	-	-	-	-	-	-
12/08/2006	7	-	19	-	0	-	2.5	-	-	-	-	-	-	-	19.9	0.2	19.5	0.6	21.9	0.5	-	-	-	-	-	-	-	-
12/15/2006	0	-	0	-	0	-	0	-	-	-	-	-	-	-	20.1	1	19.9	0.8	21.1	0.6	-	-	-	-	-	-	-	-
01/05/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/11/2007	0	-	0	-	0	-	0	-	-	-	-	-	-	-	18.8	5.5	19.1	0.7	20	0.4	-	-	-	-	-	-	-	-
01/16/2007	7.5	-	20	-	2.5	-	3.5	-	-	-	-	-	-	-	17.9	6.9	18.9	0.5	21.1	0.8	-	-	-	-	-	-	-	-
02/04/2007	5.5	-	20	-	6	-	3	-	-	-	-	-	-	-	20.6	2.3	19.9	1.2	22.4	1.1	-	-	-	-	-	-	-	-
02/09/2007	7.5	-	-	-	2	-	1	-	-	-	-	-	-	-	20.2	1.5	20.2	2.5	23.4	1.5	-	-	-	-	-	-	-	-
02/15/2007	2.8	-	20	-	1	-	1.5	-	-	-	-	-	-	-	20.9	2.4	20.2	0.7	23.6	0.3	-	-	-	-	-	-	-	-
02/26/2007	20	-	0	-	2.5	-	19	-	-	-	-	-	-	-	22.8	0.6	20.1	0.9	18.6	6.3	-	-	-	-	-	-	-	-
03/09/2007	6	-	1	-	18	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/16/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	0.6	19.9	0.3	22.6	0.3	-	-	-	-	-	-	-	-
03/30/2007	15	-	0	-	0	-	1	-	-	-	-	-	-	-	21.1	-	20.3	-	23.5	-	-	-	-	-	-	-	-	-
04/05/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/17/2007	2	-	0	-	9	-	3	-	-	-	-	-	-	-	20.5	0.2	23.4	0.1	21.8	0.1	-	-	-	-	-	-	-	-
Air Sparging System was not operating during April 26, 2007 through Jan 23, 2008																												
01/30/2008	19	-	6	-	0	-	0.5	-	-	-	-	-	-	-	21.4	8.8	21.1	0.9	23.4	0.4	-	-	-	-	-	-	-	-
02/20/2008	6.5	-	17	-	0	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/26/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/07/2008	18	-	3	-	0	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/18/2008	0	0	0	0	0	0	17	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table E Continued  
Air Sparging System Monitoring Data

Date	AS-1		AS-2		AS-3		AS-4		AS-5		AS-6		AS-7		MW-1		MW-2		MW-3		MW-4		MW-5		MW-7			
	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO
04/22/2008	0	0	0	0	19	5.0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04/29/2008	0	0	0	0	22	6.0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05/05/2008	0	0	0	0	15	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS System was not operating during May 16, 2008 through August 12, 2008																												
09/02/2008	3.5	-	20	-	0	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09/04/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09/10/2008	4.0	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS System was not operating during September 17, 2008 through September 30, 2008																												
10/02/2008	20	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/03/2008	3.0	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/06/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/07/2008	20	-	5.0	-	0	-	3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/08/2009	2.5	-	5.0	-	20	-	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/17/2008	18	-	5.0	-	0	-	1.0	-	-	-	-	-	-	-	-	19.2	5.4	-	-	-	-	-	-	-	-	-	24.1	1.9
10/22/2008	1.0	-	0	-	5.0	-	18	-	-	-	-	-	-	-	-	19.2	8.6	-	-	-	-	-	-	-	-	-	24.2	1.7
10/29/2009	2.0	-	0	-	5.0	-	18	-	-	-	-	-	-	-	-	19.3	7.0	-	-	-	-	-	-	-	-	-	24.2	1.5
11/05/2009	5.0	-	5.0	-	20	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/12/2008	6.0	-	5.0	-	20	-	3.0	-	-	-	-	-	-	-	-	18.1	2.4	-	-	-	-	-	-	-	-	-	22.7	3
11/19/2008	7.0	-	0	-	20	-	3.0	-	-	-	-	-	-	-	-	18.1	2.2	-	-	-	-	-	-	-	-	-	22.2	2.8
11/24/2008	6.0	-	0	-	20	-	4.0	-	-	-	-	-	-	-	-	18.1	2.2	-	-	-	-	-	-	-	-	-	22.7	2.9
12/03/2008	2.0	-	0	-	0	-	19	-	-	-	-	-	-	-	-	18	1.8	-	-	-	-	-	-	-	-	-	22.1	2.3
12/10/2008	18	-	5.0	-	0	-	3.0	-	-	-	-	-	-	-	-	22.5	2.9	-	-	-	-	-	-	-	-	-	22.3	4.6
12/17/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/16/2009	7.0	-	0	-	20	-	3.0	-	-	-	-	-	-	-	-	18.1	2.1	-	-	-	-	-	-	-	-	-	22.7	2.7
01/21/2009	10	-	0	-	0	-	18	-	-	-	-	-	-	-	-	18.4	3.0	-	-	-	-	-	-	-	-	-	23	2.5
01/27/2009	19	-	0	-	0	-	0	-	-	-	-	-	-	-	-	18.3	2.2	-	-	-	-	-	-	-	-	-	22.8	2.5
02/05/2009	2.0	-	0	-	0	-	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AS System was turned off February 5, 2009 for rebound test																												
07/10/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.6	0.7	-	-	-	-	-	-	-	-	-	21.3	0.1
07/15/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	0.6	-	-	-	-	-	-	-	-	-	21.1	0.4
07/22/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07/29/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09/03/2009	19	-	3.0	-	0	-	-	-	-	-	-	-	-	-	-	16.3	1.0	-	-	-	-	-	-	-	-	-	21.6	1.3
09/10/2009	3.0	-	0	-	19	-	-	-	-	-	-	-	-	-	-	17.3	0.1	-	-	-	-	-	-	-	-	-	23.2	0.1
09/25/2009	15	8.0	8.0	7.0	12	1.0	-	-	-	-	-	-	-	-	-	21.5	0.6	-	-	-	-	-	-	-	-	-	15.9	1.8

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Table E Continued

Air Sparging System Monitoring Data

Date	AS-1		AS-2		AS-3		AS-4		AS-5		AS-6		AS-7		MW-1		MW-2		MW-3		MW-4		MW-5		MW-7					
	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	IP	IA	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO	WD	DO		
09/30/2009	-	-	20	-	5.5	-	8.0	-	-	-	-	-	-	-	21.6	1	-	-	16	1.3	-	-	-	-	-	-	-	-		
10/01/2009	17	-	8.0	-	-	-	-	-	-	-	-	-	-	-	16.0	1.7	-	-	21.5	1.2	-	-	-	-	-	-	-	-		
10/09/2009	17	-	-	-	-	-	-	-	-	-	-	-	-	-	16.2	1.5	-	-	21.6	1.1	-	-	-	-	-	-	-	-		
10/14/2009	17	-	-	-	-	-	-	-	-	-	-	-	-	-	19.3	0.9	17.5	1	20.0	1.1	-	-	-	-	-	20.0	0.5	-		
10/19/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/22/2009	16	15	7.0	8.0	5.0	1.0	1.0	-	-	-	-	-	-	-	16.0	1.5	18.2	0.4	20.2	1.1	-	-	-	-	-	17.0	1.5	-		
10/28/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.1	1.5	18.1	0.5	20.0	0.7	-	-	-	-	-	15.0	2.5	-		
11/02/1009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.9	1.0	18.1	0.3	20.1	0.6	-	-	-	-	-	16.1	2.0	-		
11/05/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.9	1.2	18.1	0.5	20.1	0.6	-	-	-	-	-	16.1	2.2	-		
11/11/2009	16.5	15	7.5	8.5	1.0	3.0	-	-	-	-	-	-	-	-	-	3.4	18.0	1.0	20.0	0.7	-	-	-	-	16.0	2.0	-	-		
11/18/2009	17	15	2.0	3.0	5.0	1.0	-	-	-	-	-	-	-	-	11.8	3.4	17.9	0.9	19.8	1.0	-	-	-	-	16.1	2.3	-	-		
11/25/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	1.1	18.0	0.4	20.0	0.6	-	-	-	-	16.0	2.0	-	-		
12/02/2009	16.5	-	-	-	3.5	-	-	-	-	-	-	-	-	-	17.8	1.0	19.9	0.4	17.9	0.7	-	-	-	-	16.4	2.0	-	-		
12/09/2009	16.5	-	-	-	3.5	-	-	-	-	-	-	-	-	-	17.9	0.9	19.8	0.4	17.7	0.4	-	-	-	-	16.2	1.7	-	-		
12/17/2009	16.5	-	-	-	3.5	-	-	-	-	-	-	-	-	-	16.6	-	17.9	-	19.9	-	-	-	-	-	24.7	-	-	-		
12/24/2009	16.5	-	-	-	-	-	-	-	-	-	-	-	-	-	16.6	0.4	17.9	0.4	20.0	0.4	-	-	-	-	16.9	2.7	-	-		
12/30/2009	16.5	-	-	-	1.0	-	-	-	-	-	-	-	-	-	14.9	2.7	18.0	0.2	20.0	0.4	-	-	-	-	16.8	1.9	-	-		
01/07/2010	115	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	2.5	18.1	0.3	21.3	0.5	-	-	-	-	15.9	1.7	-	-		
01/08/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
01/12/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/20/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01/28/2010	8.0	16	2.0	4.5	-	1.2	16	15	-	-	-	-	-	-	13.8	0.7	14.5	0.3	19.6	1.7	-	-	-	-	14.6	0.6	-	-	-	
02/01/2010	8.0	-	5.0	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/04/2010	18	-	4.0	-	-	-	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02/10/2010	3.0	-	18	-	-	-	7.0	-	-	-	-	-	-	-	15.9	-	17.5	-	19.6	-	-	-	-	-	15.9	-	-	-	-	
02/17/2010	-	-	18	-	-	-	-	-	-	-	-	-	-	-	15.8	1.2	17.5	0.8	19.7	1.0	-	-	-	-	15.7	2.9	-	-	-	
02/23/2010	8.0	17	3.5	-	-	1.2	-	16	-	-	-	-	-	-	15.9	3.8	17.6	1.7	19.6	0.6	-	-	-	-	15.5	1.9	-	-	-	
03/03/2010	6.5	-	17	2.0	-	-	-	-	-	-	-	-	-	-	18.1	3.7	17.1	0.5	19.2	1.4	-	-	-	-	13.9	3.7	-	-	-	
03/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.0	3.8	17.0	0.5	19.2	0.9	-	-	-	-	14.4	2.3	-	-	-	
03/19/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/22/2010	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03/30/2010	16	-	15	-	-	-	-	-	-	-	-	-	-	-	10.2	4.6	17.0	1.0	19.7	0.8	-	-	-	-	12.8	3.6	-	-	-	

**Table E Continued**  
**Air Sparging System Monitoring Data**

	AS-1	Air Sparging Well No. 1	MW-1	Monitoring Well No. 1	IP	Injection Pressure in pounds per square inch (psi)
IA		Injection Airflow rate in cubic feet per minute (CFM)	WD	Water depth in Feet from a marked reference point on the wellhead		
DO		Dissolved Oxygen concentration in milligrams per Liter (mg/L)	-	Not Available		

**Notes:**

AS-1

IA

DO

**Environmental Checklist Form****Title of Proposal:** CUP #2013-002 - ASR Engineering**Date Checklist Submitted:** 2/6/2013**Agency Requiring Checklist:** Madera County Planning Department**Agency Contact:** Jerome Keene**Phone:** (559) 675-7821

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**Description of Initial Study/Requirement**

The Initial Study is a public document used by the decision-making lead agency to determine whether a project may have significant effects on the environment. In the case of the proposed project, the Madera County Planning Department, acting as lead agency, will use the initial study to determine whether the project has a significant effect on the environment. In accordance with CEQA, Guidelines (Section 15063[a]), an environmental impact report (EIR) must be prepared if there is substantial evidence (such as results of the Initial Study) that a project may have significant effect on the environment. This is true regardless of whether the overall effect of the project would be adverse or beneficial. A negative declaration (ND) or mitigated negative declaration (MND) may be prepared if the lead agency determines that the project would have no potentially significant impacts or that revisions to the project, or measures agreed to by the applicant, mitigate the potentially significant impacts to a less-than-significant level.

The initial study considers and evaluates all aspects of the project which are necessary to support the proposal. The complete project description includes the site plan, operational statement, and other supporting materials which are available in the project file at the office of the Madera County Planning Department.

**Description of Project:**

The application is for a conditional use permit to allow an ozone sparging/injection well to correct violations with underground contaminants.

**Project Location:**

The project is located on the south side of Highway 41, at the intersection of Highway 41 and Civic Circle (40135 Highway 41), Oakhurst.

**Applicant Name and Address:**

ASR Engineering, 3629 West Gettysburg Ave Fresno, CA 93722

**General Plan Designation/Oakhurst Area Plan Designation:**

CC (Community Commercial)

**Zoning Designation:**

CUM (Commercial, Urban, Median) District

**Surrounding Land Uses and Setting:**

Commercial and Agriculture

**Other Public Agencies whose approval is required:**

None

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Aesthetics               | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources     | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology /Soils                     |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials      | <input type="checkbox"/> Hydrology / Water Quality          |
| <input type="checkbox"/> Land Use/Planning        | <input type="checkbox"/> Mineral Resources                  | <input type="checkbox"/> Noise                              |
| <input type="checkbox"/> Population / Housing     | <input type="checkbox"/> Public Services                    | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation/Traffic   | <input type="checkbox"/> Utilities / Service Systems        | <input type="checkbox"/> Mandatory Findings of Significance |

**DETERMINATION:** (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Prior EIR or ND/MND Number

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



I. AESTHETICS -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

The project is not within a adopted scenic area although Highway 41 is an eligible scenic route according to the Department of Transportation. The property is already developed with a gas station, car wash and retail clothing store.

**(b) No Impact**

The property is already developed as a commercial property.

**(c) Less than Significant Impact**

The wells may be seen from the highway however will not severely damage the scenic character of the Oakhurst area.

**(d) Less than Significant Impact**

Additional lighting is not required as part of this project. Lighting already exists on the project as part of the existing commercial development onsite.

**General Information:**

A nighttime sky in which stars are readily visible is often considered a valuable scenic/visual resource. In urban areas, views of the nighttime sky are being diminished by "light pollution." Light pollution, as defined by the International dark-Sky Association, is any adverse effect of artificial light, including sky glow, glare, light trespass, light clutter, decreased visibility at night, and energy waste. Two elements of light pollution may affect city residents: sky glow and light trespass. Sky glow is a result of light fixtures that emit a portion of their light directly upward into the sky where light scatters, creating an orange-yellow glow above a city or town. This light can interfere with views of the nighttime sky and can diminish the number of stars that are visible. Light trespass occurs when poorly shielded or poorly aimed fixtures cast light into unwanted areas, such as neighboring property and homes.

Light pollution is a problem most typically associated with urban areas. Lighting is necessary for nighttime viewing and for security purposes. However, excessive lighting or inappropriately designed lighting fixtures can disturb nearby sensitive land uses through indirect illumination. Land uses which are considered "sensitive" to this unwanted light include residences, hospitals, and care homes.

Daytime sources of glare include reflections off of light-colored surfaces, windows, and metal details on cars traveling on nearby roadways. The amount of glare depends on the intensity and direction of sunlight, which is more acute at sunrise and sunset because the angle of the sun is lower during these times.

III. **AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest land?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

The project is not converting any designated farmland. The site has been designated and developed for commercial uses.

**(b) No Impact**

The property is not has never been subject to a Williamson Act contract.

**(c) No Impact**

The area is not within a timberland zoned or forest land protected area.

**(d) No Impact**

The property is already developed commercially without any forest land present.

**(e) No Impact**

The property is already developed for commercially and would not result in any conversion of farmland or forest land to other uses.

**General Information**

The California Land Conservation Act of 1965--commonly referred to as the Williamson Act--enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The Department of Conservation oversee the Farmland Mapping and Monitoring Program. The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer

mapping system, aerial imagery, public review, and field reconnaissance. The program's definition of land is below:

**PRIME FARMLAND (P):** Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

**FARMLAND OF STATEWIDE IMPORTANCE (S):** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

**UNIQUE FARMLAND (U):** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

**FARMLAND OF LOCAL IMPORTANCE (L):** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

**GRAZING LAND (G):** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.

**URBAN AND BUILT-UP LAND (D):** Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

**OTHER LAND (X):** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

III.	AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitiga- tion Incorpo- ration	Less Than Significant Impact	No Impact
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e)	Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

**(a) No Impact**

The proposed well will not generate emissions that violate local air quality plans.

**(b) No Impact**

The proposed well would not violate any air quality standard and will comply with San Joaquin Air Pollution Control District standards.

**(c) No Impact**

The well would not increase net criteria air pollutants.

**(d) No Impact**

There are not any sensitive receptors in the immediate area of the well.

**(e) No Impact**

No odors will be generated other than limited exhaust from the operation of the well.

**General Information**

Global Climate Change

Climate change is a shift in the “average weather” that a given region experiences. This is measured by changes in temperature, wind patterns, precipitation, and storms. Global climate is the change in the climate of the earth as a whole. It can occur naturally, as in the case of an ice age, or occur as a result of anthropogenic activities. The extent to which anthropogenic activities influence climate change has been the subject of extensive scientific inquiry in the past several decades. The Intergovernmental Panel on Climate Change (IPCC), recognized as the leading research body on the subject, issued its Fourth Assessment Report in February 2007, which asserted that there is “very high confidence” (by IPCC definition a 9 in 10 chance of being correct) that human activities have resulted in a net warming of the planet since 1750.

CEQA requires an agency to engage in forecasting “to the extent that an activity could reasonably be expected under the circumstances. An agency cannot be expected to predict the future course of governmental regulation or exactly what information scientific advances may ultimately reveal” (CEQA Guidelines Section 15144, Office of Planning and Research commentary, citing the California Supreme Court decision in Laurel Heights Improvement Association v. Regents of the University of California [1988] 47 Cal. 3d 376).

Recent concerns over global warming have created a greater interest in greenhouse gases (GHG) and their contribution to global climate change (GCC). However at this time there are no generally accepted thresholds of significance for determining the impact of GHG emissions from an individual project on GCC. Thus, permitting agencies are in the position of developing policy and guidance to ascertain and mitigate to the extent feasible the effects of GHG, for CEQA purposes, without the normal degree of accepted guidance by case law.

IV. BIOLOGICAL RESOURCES -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**Discussion:**

**(a) No Impact**

The is already developed as a commercial center including a gas station, car wash and clothing store. The property is not suitable for any species and has been zoned commercial for over 10 years. The site has been managed in a fashion as to not perpetuate any forming of habitats of specially listed species on the project site.

**(b) No Impact**

The subject property is not near any riparian habitat.

**(c) No Impact**

There are not any wetland delineated on the project site.

**(d) No Impact**

There are not any fish on site that could be affected.

**(e) No Impact**

The project is on a commercially zoned and developed property.

**(f) No Impact**

There are not any Habitat Conservation Plans or other local plans that would be conflicted for the proposed project relating to special species.

**General Information**

Special Status Species include:

- Plants and animals that are legally protected or proposed for protection under the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA);
- Plants and animals defined as endangered or rare under the California Environmental Quality Act (CEQA) §15380;
- Animals designated as species of special concern by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG);
- Animals listed as "fully protected" in the Fish and Game Code of California (§3511, §4700, §5050 and §5515); and
- Plants listed in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California.

A review of both the County's and Department of Fish and Game's databases for special status species have identified the following species:

Species	Federal Listing	State Listing	Dept. of Fish and Game Listing	CNPS Listing
Western pond turtle	None	None	SSC	None
Valley Elderberry longhorn beetle	Threatened	None	None	
An andrenid bee	None	None	None	
Orange Lupine	None	None	None	1B.2

Madera leptosiphon	None	None	None	1B.2
Mariposa pussypaws	Threatened	None	None	1B.1
Slender stalked monkeyflower	None	None	None	1B-2
Foothill yellow-legged diving beetle	None	None	SSC	
Bald eagle	Delisted	Endangered	FP	
Leech's skyline diving beetle	None	None	None	
Flaming trumpet	None	None	None	1B.2
Abrams' Onion	None	None	None	1B.2

List 1A: Plants presumed extinct

List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere

List 3: Plants which more information is needed – a review list

List 4: Plants of Limited Distributed - a watch list

**Ranking**

0.1 – Seriously threatened in California (high degree/immediacy of threat)

0.2 – Fairly threatened in California (moderate degree/immediacy of threat)

0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known)

Effective January 1, 2007, Senate Bill 1535 took effect that has changed de minimis findings procedures. The Senate Bill takes the de minimis findings capabilities out of the Lead Agency hands and puts the process into the hands of the California Department of Fish and Wildlife (formally the California Department of Fish and Game). A Notice of Determination filing fee is due each time a NOD is filed at the jurisdictions Clerk's Office. The authority comes under Senate Bill 1535 (SB 1535) and Department of Fish and Wildlife Code 711.4. Each year the fee is evaluated and has the potential of increasing. For the most up-to-date fees, please refer to [http://www.dfg.ca.gov/habcon/ceqa/ceqa\\_changes.html](http://www.dfg.ca.gov/habcon/ceqa/ceqa_changes.html).

The Valley elderberry longhorn beetle was listed as a threatened species in 1980. Use of the elderberry bush by the beetle, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the beetle is an exit hole created by the larva just prior to the pupal stage. According to the USFWWS, the Valley Elderberry Longhorn Beetle habitat is primarily in communities of clustered Elderberry plants located within riparian habitat. The USFWS stated that VELB habitat does not include every Elderberry plant in the Central Valley, such as isolated, individual plants, plants with stems that are less than one inch in basal diameter or plants located in upland habitat.

V. CULTURAL RESOURCES -- Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- d) Disturb any human remains, including those interred outside of formal cemeteries?

**Discussion:**

(a) No Impact

(b) No Impact

(c) No Impact

(d) No Impact

**General Information**

Public Resource Code 5021.1(b) defines a historic resource as “any object building, structure, site, area or place which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.” These resources are of such import, that it is codified in CEQA (PRC Section 21000) which prohibits actions that “disrupt, or adversely affect a prehistoric or historic archaeological site or a property of historical or cultural significance to a community or ethnic or social groups; or a paleontological site except as part of a scientific study.”

Archaeological importance is generally, although not exclusively, a measure of the archaeological research value of a site which meets one or more of the following criteria:

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory.
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions.
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind.
- Is at least 100 years old and possesses substantial stratigraphic integrity (i.e. it is essentially undisturbed and intact).
- Involves important research questions that historic research has shown can be answered only with archaeological methods.

Reference CEQA Guidelines §15064.5 for definitions.

Most of the archaeological survey work in the County has taken place in the foothills and mountains. This does not mean, however, that no sites exist in the western part of the County, but rather that this area has not been as thoroughly studied. There are slightly more than 2,000 recorded archaeological sites in the County, most of which are located in the foothills and mountains. Recorded prehistoric artifacts include village sites, camp sites, bedrock milling stations, pictographs, petroglyphs, rock rings, sacred sites, and resource gathering areas. Madera County also contains a significant number of potentially historic sites, including homesteads and ranches, mining and logging sites and associated features (such as small camps, railroad beds, logging chutes, and trash dumps).

VI.	GEOLOGY AND SOILS -- Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
-----	---	--------------------------------	---	------------------------------	-----------

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   |                          |                          |                          |                                     |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion:**

**(a-i) No Impact**

**(a-ii) No Impact**

**(a-iii) No Impact**

**(a-iv) No Impact**

**(b) No Impact**

**(c) No Impact**

**(d) No Impact**

**(e) No Impact**

**General Information**

Madera County is divided into two major physiographic and geologic provinces: the Sierra Nevada Range and the Central Valley. The Sierra Nevada physiographic province in the northeastern portion of the county is underlain by metamorphic and igneous rock. It consists mainly of homogenous types of granitic rocks, with several islands of older metamorphic rock. The central and western parts of the county are part of the Central Valley province, underlain by marine and non-marine sedimentary rocks.

The foothill area of the county is essentially a transition zone, containing old alluvial soils that have been dissected by the west-flowing rivers and streams which carry runoff from the Sierra Nevada's.

Seismicity varies greatly between the two major geologic provinces represented in Madera County. The Central valley is an area of relatively low tectonic activity bordered by mountain ranges on either side. The Sierra Nevada's, partly within Madera County, are the result of movement of tectonic plates which resulted in the creation of the mountain range. The Coast Ranges on the west side of the Central Valley are also a result of these



forces, and continued movement of the Pacific and North American tectonic plates continues to elevate the ranges. Most of the seismic hazards in Madera County result from movement along faults associated with the creation of these ranges.

There are no active or potentially active faults of major historic significance within Madera County. The County does not lie within any Alquist Priolo Special Studies Zone for surface faulting or fault creep.

However, there are two significant faults within the larger region that have been and will continue to be, the principle sources of potential seismic activity within Madera County.

San Andreas Fault: The San Andreas Fault lies approximately 45 miles west of the county line. The fault has a long history of activity and is thus a concern in determining activity in the area.

Owens Valley Fault Group: The Owens Valley Fault Group is a complex system containing both active and potentially active faults on the eastern base of the Sierra Nevada Range. This group is located approximately 80 miles east of the County line in Inyo County. This system has historically been the source of seismic activity within the County.

The *Draft Environmental Impact Report* for the state prison project near Fairmead identified faults within a 100 mile radius of the project site. Since Fairmead is centrally located along Highway 99 within the county, this information provides a good indicator of the potential seismic activity which might be felt within the County. Fifteen active faults (including the San Andreas and Owens Valley Fault Group) were identified in the *Preliminary Geotechnical Investigation*. Four of the faults lie along the eastern portion of the Sierra Nevada Range, approximately 75 miles to the northeast of Fairmead. These are the Parker Lake, Hartley Springs, Hilton Creek and Mono Valley Faults. The remaining faults are in the western portion of the San Joaquin Valley, as well as within the Coast Range, approximately 47 miles west of Fairmead. Most of the remaining 11 faults are associated with the San Andreas, Calaveras, Hayward and Rinconada Fault Systems which collectively form the tectonic plate boundary of the Central Valley.

In addition, the Clovis Fault, although not having any historic evidence of activity, is considered to be active within quaternary time (within the past two million years), is considered potentially active. This fault line lies approximately six miles south of the Madera County line in Fresno County. Activity along this fault could potentially generate more seismic activity in Madera County than the San Andreas or Owens Valley fault systems. However, because of the lack of historic activity along the Clovis Fault, there is inadequate evidence for assessing maximum earthquake impacts.

Seismic ground shaking, however, is the primary seismic hazard in Madera County because of the County's seismic setting and its record of historical activity (General Plan Background Element and Program EIR). The project represents no specific threat or hazard from seismic ground shaking, and all new construction will comply with current local and state building codes. Other geologic hazards, such as landslides, lateral spreading, subsidence, and liquefaction have not been known to occur within Madera County.

According to the Madera County General Plan Background Report, groundshaking is the primary seismic hazard in Madera County. The valley portion of Madera County is located on alluvium deposits, which tend to experience greater groundshaking intensities than areas located on hard rock. Therefore, structures located in the valley will tend to suffer greater damage from groundshaking than those located in the foothill and mountain areas.

Liquefaction is a process whereby soil is temporarily transformed to a fluid form during intense and prolonged ground shaking. According to the Madera County General Plan Background Report, although there are areas of Madera County where the water table is at 30 feet or less below the surface, soil types in the area are not conducive to liquefaction because they are either too coarse in texture or too high in clay content; the soil types mitigate against the potential for liquefaction.

VII. GREENHOUSE GAS EMISSIONS - Would the project:

Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
--------------------------------	---	------------------------------	-----------

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Discussion:**

**(a) Less than Significant Impact**

The project will use some electricity thereby generating some greenhouse gases as part of its construction and ongoing operation.

**(b) Less than Significant Impact**

The project will not conflict with any applicable plan regarding greenhouse gas emissions.

**General Information**

Greenhouse Gas (GHG) Emissions: The potential effect of greenhouse gas emission on global climate change is an emerging issue that warrants discussion under CEQA. Unlike the pollutants discussed previously that may have regional and local effects, greenhouse gases have the potential to cause global changes in the environment. In addition, greenhouse gas emissions do not directly produce a localized impact, but may cause an indirect impact if the local climate is adversely changed by its cumulative contribution to a change in global climate. Individual development projects contribute relatively small amounts of greenhouse gases that when added to other greenhouse gas producing activities around the world would result in an increase in these emissions that have led many to conclude is changing the global climate. However, no threshold has been established for what would constitute a cumulatively considerable increase in greenhouse gases for individual development projects. The State of California has taken several actions that help to address potential global climate change impacts.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, outlines goals for local agencies to follow in order to bring Greenhouse Gas (GHG) emissions to 1990 levels (a 25% overall reduction) by the year 2020. The California Air Resources Board (CARB) holds the responsibility of monitoring and reducing GHG emissions through regulations, market mechanisms and other actions. A Draft Scoping Plan was adopted by CARB in order to provide guidelines and policy for the State to follow in its steps to reduce GHG. According to CARB, the scoping plan's GHG reduction actions include: direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Following the adoption of AB 32, the California State Legislature adopted Senate Bill 375, which became the first major bill in the United States that would aim to limit climate change by linking directly to "smart growth" land use principles and transportation. It adds incentives for projects which intend to be in-fill, mixed use, affordable and self-contained developments. SB 375 includes the creation of a Sustainable Communities Strategy (SCS) through the local Metropolitan Planning Organizations (MPO) in order to create land use patterns which reduce overall emissions and vehicle miles traveled. Incentives include California Environmental Quality Act streamlining and possible exemptions for projects which fulfill specific criteria.

VIII.	HAZARDS AND HAZARDOUS MATERIALS – Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion:**

- (a) No Impact**
- (b) No Impact**
- (c) No Impact**
- (d) No Impact**
- (e) No Impact**
- (f) No Impact**
- (g) No Impact**
- (h) No Impact**

**General Information**

Any hazardous material because of its quantity, concentration, physical or chemical properties, pose a significant present or potential hazard to human health and safety, or the environment the California legislature adopted Article I, Chapter 6.95 of the Health and Safety Code, Sections 25500 to 25520 that requires any business handling or storing a hazardous material or hazardous waste to establish a Business Plan. The information obtained from the completed Business Plans will be provided to emergency response personnel for a better-prepared emergency response due to a release or threatened release of a hazardous material and/or hazardous waste.

Business owners that handle or store a hazardous material or mixtures containing a hazardous material, which has a quantity at any one time during the year, equal to or greater than:

- 1) A total of 55 gallons,
- 2) A total of 500 pounds,
- 3) 200 cubic feet at standard temperature and pressure of compressed gas,
- 4) any quantity of Acutely Hazardous Material (AHM).

Assembly Bill AB 2286 requires all business and agencies to report their Hazardous Materials Business Plans to the Certified Unified Program Agency (CUPA) information electronically at <http://cers.calepa.ca.gov>

The proposed project will not have any impact as it will actually benefit the local area by correcting a prior unauthorized release of hydrocarbons into the ground on the subject property. By permitting the proposed ozone well, the project would actually have a net benefit to the region by removing contaminants that are potentially harmful to the water table for residents and local businesses.

IX. HYDROLOGY AND WATER QUALITY – Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

**(b) No Impact**

**(c) No Impact**

(d) No Impact

(e) No Impact

(f) No Impact

(g) No Impact

(h) No Impact

(i) No Impact

(j) No Impact

**General Information**

Groundwater quality contaminants of concern in the Valley Floor include high salinity (total dissolved solids), nitrate, uranium, arsenic, methane gas, iron, manganese, slime production, and dibromochloropropane with the maximum contaminant level exceeded in some areas. Despite the water quality issues noted above, most of the groundwater in the Valley Floor is of suitable quality for irrigation. Groundwater of suitable quality for public consumption has been demonstrated to be present in most of the area at specific depths.

Groundwater quality contaminants of concern in the Foothills and Mountains include manganese, iron, high salinity, hydrogen sulfide gas, uranium, nitrate, arsenic, and methylbutylethylene (MTBE) with the maximum concentration level being exceeded in some areas. Despite these problems, there are substantial amounts of good-quality groundwater in each of the areas evaluated in the Foothills and Mountains. Iron and manganese are commonly removed by treatment. Uranium treatment is being conducted on a well by the Bass Lake Water Company.

A seiche is an occasional and sudden oscillation of the water of a lake, bay or estuary producing fluctuations in the water level and caused by wind, earthquakes or changes in barometric pressure. A tsunami is an unusually large sea wave produced by seaquake or undersea volcanic eruption (from the Japanese language, roughly translated as "harbor wave"). According to the California Division of Mines and Geology, there are no active or potentially active faults of major historic significance within Madera County. As this property is not located near any bodies of water, no impacts are identified.

The flood hazard areas of the County of Madera are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare. These flood losses are caused by uses that are inadequately elevated, floodproofed, or protected from flood damage. The cumulative effect of obstruction in areas of special flood hazards which increase flood height and velocities also contribute to flood loss.

The project would have a net benefit to the groundwater table as the ozone injection wells would be removing potential harmful contaminants from the immediate area.

X. LAND USE AND PLANNING – Would the project result in:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**Discussion:**

**(a) No Impact**

The project is currently development in accordance with the existing land use plans. The proposal to construction an ozone injection well would be temporary in nature and would meet RWQCB requirements.

**(b) No Impact**

**(c) No Impact**

XI.	MINERAL RESOURCES – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitiga- tion Incorpor- ation	Less Than Significant Impact	No Impact
	a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

There are no known identified resources on site.

**(b) No Impact**

There are no known identified resources on site.

XII.	NOISE – Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitiga- tion Incorpor- ation	Less Than Significant Impact	No Impact
	a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	d) A substantial temporary or periodic increase in ambient levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

- (a) No Impact
- (b) No Impact
- (c) No Impact
- (d) No Impact
- (e) No Impact
- (f) No Impact

**General Discussion**

The Noise Element of the Madera County General Plan (Policy 7.A.5) provides that noise which will be created by new non-transportation noise sources shall be mitigated so as not to exceed the Noise Element noise level standards on lands designated for noise-sensitive uses. However, this policy does not apply to noise levels associated with agricultural operations. All the surrounding properties, while include some residential units, are designated and zoned for agricultural uses. This impact is therefore considered less than significant.

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g. demolition/land clearing, grading and excavation, erection). The United States Environmental Protection Agency has found that the average noise levels associated with construction activities typically range from approximately 76 dBA to 84 dBA Leq, with intermittent individual equipment noise levels ranging from approximately 75 dBA to more than 88 dBA for brief periods.

Short Term Noise

Noise from localized point sources (such as construction sites) typically decreases by approximately 6 dBA with each doubling of distance from source to receptor. Given the noise attenuation rate and assuming no noise shielding from either natural or human-made features (e.g. trees, buildings, fences), outdoor receptors within approximately 400 feet of construction site could experience maximum noise levels of greater than 70 dBA when onsite construction-related noise levels exceed approximately 89 dBA at the project site boundary. Construction activities that occur during the more noise-sensitive eighteen hours could result in increased levels of annoyance and sleep disruption for occupants of nearby existing residential dwellings. As a result, noise-generating construction activities would be considered to have a potentially significant short-term impact. However with implementation of mitigation measures, this impact would be considered less than significant.

Long Term Noise

Mechanical building equipment (e.g. heating, ventilation and air conditioning systems, and boilers), associated with the proposed structures, could generate noise levels of approximately 90 dBA at 3 feet from the source. However, such mechanical equipment systems are typically shielded from direct public exposure and usually housed on rooftops, within equipment rooms, or within exterior enclosures.

Landscape maintenance equipment, such as leaf blowers and gasoline powered mowers, associated with the proposed operations could result in intermittent noise levels that range from approximately 80 to 100 dBA at 3 feet, respectively. Based on an equipment noise level of 100 dBA, landscape maintenance equipment (assuming a noise attenuation rate of 6 dBA per doubling of distance from the source) may result in exterior noise levels of approximately 75 dBA at 50 feet.

MAXIMUM ALLOWABLE NOISE EXPOSURE FOR  
NON-TRANSPORTATION NOISE SOURCES\*

		Residential	Commercial	Industrial (L)	Industrial (H)	Agricultural
Residential	AM	50	60	55	60	60
	PM	45	55	50	55	55
Commercial	AM	60	60	60	65	60
	PM	55	55	55	60	55
Industrial (L)	AM	55	60	60	65	60

	PM	50	55	55	60	55
Industrial (H)	AM	60	65	65	70	65
	PM	55	60	60	65	60
Agricultural	AM	60	60	60	65	60
	PM	55	55	55	60	55

\*As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line.

AM = 7:00 AM to 10:00 PM

PM = 10:00 PM to 7:00 AM

L = Light

H = Heavy

Note: Each of the noise levels specified above shall be lowered by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings).

Vibration perception threshold: The minimum ground or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold shall be presumed to be a motion velocity of one-tenth (0.1) inches per second over the range of one to one hundred Hz.

Reaction of People and Damage to Buildings from Continuous Vibration Levels		
Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.006 to 0.019	Threshold of perception; possibility of intrusion	Damage of any type unlikely
0.08	Vibration readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Continuous vibration begins to annoy people	Virtually no risk of architectural damage to normal buildings
0.20	Vibration annoying to people in buildings	Risk of architectural damage to normal dwellings such as plastered walls or ceilings
0.4 to 0.6	Vibration considered unpleasant by people subjected to continuous vibrations	Architectural damage and possibly minor structural damage

Source: Whiffen and Leonard 1971

XIII. POPULATION AND HOUSING -- Would the project:

Potentially Significant Impact      Less Than Significant with Mitigation Incorporation      Less Than Significant Impact      No Impact

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of



roads or other infrastructure)?

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Discussion:**

**(a) No Impact**

**(b) No Impact**

**(c) No Impact**

**General Information**

According to the California Department of Finance, in January of 2012, the County wide population was 152,074 with a total of 49,334 housing units. This works out to an average of 3.33 persons per housing unit. The vacancy rate was 11.84%.

The proposed project is for construction of a sign only. The sign is allowed within the Planned Development District and was previously envisioned and analyzed as part of Parcel Map #4154. The sign became an off premise sign as a result of the parcel map and its location in relation to the commercial center, which has been zoned for commercial since the 1960s, would serve all the parcels in the area. Its location would be consistent with other highway commercial centers along State Route 99 and would provide more than adequate notice to motorists who wish to exit the highway safely.

**XIV. PUBLIC SERVICES**

- |   | Potentially Significant Impact | Less Than Significant with Mitigation Incorporation | Less Than Significant Impact | No Impact                           |
|---|--------------------------------|---|------------------------------|-------------------------------------|
| a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: |                                |   |                              |                                     |
| i) Fire protection?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| ii) Police protection?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| iii) Schools?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| iv) Parks?  | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| v) Other public facilities?   | <input type="checkbox"/>       | <input type="checkbox"/>                            | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

**Discussion:**

**(a-i) No Impact**

**(a-ii) No Impact**

**(a-iii) No Impact**

**(a-iv) No Impact**

**(a-v) No Impact**

**General Information**

The proposed project site is within the jurisdiction of the Madera County Fire Department. Crime and emergency response is provided by the Madera County Sheriff's Department. The proposed project will have no impact on local parks and will not create demand for additional parks.

The Madera County Fire Department exists through a contract between Madera County and the CALFIRE (California Department of Forestry and Fire Prevention) and operates six stations for County responses in addition to the state-funded CALFIRE stations for state responsibility areas. Under an "Amador Plan" contract, the County also funds the wintertime staffing of four fire seasonal CALFIRE stations. In addition, there are ten paid-call (volunteer) fire companies that operate from their own stations. The administrative, training, purchasing, warehouse, and other functions of the Department operate through a single management team with County Fire Administration.

A Federal Bureau of Investigations 2009 study suggests that there is on average of 2.7 law enforcement officials per 1,000 population for all reporting counties. The number for cities had an average of 1.7 law enforcement officials per 1,000 population.

Single Family Residences have the potential for adding to school populations. The average per Single Family Residence is:

Grade	Student Generation per Single Family Residence
K – 6	0.425
7 – 8	0.139
9 – 12	0.214

The Madera County General Plan allocates three acres of park available land per 1,000 residents' population.

XV. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

**(b) No Impact**

**General Information**

The Madera County General Plan allocates three acres of park available land per 1,000 residents' population.

The proposed project is for construction of a sign only. The sign is allowed within the Planned Development District and was previously envisioned and analyzed as part of Parcel Map #4154. The sign became an off premise sign as a result of the parcel map and its location in relation to the commercial center, which has been zoned for commercial since the 1960s, would serve all the parcels in the area. Its location would be consistent with other highway commercial centers along State Route 99 and would provide more than adequate notice to motorists who wish to exit the highway safely.

XVI. TRANSPORTATION/TRAFFIC -- Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards, established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**(b) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**(c) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**(d) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**(e) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**(f) No Impact**

The Project would be constructed within an existing commercial center but would not generate any peak time trips.

**General Information**

According to the Institute of Traffic Engineers (7<sup>th</sup> Edition, pg. 268-9) the trips per day for one single-family residence are 9.57.

Madera County currently uses Level Of Service "D" as the threshold of significance level for roadway and intersection operations. The following charts show the significance of those levels.

Level of Service	Description	Average Control Delay (sec./car)
A	Little or no delay	0 – 10
B	Short traffic delay	>10 – 15
C	Medium traffic delay	> 15 – 25
D	Long traffic delay	> 25 – 35
E	Very long traffic delay	> 35 – 50
F	Excessive traffic delay	> 50

Unsignalized intersections.

Level of Service	Description	Average Control Delay (sec./car)
A	Uncongested operations, all queues clear in single cycle	< 10
B	Very light congestion, an occasional phase is fully utilized	>10 – 20
C	Light congestion; occasional queues on approach	> 20 – 35
D	Significant congestion on critical approaches, but intersection is functional. Vehicles required to wait through more than one cycle during short peaks. No long-standing queues formed.	> 35 – 55
E	Severe congestion with some long-standing queues on critical approaches. Traffic queues may block nearby intersection(s) upstream of critical approach(es)	> 55-80
F	Total breakdown, significant queuing	> 80

Signalized intersections.

Level of service	Freeways	Two-lane rural highway	Multi-lane rural highway	Expressway	Arterial	Collector
A	700	120	470	720	450	300
B	1,100	240	945	840	525	350
C	1,550	395	1,285	960	600	400
D	1,850	675	1,585	1,080	675	450
E	2,000	1,145	1,800	1,200	750	500

Capacity per hour per lane for various highway facilities

Madera County is predicted to experience significant population growth in the coming years (62.27 percent between 2008 and 2030). Accommodating this amount of growth presents a challenge for attaining and maintain air quality standards and for reducing greenhouse gas emissions. The increase in population is expected to be accompanied by a similar increase in vehicle miles traveled (VMT) (61.36 percent between 2008 and 2030).

Horizon Year	Total Population (thousands)	Employment (thousands)	Average Weekday VMT (millions)	Total Lane Miles
2010	175	49	5.4	2,157
2011	180	53	5.5	NA
2017	210	63	6.7	NA
2020	225	68	7.3	2,264
2030	281	85	8.8	2,277

Source: MCTC 2007 RTP

The above table displays the predicted increase in population and travel. The increase in the lane miles of roads that will serve the increase in VMT is estimated at 120 miles or 0.94 percent by 2030. This indicates that roadways in Madera County can be expected to become much more crowded than is currently experienced.

Emissions of CO (Carbon Monoxide) are the primarily mobile-source criteria pollutant of local concern. Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed and delay. Carbon monoxide transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested roadway or intersection may reach unhealthy levels, affecting local sensitive receptors (residents, school children, hospital patients, the elderly, etc.). As a result, the SJVAPCP recommends analysis of CO emissions of at a local rather than regional level. Local CO concentrations at intersections projected to operate at level of service (LOS) D or better do not typically exceed national or state ambient air quality standards. In addition, non-signalized intersections located within areas having relatively low background concentrations do not typically have sufficient traffic volumes to warrant analysis of local CO concentrations.

XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:**

**(a) No Impact**

**(b) No Impact**

**(c) No Impact**

**(d) No Impact**

**(e) No Impact**

**(f) No Impact**

**(g) No Impact**

General Discussion

Madera County has 34 County Service Areas and Maintenance Districts that together operate 30 small water systems and 16 sewer systems. Fourteen of these special districts are located in the Valley Floor, and the remaining 20 special districts are in the Foothills and Mountains. MD-1 Hidden Lakes, Bass Lake (SA-2B and SA-2C) and SA-16 Sumner Hill have surface water treatment plants, with the remaining special districts relying solely on groundwater.

The major wastewater treatment plants in the County are operated in the incorporated cities of Madera and Chowchilla and the community of Oakhurst. These wastewater systems have been recently or are planned to be upgraded, increasing opportunities for use of recycled water. The cities of Madera and Chowchilla have adopted or are in the process of developing Urban Water Management Plans. Most of the irrigation and water districts have individual groundwater management plans. All of these agencies engage in some form of groundwater recharge and management.

Groundwater provides almost the entire urban and rural water use and about 75 percent of the agricultural water use in the Valley Floor. The remaining water demand is met with surface water. Almost all of the water use in the Foothills and Mountains is from groundwater with only three small water treatment plants relying on surface water from the San Joaquin River and its tributaries.

In areas of higher precipitation (Oakhurst, North Fork, and the topographically higher part of the Coarsegold Area), groundwater recharge is adequate for existing uses. However, some problems have been encountered in parts of these areas due to well interference and groundwater quality issues. In areas of lower precipitation (Raymond-Hensley Lake and the lower part of the Coarsegold area), groundwater recharge is more limited, possibly requiring additional water supply from other sources to support future development.

Madera County is served by a solid waste facility (landfill) in Fairmead. There is a transfer station in North Fork. The Fairmead facility also provides for Household Hazardous Materials collections on Saturdays. The unincorporated portion of the County is served by Red Rock Environmental Group. Above the 1000 foot elevation, residents are served by EMADCO services for solid waste pick-up.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Discussion:****(a) No Impact**

The proposed well would not create any cumulatively significant impacts. The proposed well would actually provide a net benefit to the community by decreasing underground contaminants in the immediate area of the gas station that may affect surrounding waterways and the underlying watertable.

**(b) No Impact**

The proposed well does not have any impacts that should be considered cumulatively considerable.

**(c) No Impact**

The well will not have any impacts that will significantly effect human beings either indirectly or directly.

**General Information**

CEQA defines three types of impacts or effects:

- Direct impacts are caused by a project and occur at the same time and place (CEQA §15358(a)(1)).
- Indirect or secondary impacts are reasonably foreseeable and are caused by a project but occur at a different time or place. They may include growth inducing effects and other effects related to changes in the pattern of land use, population density or growth rate and related effects on air, water and other natural systems, including ecosystems (CEQA §15358(a)(2)).
- Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA §15355(b)). Impacts from individual projects may be considered minor, but considered retroactively with other projects over a period of time, those impacts could be significant, especially where listed or sensitive species are involved.

**Documents/Organizations/Individuals Consulted  
In Preparation of this  
Initial Study**

Madera County General Plan

California Department of Finance

California Integrated Waste Management Board

California Environmental Quality Act Guidelines

United States Environmental Protection Agency

Caltrans website [http://www.dot.ca.gov/hq/LandArch/scenic\\_highways/index.htm](http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm) accessed October 31, 2008

California Department of Fish and Game "California Natural Diversity Database" <http://www.dfg.ca.gov/biogeodata/cnddb/>

Madera County Integrated Regional Water Management Plan.

State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011 and 2012, with 2010 Benchmark*. Sacramento, California, May 2012



ND 2013-01

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February 8, 2013

## NEGATIVE DECLARATION

ND

Project Name

CUP #2013-002

Name of Proponents

ASR Engineering Inc.

Project Location:

The project is located on the south side of Highway 41, at the intersection of Highway 41 and Civic Circle (40135 Highway 41), Oakhurst.

Project Description:

The application is for an ozone sparging well which will be used to alleviate ground contaminants that were released by leaks in the underground tanks related to the gas station.

## PROPOSED FINDINGS

- An Initial Study has been conducted and a findings made that the proposed project will have no significant effect on the environment (CEQA 15070(a)).
- An Initial Study has been conducted and a finding made that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because Mitigation Measures have been added to the project (CEQA 15070(b)).

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Madera County Environmental Committee

A copy of the negative declaration and all supporting documentation is available for review at the Madera County Planning Department, 2037 West Cleveland Avenue, Madera, California.

DATED:

FILED:

PROJECT APPROVED:

# CONDITIONS OF APPROVAL

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PROJECT NAME: CUP #2013-002

PROJECT LOCATION: The project is located on the south side of Highway 41, at the intersection of Highway 41 and Civic Circle (40135 Highway 41), Oakhurst.

PROJECT DESCRIPTION: The application is for an ozone sparging well which will be used to alleviate ground contaminants that were released by leaks in the underground tanks related to the gas station.

APPLICANT: ASR Engineering  
 CONTACT PERSON/TELEPHONE NUMBER: Roy Reyes, 559-271-5260

No.	Condition	Department/Agency	Verification of Compliance		Remarks
			Initials	Date	
Engineering	None				
Environmental Health	None				
Fire	None				
Planning	The proposed business shall comply with the submitted operational statement. Any changes or alteration will require an amendment to the Conditional Use Permit. Development shall be in accordance with the plan(s) as submitted by the applicant and/or as modified by the Planning Commission.	Planning			
		Planning			
Road	None				