BLUE ROCK
ENVIRONMENTAL, INC.

FILE COPY

Mr. Mark Verhey
Humboldt County Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

September 30, 2005

**Re: Third Quarter 2005 Groundwater Monitoring and Remedial System Operations Report**
Former Central BP Station
2160 Central Avenue
M^c^Kinleyville, California
**LOP # 12692**
**Blue Rock Project No. NC-24**

Dear Mr. Verhey,

This report presents the results of the Third Quarter 2005 groundwater monitoring and soil vapor extraction (SVE) operational data for activities performed at the Former Central BP Station located at 2160 Central Avenue in M^c^Kinleyville, Humboldt County, California (site) (Figure 1). The report was prepared for the Louise Pierson Revocable Trust by Blue Rock Environmental, Inc. (Blue Rock).

**Background**

Site Description
The former Central BP Service Station is located in the unincorporated town of McKinleyville, California (Figure 1). The site is level and gravel surfaced, and the lot is approximately 0.5-acre. All former service station structures, including the fueling system, have been removed. The site is approximately 150 feet above mean sea level. Nearby property use is commercial.

Site and UST History
The Louise Pierson Trust has owned the property since 1956. A service station was constructed on the site in 1959. The original station included one 1,000-gallon used oil, two 5,000-gallon gasoline, and one 10,000-gallon gasoline underground storage tanks (USTs). In 1972, the station was remodeled, which included relocating the 1,000-gallon used oil tank 15 feet to the west, and installation of an additional 2,000-gallon gasoline UST was installed on the west side of the existing USTs.

In November 1990, the used oil tank and the 2,000-gallon UST were removed from the site. In August 1991, SHN Consulting Engineers excavated approximately 40 cubic yards of impacted soil from the 2,000-gallon UST pit.

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In August 1998, Albers Construction of Eureka, California removed the remaining 5,000-gallon and 10,000-gallon USTs and overexcavated approximately 340 cubic yards of contaminated soil. Additionally, 200 cubic yards of contaminated tank fill was removed, remediated on site, and backfilled into the excavation per HCDEH approval. Soil samples collected from the UST excavations contained detectable levels of gasoline range hydrocarbons.

Site Investigation History

Site investigation has been ongoing since July 1999. A total of approximately 15 borings (B-1 through B-4, B-A through B-H, and SVB-1 through SVB-3) have been drilled and 12 monitoring wells (MW-1 through MW-12) installed at the site (Figure 2). Also, six vapor extraction wells (VEW-1 through VEW-6) and six air-sparge wells (SW-1 through SW-6) have been installed at the site (Figure 2). A summary of well construction details are included in Table 1 and cumulative groundwater monitoring data are included in Table 2.

Hydrogeology

The site appears to be underlain by sandy silt to a depth of at least 30 feet bgs, the maximum depth explored. Groundwater appears to occur in unconfined conditions with depth to water fluctuating between approximately 7 to 19 feet over the span of the annual hydrologic cycle. Groundwater flow direction has ranged from northwest, northeast, to east.

Contaminant Type

The predominant contaminants detected in the subsurface around the former UST system consist of total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethyl-benzene, xylene (BTEX). Low levels of fuel oxygenates (i.e. MTBE) and TPH as diesel (TPHd), relative to TPHg, have also been detected.

Remediation History

In April 2004, Sustainable Technologies of Alameda, California installed a soil vapor extraction/air sparge system (SVE/AS), which consisted of a grid of six vapor extraction and six air-sparge wells plumbed to a catalytic oxidizer and sparge blower. The SVE/AS system became operational in July 2004.

**Field and Laboratory Activities**

Groundwater Monitoring Activities

On September 13, 2005, twelve wells (MW-1 to MW-12) were gauged and were sampled. During this event MW-7 was found to be dry and silted in above the depth to water in the well. Subsequently, MW-7 was redeveloped and sampled on September 14, 2005. Following the redevelopment of MW-7, all wells were once again monitored for depth to water.

Prior to sampling, an electronic water level indicator was used to gauge depth to water in each well, accurate to within ±0.01-foot. All wells were checked for the presence of light non-aqueous phase liquid (LNAPL) petroleum prior to purging. No measurable thicknesses of LNAPL were observed on groundwater in any of the wells.

In preparation for sampling, the wells were purged of groundwater until sampling parameters (temperature, pH, and conductivity) stabilized. A downhole Dissolved Oxygen (DO) meter was used to measure DO concentrations in groundwater after the wells were purged. DO concentrations recorded this quarter are listed in the text below.

Following recovery of water levels to approximately 80% of their static levels, groundwater samples were collected from the wells using disposable polyethylene bailers and transferred to laboratory supplied containers. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory.

Purging instruments were cleaned between use by an Alconox® wash followed by double rinse in clean tap water to prevent cross-contamination. Purge and rinseate water was stored on-site in labeled 55-gallon drums pending future removal and disposal.

Groundwater monitoring and well purging information is presented on Gauge Data/Purge Calculations and Purge Data sheets (attached).

Groundwater Sample Analyses

Groundwater samples were analyzed by Kiff Analytical (Kiff), a DHS-certified laboratory, located in Davis, California, for the following analytes:

- TPHd by EPA Method 3510/8015M.
- TPHg, BTEX, MTBE by EPA Method 5030/8260B.

**Groundwater Monitoring Results**

Groundwater Flow Direction and Gradient

Static groundwater in the wells was present beneath the site at depths ranging from approximately 21.31 (MW-7) to 14.73 (MW-9) feet bgs. Gauging data, combined with well elevation data, were used to calculate groundwater elevations, and to generate a groundwater elevation and gradient map. The groundwater flow direction was calculated to towards the north and north-northeast at gradients ranging from 0.004 ft/ft to 0.015 ft/ft (Figure 3). Historic groundwater flow direction and gradient are shown in Figure 4. The groundwater gradient and flow direction for this quarter is consistent with previous measurements.

Groundwater Contaminant Analytical Results

| | |
|---|---|
| LNAPL: | None |
| TPHd concentration: | <50 µg/L (numerous wells) to <500 µg/L (MW-7) |
| TPHg concentration: | <50 µg/L (numerous wells) to 11,000 µg/L (MW-7) |
| Benzene concentration: | <0.50 µg/L (numerous wells) to 230 µg/L (MW-7) |
| MTBE Concentration: | <0.50 µg/L (numerous wells) to 4 µg/L (MW-8) |

Groundwater sample analytical results are shown graphically on Figure 5 cumulative groundwater sample analytical results are summarized in Table 2. Copies of the laboratory report and chain-of-custody form are attached.

The extent of dissolved-phase contamination remains delineated. The magnitude and distribution of dissolved-phase contaminants detected during this event have diminished compared to previous sampling events. Dissolved oxygen concentrations in groundwater ranged from 1.07 mg/L (MW-7) to 10.26 mg/L (MW-5).

**Soil Vapor Extraction System**

Background

The soil vapor extraction system design includes six wells plumbed for vapor extraction VEW-1 to VEW-6 (Figure 6). The remediation system was constructed in April 2004 in accordance with Clearwater's *RAP* dated September 3, 2003. The system was tested on July 6 through July 9, 2004 for initial compliance according to the North Coast Unified Air Quality Management District (NCUAQMD) authority to construct (ATC) permit #NAC-380 (Attached). Effluent results of the verification testing indicated that the system was operating within compliance of the permit. Thus, according to the ATC permit weekly compliance monitoring was initiated. The interval for the monitoring of the system and the collection influent and effluent air samples was reduced to monthly from weekly beginning in August 2004 as system compliance with the NCUAQMD ATC permit had been demonstrated.

Operational Data

Petroleum hydrocarbon vapors extracted from soil and groundwater are treated by a 250 scfm Solleco 250 ECAT catalytic oxidizer (catox).

In accordance with the NCAQMD ATC permit, the influent and effluent air streams for the catox unit were analyzed for contaminant concentrations (TPHg, BTEX and MTBE) during the first four days of startup and weekly thereafter. Sampling intervals were changed to monthly once compliance had been demonstrated. Catox operational data and analytical results for influent and effluent samples, and compliance data are presented on Tables 3, 4, 5 and 6. The soil vapor extraction process flow diagram is shown on Figure 7. Individual vapor well analytical results of vapor samples collected from the catox influent streams, during startup of the system in July 2004 are presented on Table 3. The following is a summary of the operational data and analytical results of samples from the soil vapor extraction process stream for this monitoring period:

- Monitoring Initiation: System was started on July 6, 2004
- Period of Operation: June 9, 2005 to September 16, 2005
- Monitoring Dates: 7/21/05, 8/30/05, 9/16/05
- Total Operational Hours: 7,402 hours to date
- Period Operational Hours: 1,882 Hours
- Period System running time: 79%
- Period Average influent air flow rate: 232 scfm
- Period Average influent air TPHg: 1,247 $mg/m^3$
- Period Average effluent air TPHg: <21 $mg/m^3$
- Period Average Destruction efficiency: >94 %,
- Period Average TPHg recovery rate: 21.3 lb/day
- Total TPHg recovery: 9,647 lb (1,587 gal) to date
- Operating wells: VEW-3 through VEW-6
- Analytes tested: TPHg, BTEX, MTBE
- Analytical methods: EPA Method 8260B
- Laboratory: Kiff Analytical LLC, Davis, California

The TPHg recovery rate is based on analytical influent air sample results and concurrently measured air flow. The average TPHg recovery rate for each month is multiplied by hours of operation for that period to calculate TPHg removal for the period between each sampling event.

**Air Sparge System**

Background

The air sparge injection system design includes five wells plumbed for sparging: SW-1 to SW-6 (Figure 8). The air sparge system was constructed in April 2004.

Operational Data

- Startup date: Started on December 1, 2004
- Operational time: On 24 hrs / day 7 days / week; off with SVE system shutdown
- Injection air flow rate: Approximately 7 to 8 scfm

The air sparge system was started following the installation of interlocks between the SVE and Sparge systems in early December 2004. The sparge system was subsequently shut down in mid December due to the added influent hydrocarbon concentrations originating from sparge system operation causing the system to shut down. When influent concentrations from SVE system operation began to diminish, the sparge system was restarted to remediate residual dissolved hydrocarbons.

In August 2005, the original 3-hp sparge pump had worn to the point that it no longer could pump a sufficient amount of air into the ground to produce a remedial effect. That pump was subsequently replaced with a 7.5-hp pump in an effort to resume effective groundwater remediation through air sparging. Additionally, the larger sparge pump has increased the rate of

air flow into the subsurface thus increasing volatilization (stripping) of dissolved-phase hydrocarbons from dissolved phase to vapor phase for recovery through the catalytic oxidizer.

**Remedial System Status**

The soil vapor extraction system is configured to concentrate extracting vapor from wells VEW-1 to VEW-6. The catox has been in operation since July 6, 2004. The soil vapor extraction system is operating as designed, recovering hydrocarbon vapor from the area of soil contamination at significant rates. An estimated 9,647 lb. (1,587 gal) of hydrocarbons have been recovered from the subsurface. Blue Rock recommends continued operation of the vapor extraction remediation system as designed. Sparge system operation has been resumed and appears to have increased the effectiveness of dissolved-phase remediation occurring at the site.

**Project Status and Recommendations**

- The site is currently being monitored on a quarterly basis per the HCDEH directive directives. The next quarterly sampling event is scheduled for December 2005. Groundwater samples are currently analyzed for TPHd, TPHg, BTEX, and MTBE.

- Blue rock recommends deleting TPHd from the groundwater analytical suite with the exception of MW-7.

- The SVE / AS system should continue operation as designed. The next influent / effluent sampling event is scheduled for October 2005.

- As the extent and magnitude of the dissolved-phase plume continues to diminish through operation of the SVE / AS remedial system, Blue Rock recommends beginning the site closure evaluation process in an effort to expedite the site closure process. This should include, as the HCDEH requires, evaluation of the extent residual post remediation sorbed-phase contamination through confirmation soil sampling and evaluation of trends in the magnitude and extent of the dissolved-phase plume.

**Certification**

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.

Sincerely,
Blue Rock Environmental, Inc.

Prepared by:

Andrew LoCicero
Project Scientist

Reviewed by:

Brian Gwinn, P.G.
Principal Geologist

PROFESSIONAL GEOLOGIST
BRIAN M. GWINN
No 6509
exp. 4/30/07
STATE OF CALIFORNIA

Attachments:

- Table 1: Well Construction Details
- Table 2: Groundwater Elevations and Sample Analytical Results
- Table 3: SVE Air Sample Analytical Results
- Table 4: SVE Operational Data
- Table 5: SVE Catox Treatment Data
- Table 6: SVE Catox Emissions Calculations
- Figure 1: Site Location Map
- Figure 2: Site Plan
- Figure 3: Groundwater Elevation and Gradient Map – 9/14/05
- Figure 4: Cumulative Groundwater Flow Direction and Gradient 6/99 – 9/05
- Figure 5: Dissolved-Phase Hydrocarbon (TPHg) Distribution – 9/13/05
- Figure 6a: SVE Layout and Radius of Influence (VEW-1, 3, 5)
- Figure 6b: SVE Layout and Radius of Influence (VEW-2, 4, 6)
- Figure 7: Catox and Well Manifold Schematic
- Figure 8: Air-Sparge Blower and Well Manifold Schematic
- Blue Rock Gauge/Purge Calculations Well Purging Data field sheets and SVE O&M Forms
- Laboratory Analytical Reports and Chain-of-Custody Forms
- North Coast Unified Air Quality Management District Authority to Construct Permit

Distribution:

Mr. Greg Pierson, Louise Pierson Revocable Trust, 1200 W. Harris Street, Eureka, CA 95503

Mr. Al Steer, North Coast Unified Air Quality Management District, 2300 Myrtle Ave. Eureka, CA 95501

**Table 1**
**Well Construction Data**
Former Central BP Station
2160 Central Ave
McKinleyville, California
Blue Rock Project No. NC-24

| Well Identification | Date Intstalled | Intstalled by | Casing Diameter (inches) | Total Depth (feet) | Blank Interval (feet) | Screened Interval (feet) | Slot Size (inches) | Filter Pack (feet) | Bentonite Seal (feet) | Cement (feet) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 7/20/99 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-2 | 7/20/99 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-3 | 7/20/99 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-4 | 8/30/00 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-5 | 8/30/00 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-6 | 8/30/00 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-7 | 8/30/00 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-8 | 8/6/01 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-9 | 8/6/01 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-10 | 8/6/01 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-11 | 8/6/01 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| MW-12 | 8/6/01 | Clearwater | 2 | 25 | 0-5 | 5-25 | 0.02 | 4-25 | 3-4 | 0-3 |
| VEW-1 | 9/24/03 | Clearwater | 2 | 20 | 0-5 | 5-20 | 0.02 | 4-20 | 3-4 | 0-3 |
| VEW-2 | 9/24/03 | Clearwater | 2 | 20 | 0-5 | 5-20 | 0.02 | 4-20 | 3-4 | 0-3 |
| VEW-3 | 9/24/03 | Clearwater | 2 | 20 | 0-5 | 5-20 | 0.02 | 4-20 | 3-4 | 0-3 |
| VEW-4 | 9/24/03 | Clearwater | 2 | 20 | 0-5 | 5-20 | 0.02 | 4-20 | 3-4 | 0-3 |
| VEW-5 | 9/24/03 | Clearwater | 2 | 20 | 0-5 | 5-20 | 0.02 | 4-20 | 3-4 | 0-3 |
| SW-1 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |
| SW-2 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |
| SW-3 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |
| SW-4 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |
| SW-5 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |
| SW-6 | 9/25/03 | Clearwater | 2 | 30 | 0-28 | 28-30 | 0.02 | 27-30 | 25.5 - 27 | 0-25.5 |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | 7/28/99 | 149.69 | 14.52 | 135.17 | **13,000** | **620** | <500 | **12** | **10** | **580** | **796** | **25** | -- | -- | -- | -- | -- | -- |
| | 10/25/99 | 149.69 | 17.42 | 132.27 | **10,000** | **640** | <500 | **48** | **3.9** | **400** | **262** | **83** | <2.5 | **110** | <2.5 | <50 | -- | -- |
| Screen | 1/18/00 | 149.69 | 14.32 | 135.37 | <50 | <50 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <1 | <1 | <10 | -- | -- |
| 5'-25' | 2/17/00 | 149.69 | 9.36 | 140.33 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/3/00 | 149.69 | 8.52 | 141.17 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/21/00 | 149.69 | 10.39 | 139.30 | <50 | <50 | <170 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <1 | <1 | <10 | -- | -- |
| | 9/12/00 | 149.69 | 17.11 | 132.58 | **113** | **135** | - | **0.7** | **0.8** | **3.6** | **8.1** | <2 | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.69 | 17.97 | 131.72 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/16/00 | 149.69 | 18.37 | 131.72 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 12/14/00 | 149.69 | 18.59 | 131.10 | **148** | <50 | -- | **2.9** | <0.8 | <0.8 | <1.5 | **5.1** | <1.3 | <1.3 | <1.3 | <1.3 | -- | -- |
| | 1/22/01 | 149.69 | 18.46 | 131.23 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.69 | 17.78 | 131.91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.69 | 16.78 | 132.91 | **885** | **100** | - | <0.3 | <0.5 | <0.3 | **6.2** | <2 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.69 | 17.11 | 132.58 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.69 | 17.7 | 131.99 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.69 | 18.04 | 131.65 | **930** | <250 | -- | **1.7** | **0.85** | **20** | **1.9** | **0.67** | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 7/18/01 | 149.69 | 19.02 | 130.67 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.69 | 19.57 | 130.12 | **170** | <100 | - | <0.5 | **0.66** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 10/10/01 | 149.69 | dry | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.69 | dry | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 12/27/01 | 149.69 | 15.81 | 133.88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.69 | 13.31 | 136.38 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.69 | 12.46 | 137.23 | **64** | <50 | -- | <0.5 | <0.5 | <0.5 | **3.1** | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 149.69 | 9.79 | 139.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.69 | 10.27 | 139.42 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.69 | 12.12 | 137.57 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | **0.8** | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 148.28 | 16.61 | 131.67 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 148.28 | 17.01 | 131.27 | **430** | <200 | -- | <0.5 | <0.5 | **16** | **15** | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | **58** |
| | 11/18/02 | 148.28 | dry | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/6/03 | 148.28 | 9.53 | 138.75 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 148.28 | 7.83 | 140.45 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 148.28 | 14.89 | 133.39 | **1,200** | <200 | -- | **0.63** | **5.4** | **1.8** | **61** | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 148.28 | 19.25 | 129.03 | <50 | **64** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 148.28 | 10.01 | 138.27 | <50 | **71** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 148.28 | 15.04 | 133.24 | **630** | <200 | -- | <0.5 | **1.2** | **15** | **22** | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 148.28 | 17.87 | 130.41 | **150** | <200 | -- | <0.5 | <0.5 | **5.9** | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 148.28 | 19.19 | 129.09 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 148.28 | 14.04 | 134.24 | **130** | <50 | -- | <0.5 | <0.5 | **1.3** | **1.9** | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 148.28 | 13.42 | 134.86 | <50 | **59** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 148.28 | 18.28 | 130.00 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| MW-2 | 7/28/99 | 149.24 | 14.11 | 135.13 | <50 | <50 | <500 | <0.5 | <50 | <0.5 | <0.5 | **40** | -- | -- | -- | -- | -- | -- |
| | 10/25/99 | 149.24 | 16.77 | 132.47 | <50 | <50 | <500 | **1.4** | <0.5 | <0.5 | <0.5 | **27** | <1 | <1 | <1 | <10 | -- | -- |
| Screen | 1/18/00 | 149.24 | 9.89 | 139.35 | <50 | <50 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | **1** | <1 | <1 | <1 | <10 | -- | -- |
| 5'-25' | 2/17/00 | 149.24 | 10.76 | 138.48 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/3/00 | 149.24 | 9.72 | 139.52 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/21/00 | 149.24 | 11.21 | 138.03 | <50 | <50 | <170 | <0.5 | <0.5 | <0.5 | <0.5 | **12** | <1 | <1 | <1 | <10 | -- | -- |
| | 9/12/00 | 149.24 | 16.43 | 132.81 | <50 | <50 | -- | **0.9** | <0.3 | <0.3 | <0.6 | **23.9** | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.24 | 17.33 | 131.91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/16/00 | 149.24 | 17.86 | 132.81 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 12/14/00 | 149.24 | 18.16 | 131.91 | <50 | <50 | - | <0.3 | <0.3 | <0.3 | <0.6 | **14.3** | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 1/22/01 | 149.24 | 18.19 | 131.05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.24 | 17.74 | 131.50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.24 | 17.04 | 132.20 | <50 | <50 | -- | <0.3 | <0.3 | <0.3 | <0.6 | **7** | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.24 | 17.01 | 132.23 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 5/7/01 | 149.24 | 17.34 | 131.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.24 | 17.83 | 131.41 | <50 | <50 | - | <0.5 | <0.5 | <0.5 | <0.5 | 13 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| Screen | 7/18/01 | 149.24 | 18.65 | 130.59 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5'-25' | 8/17/01 | 149.24 | 19.14 | 130.10 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 13 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 10/10/01 | 149.24 | 19.92 | 129.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.24 | 20.55 | 128.69 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 19 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 12/27/01 | 149.24 | 17.89 | 131.35 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.24 | 15.86 | 133.38 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.24 | 14.51 | 134.73 | 820 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 8.1 | <5 | <50 |
| | 3/14/02 | 149.24 | 11.34 | 137.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.24 | 11.49 | 137.75 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.24 | 12.69 | 136.55 | 1,200 | <50 | -- | 8.9 | <0.5 | <0.5 | <0.5 | 8.5 | <0.5 | <0.5 | <0.5 | 6.9 | <5 | <50 |
| | 7/23/02 | 148.06 | 15.81 | 132.25 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 148.06 | 16.15 | 131.91 | 1,000 | <50 | -- | 13 | 0.7 | <0.5 | 1.5 | 9.6 | <0.5 | <0.5 | <0.5 | 8.4 | <20 | <50 |
| | 11/18/02 | 148.06 | 18.96 | 129.10 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 1.3 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/6/03 | 148.06 | 11.04 | 137.02 | 1,400 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <10 | <50 |
| | 5/1/03 | 148.06 | 8.96 | 139.10 | 120 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <10 | <50 |
| | 8/1/03 | 148.06 | 14.23 | 133.83 | 840 | <50 | -- | 0.67 | <0.5 | <0.5 | <0.5 | 0.73 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 148.06 | 18.47 | 129.59 | 370 | <50 | -- | 9.2 | <0.5 | <0.5 | 5 | 0.53 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 148.06 | 11.34 | 136.72 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 148.06 | 14.69 | 133.37 | 66 | <50 | -- | 3 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 148.06 | 17.13 | 130.93 | <50 | <50 | -- | 2.1 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 148.06 | 18.66 | 129.40 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 148.06 | 15.19 | 132.87 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 148.06 | 13.48 | 134.58 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 148.06 | 17.92 | 130.14 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| MW-3 | 7/28/99 | 148.62 | 13.40 | 135.22 | <50 | 53 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | 100 | -- | -- | -- | -- | -- | -- |
| | 10/25/99 | 148.62 | 16.72 | 131.90 | <50 | <50 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | 11 | <1 | <1 | <1 | <10 | -- | -- |
| Screen | 1/18/00 | 148.62 | 13.78 | 134.84 | <50 | <50 | <500 | <0.5 | <0.5 | <0.5 | <0.5 | 4.9 | <1 | <1 | <1 | <10 | -- | -- |
| 5'-25' | 2/17/00 | 148.62 | 8.17 | 140.45 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/3/00 | 148.62 | 7.46 | 141.16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/21/00 | 149.24 | 9.54 | 139.70 | <50 | <50 | <170 | <0.5 | <0.5 | <0.5 | <0.5 | 6.9 | <1 | <1 | <1 | <10 | -- | -- |
| | 9/12/00 | 149.24 | 16.23 | 133.01 | 58 | <50 | - | <0.3 | <0.3 | <0.3 | <0.6 | 89.7 | <0.5 | 9.4 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.24 | 17.13 | 132.11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/16/00 | 149.24 | 17.52 | 131.72 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 12/14/00 | 149.24 | 17.67 | 131.57 | 68 | <50 | -- | <0.3 | <0.3 | <0.3 | <0.6 | 62.3 | <0.5 | 3.8 | <0.5 | <0.5 | -- | -- |
| | 1/22/01 | 149.24 | 17.68 | 131.56 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.24 | 16.99 | 132.25 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.24 | 15.93 | 133.31 | <200 | <50 | -- | <1.2 | <1.2 | <1.2 | 33.7 | 42.6 | <2 | <2 | 3.4 | <2 | -- | -- |
| | 4/13/01 | 149.24 | 16.19 | 133.05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.24 | 16.63 | 132.61 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.24 | 17.16 | 132.08 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 73 | <0.5 | 7.7 | <0.5 | <5 | -- | -- |
| | 7/17/01 | 149.24 | 18.10 | 131.14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.24 | 18.65 | 130.59 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 53 | <0.5 | 3.7 | <0.5 | <5 | <5 | <50 |
| | 10/10/01 | 149.24 | 19.48 | 129.76 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.24 | 20.06 | 129.18 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 69 | <0.5 | 3.4 | <0.5 | <5 | <5 | <100 |
| | 12/27/01 | 149.24 | 14.29 | 134.95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.24 | 10.79 | 138.45 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.24 | 10.43 | 138.81 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 6.2 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 149.24 | 8.34 | 140.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.24 | 9.08 | 140.16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.24 | 10.57 | 138.67 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 1.1 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 147.44 | 15.67 | 131.77 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 147.44 | 16.09 | 131.35 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 4 | <0.5 | <0.5 | <0.5 | <5 | <5 | 95 |
| | 11/18/02 | 147.44 | 18.77 | 128.67 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 10 | <0.5 | <0.5 | <0.5 | <5 | <5 | 68 |
| | 2/6/03 | 147.44 | 8.14 | 139.30 | <50 | 62 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 147.44 | 6.56 | 140.88 | <50 | 140 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 147.44 | 13.89 | 133.55 | <50 | 81 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 147.44 | 18.37 | 129.07 | <50 | 89 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 2 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 147.44 | 8.55 | 138.89 | <50 | 82 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 147.44 | 14.15 | 133.29 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 147.44 | 16.93 | 130.51 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 147.44 | 18.31 | 129.13 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 0.68 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 147.44 | 11.95 | 135.49 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.44 | 11.46 | 135.98 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 147.44 | 16.76 | 130.68 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | 9/12/00 | 149.92 | 17.56 | 132.36 | <50 | <50 | -- | <0.3 | <0.3 | <0.3 | <0.6 | <2 | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.92 | 18.41 | 131.51 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/16/00 | 149.92 | 18.65 | 131.27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5'-25' | 12/14/00 | 149.92 | 18.88 | 131.04 | <50 | <50 | -- | <0.3 | <0.3 | <0.3 | <0.6 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 1/22/01 | 149.92 | 18.65 | 131.27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.92 | 17.82 | 132.10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.92 | 16.52 | 133.40 | <50 | <50 | -- | <0.3 | <0.3 | <0.3 | <0.6 | <2 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.92 | 17.14 | 132.78 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.92 | 17.70 | 132.22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.92 | 18.23 | 131.69 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 7/18/01 | 149.92 | 19.24 | 130.68 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.92 | 19.84 | 130.08 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 10/10/01 | 149.92 | 20.72 | 129.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.92 | 21.28 | 128.64 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 12/27/01 | 149.92 | 15.81 | 134.11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.92 | 12.50 | 137.42 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.92 | 12.08 | 137.84 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 149.92 | 9.61 | 140.31 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.92 | 10.48 | 139.44 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.92 | 12.24 | 137.68 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 148.51 | 17.01 | 131.50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 148.51 | 17.43 | 131.08 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | **11** | **100** |
| | 11/18/02 | 148.51 | 20.01 | 128.50 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/6/03 | 148.51 | 9.33 | 139.18 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 148.51 | 7.67 | 140.84 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 148.51 | 15.18 | 133.33 | <50 | **63** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 148.51 | 19.62 | 128.89 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 148.51 | 9.86 | 138.65 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 148.51 | 15.21 | 133.30 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 148.51 | 18.25 | 130.26 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 148.51 | 19.48 | 129.03 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 148.51 | 13.29 | 135.22 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 148.51 | 12.73 | 135.78 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 148.51 | 18.11 | 130.40 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| MW-5 | 9/12/00 | 149.02 | 15.83 | 133.19 | **69,300** | **5,240** | -- | **566** | **7,310** | **2,690** | **9,570** | **28.5** | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.02 | 16.92 | 132.10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/16/00 | 149.02 | 17.62 | 131.40 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5'-25' | 12/14/00 | 149.02 | 17.93 | 131.09 | **40,400** | **7,050** | -- | **324** | **2,260** | **1,280** | **4,730** | **25** | <2.5 | <2.5 | <2.5 | <2.5 | -- | -- |
| | 1/22/01 | 149.02 | 17.86 | 131.16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.02 | 17.22 | 131.80 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.02 | 16.56 | 132.46 | **36,500** | -- | -- | **523** | **3,950** | **1,240** | **4,750** | **21.2** | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.02 | 16.54 | 132.48 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.02 | 16.81 | 132.21 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.02 | 17.28 | 131.74 | **35,000** | <2,500 | -- | **400** | **2,800** | **1,200** | **4,300** | **12** | <10 | <10 | <10 | <100 | -- | -- |
| | 7/18/01 | 149.02 | 18.33 | 130.69 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.02 | 18.93 | 130.09 | **33,000** | <2,800 | -- | **130** | **1,300** | **920** | **2,900** | <5 | <5 | <5 | <5 | <50 | <50 | <500 |
| | 10/10/01 | 149.02 | 19.82 | 129.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.02 | 20.43 | 128.59 | **30,000** | <2,100 | -- | **630** | **2,700** | **1,000** | **3,300** | **25** | <10 | <10 | <10 | <100 | <100 | <1,000 |
| | 12/27/01 | 149.02 | 17.45 | 131.57 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.02 | 15.48 | 133.54 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.02 | 13.98 | 135.04 | **72,000** | <2,900 | -- | **2,300** | **14,000** | **2,100** | **8,100** | <50 | <50 | <50 | <50 | <500 | <500 | <5,000 |
| | 3/14/02 | 149.02 | 10.67 | 138.35 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.02 | 10.85 | 138.17 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.02 | 12.10 | 136.92 | **30,000** | <500 | -- | **1,100** | **3,700** | **940** | **3,300** | <5.0 | <5.0 | <.5.0 | <5.0 | <50 | <50 | <500 |
| | 7/23/02 | 147.64 | 15.37 | 132.27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 147.64 | 15.73 | 131.91 | **55,000** | <2,500 | -- | **1,100** | **4,900** | **1,800** | **6,500** | <20 | <20 | <20 | <20 | <200 | <200 | <2,000 |
| | 11/18/02 | 147.64 | 18.91 | 128.73 | **26,000** | <3,500 | -- | **220** | **450** | **930** | **1,900** | **33** | <5 | **6.7** | <5 | <50 | <50 | <500 |
| | 2/6/03 | 147.64 | 10.32 | 137.32 | **2,300** | <400 | -- | **8.9** | **60** | **33** | **79** | <0.5 | <0.5 | <0.5 | <0.5 | **9.3** | <20 | <50 |
| | 5/1/03 | 147.64 | 8.27 | 139.37 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 147.64 | 13.81 | 133.83 | **8,800** | <600 | -- | **110** | **1,300** | **210** | **1,000** | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 147.64 | 18.06 | 129.58 | **24,000** | <3,300 | -- | **170** | **200** | **540** | **1,000** | <5 | <5 | <5 | <5 | <50 | <50 | <500 |
| | 2/4/04 | 147.64 | 10.86 | 136.78 | **3,800** | <300 | -- | **9.1** | **31** | **59** | **110** | <1 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 147.64 | 14.27 | 133.37 | **13,000** | <1,000 | -- | **270** | **600** | **440** | **1,600** | <2.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 147.64 | 16.16 | 131.48 | **24,000** | <4,000 | -- | **210** | **230** | **730** | **1,300** | <5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 147.64 | 18.11 | 129.53 | **37,000** | <2,000 | -- | **1,900** | **5,100** | **1,400** | **3,500** | **17** | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 147.64 | 11.84 | 135.80 | **6,600** | <800 | -- | **680** | **1,600** | **180** | **480** | **11** | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.64 | 12.65 | 134.99 | **4,100** | <300 | -- | **250** | **550** | **160** | **520** | **6.5** | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 147.64 | 16.80 | 130.84 | **700** | <50 | -- | **16** | **17** | **160** | **520** | **6.5** | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-6 | 9/12/00 | 149.82 | 17.28 | 132.54 | 2,310 | 759 | -- | 20.5 | 28.5 | 177 | 58.7 | 13.8 | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.82 | 18.23 | 131.59 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/16/00 | 149.82 | 18.56 | 131.26 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5'-25' | 12/14/00 | 149.82 | 18.82 | 131.00 | 1,790 | 670 | -- | 12.9 | 2.5 | 175 | 9.9 | 8.1 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 1/22/01 | 149.82 | 18.73 | 131.09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.82 | 18.03 | 131.79 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.82 | 17.09 | 132.73 | 8,150 | 1,880 | - | 11.9 | 9.4 | 458 | 173 | 2.6 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.82 | 17.38 | 132.44 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.82 | 17.82 | 132.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.82 | 18.33 | 131.49 | 4,400 | <1,200 | -- | 3.6 | 1.2 | 180 | 20 | 1.9 | <1 | <1 | <1 | <10 | -- | -- |
| | 7/18/01 | 149.82 | 19.31 | 130.51 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.82 | 19.86 | 129.96 | 1,900 | <600 | -- | 7.8 | <0.5 | 17 | 1.3 | 3.6 | <0.5 | 0.86 | <0.5 | <5 | <5 | <50 |
| | 10/10/01 | 149.82 | 20.73 | 129.09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.82 | 21.27 | 128.55 | 2,100 | <400 | -- | 23 | 2.9 | 28 | 0.68 | 9.4 | <0.5 | 2.3 | <0.5 | <5 | <5 | <100 |
| | 12/27/01 | 149.82 | 17.36 | 132.46 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.82 | 14.93 | 134.89 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.82 | 13.93 | 135.89 | 2,700 | <400 | -- | 0.8 | <0.5 | 55 | 40 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 149.82 | 11.27 | 138.55 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.82 | 11.62 | 138.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.82 | 12.98 | 136.84 | 1,100 | <200 | -- | <0.05 | <0.5 | 24 | 1.2 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 148.42 | 16.84 | 131.58 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 148.42 | 17.23 | 131.19 | 2,600 | <500 | -- | 1.8 | <0.5 | 100 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 7.1 | <15 | <50 |
| | 11/18/02 | 148.42 | 19.94 | 128.48 | 370 | <200 | -- | 1.7 | <0.5 | 1.3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 5.9 | <5 | <50 |
| | 2/6/03 | 148.42 | 10.78 | 137.64 | 460 | <300 | -- | <0.5 | <0.5 | 3.6 | 3.3 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 148.42 | 8.90 | 139.52 | 130 | <150 | -- | <0.5 | <0.5 | 2.6 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 148.42 | 15.11 | 133.31 | 830 | <400 | -- | <0.5 | <0.5 | 14 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 148.42 | 19.44 | 128.98 | 740 | <400 | -- | 2.8 | 0.64 | 14 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 148.42 | 10.95 | 137.47 | 260 | <200 | -- | <0.5 | <0.5 | <0.5 | 0.62 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 148.42 | 15.30 | 133.12 | 180 | <100 | -- | <0.5 | <0.5 | 2.6 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 148.42 | 18.08 | 130.34 | 430 | <400 | -- | 0.7 | <0.5 | 7.1 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 148.42 | 19.43 | 128.99 | 92 | <50 | -- | 0.7 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 148.42 | 14.94 | 133.48 | 150 | <100 | -- | <0.5 | <0.5 | 1.6 | 2 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 148.42 | 14.26 | 134.16 | 490 | <300 | -- | <0.5 | <0.5 | 4 | 1.3 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 148.42 | 18.92 | 129.50 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| MW-7 | 9/12/00 | 149.53 | 16.26 | 133.27 | 324,000 | 6,380 | -- | 18,300 | 46,100 | 7,650 | 33,200 | <400 | <0.5 | <0.5 | <0.5 | <500 | -- | -- |
| | 10/16/00 | 149.53 | 17.44 | 132.09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/16/00 | 149.53 | 17.96 | 131.57 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5'-25' | 12/14/00 | 149.53 | 18.27 | 131.26 | 87,200 | 2,910 | -- | 12,100 | 28,800 | 3,220 | 14,090 | 81.3 | <2.5 | -- | <2.5 | 2.5 | -- | -- |
| | 1/22/01 | 149.53 | 18.25 | 131.28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/16/01 | 149.53 | 17.74 | 131.79 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 3/9/01 | 149.53 | 17.04 | 132.49 | 87,500 | 7,810 | -- | 7,120 | 21,300 | 2,250 | 10,440 | 48.9 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- |
| | 4/13/01 | 149.53 | 17.12 | 132.41 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/01 | 149.53 | 17.40 | 132.13 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 6/1/01 | 149.53 | 17.89 | 131.64 | 120,000 | <4,000 | -- | 9,900 | 26,000 | 3,100 | 13,000 | 60 | <50 | <50 | <50 | <500 | -- | -- |
| | 7/18/01 | 149.53 | 18.72 | 130.81 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/17/01 | 149.53 | 19.23 | 130.30 | 86,000 | <3,000 | -- | 8,000 | 15,000 | 3,300 | 12,000 | 67 | <50 | <50 | <50 | <500 | <500 | <5,000 |
| | 10/10/01 | 149.53 | 19.89 | 129.64 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 11/19/01 | 149.53 | 20.64 | 128.89 | 88,000 | <6,500 | -- | 5,900 | 14,000 | 2,800 | 11,000 | <50 | <50 | <50 | <50 | <500 | <500 | <5,000 |
| | 12/27/01 | 149.53 | 17.74 | 131.79 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 149.53 | 15.71 | 133.82 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 149.53 | 14.44 | 135.09 | 110,000 | <10,200 | -- | 960 | 12,000 | 3,600 | 16,000 | <50 | <50 | <50 | <50 | <500 | <500 | <5,000 |
| | 3/14/02 | 149.53 | 10.88 | 138.65 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 149.53 | 11.18 | 138.35 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 149.53 | 12.49 | 137.04 | 180,000 | <9,400 | -- | 1,200 | 13,000 | 4,100 | 18,000 | <25 | <25 | <25 | <25 | <250 | <250 | <2,500 |
| | 7/23/02 | 148.09 | 15.73 | 132.36 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 148.09 | 16.06 | 132.03 | 130,000 | <4,500 | -- | 1,200 | 15,000 | 3,900 | 16,000 | <50 | <50 | <50 | <50 | <500 | <500 | <5,000 |
| | 11/18/02 | 148.09 | 19.12 | 128.97 | 110,000 | <7,000 | -- | 2,900 | 21,000 | 3,300 | 13,000 | <100 | <100 | <100 | <100 | <1,000 | <1,000 | <10,000 |
| | 2/6/03 | 148.09 | 10.64 | 137.45 | 78,000 | <26,000 | -- | 200 | 3,100 | 3,600 | 13,000 | <20 | <20 | <20 | <20 | <200 | <200 | <2,000 |
| | 5/1/03 | 148.09 | 8.57 | 139.52 | 41,000 | <6,700 | -- | 23 | 400 | 1,700 | 6,600 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | 8.7 | <50 |
| | 8/1/03 | 148.09 | 14.18 | 133.91 | 89,000 | <25,000 | -- | 340 | 4,700 | 4,300 | 18,000 | <25 | <25 | <25 | <25 | <250 | -- | -- |
| | 11/10/03 | 148.09 | 18.53 | 129.56 | 77,000 | <6,700 | -- | 630 | 5,500 | 1,900 | 8,400 | <25 | <25 | <25 | <25 | <250 | <250 | <2,500 |
| | 2/4/04 | 148.09 | 11.05 | 137.04 | 62,000 | <8,000 | -- | 110 | 1,900 | 2,700 | 11,000 | <10 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 148.09 | 14.58 | 133.51 | 77,000 | <8,000 | -- | 200 | 3,100 | 2,700 | 11,000 | <20 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 148.09 | 17.04 | 131.05 | 64,000 | <10,000 | -- | 320 | 2,400 | 2,600 | 11,000 | <25 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 148.09 | 18.64 | 129.45 | 44,000 | <10,000 | -- | 430 | 1,100 | 1,600 | 5,900 | <10 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 148.09 | 15.24 | 132.85 | 18,000 | <10,000 | -- | 180 | 460 | 390 | 2,400 | <4 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 148.09 | 13.99 | 134.10 | 16,000 | <3,000 | -- | 200 | 1,400 | 220 | 2,400 | <4 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 148.09 | 21.31 | 126.78 | 11,000 | <50 | -- | 230 | 30 | 300 | 920 | <2 | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-8 | 8/17/01 | 148.75 | 18.58 | 130.17 | 540 | <200 | -- | 82 | <0.5 | 1.4 | 3.8 | 23 | <0.5 | <0.5 | <0.5 | 7.8 | <5 | <50 |
| | 10/10/01 | 148.75 | 19.36 | 129.39 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/19/01 | 148.75 | 19.99 | 128.76 | 870 | <120 | -- | 19 | <0.5 | 11 | <0.5 | 160 | <0.5 | 2.2 | 4.6 | 15 | <5 | <50 |
| 5'-25' | 12/27/01 | 148.75 | 17.42 | 131.33 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 148.75 | 14.77 | 133.98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 148.75 | 13.48 | 135.27 | 1,200 | <300 | -- | 30 | <0.5 | <0.5 | 1.3 | 290 | <0.5 | 4.9 | 4.3 | 32 | <12 | <650 |
| | 3/14/02 | 148.75 | 10.77 | 137.98 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 148.75 | 10.95 | 137.80 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 148.75 | 12.17 | 136.58 | 1,400 | <100 | -- | 110 | 0.51 | <0.5 | 1.5 | 19 | <0.5 | <0.5 | <0.5 | 9.6 | <5 | <50 |
| | 7/23/02 | 147.49 | 15.52 | 131.97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 147.49 | 15.90 | 131.59 | 780 | <200 | -- | 90 | <0.5 | <0.5 | 0.96 | 40 | <0.5 | 0.60 | 0.55 | 12 | <5 | <75 |
| | 11/18/02 | 147.49 | 18.53 | 128.96 | 380 | 100 | -- | 46 | <0.5 | 1.1 | <0.5 | 89 | <0.5 | 1.10 | <0.5 | 16 | <5 | <50 |
| | 2/6/03 | 147.49 | 10.32 | 137.17 | 210 | <50 | -- | 10 | <0.5 | <0.5 | <0.5 | 24 | <0.5 | <0.5 | <0.5 | 12 | <5 | <50 |
| | 5/1/03 | 147.49 | 8.40 | 139.09 | 150 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 147.49 | 13.92 | 133.57 | 650 | 120 | -- | 73 | <0.5 | <0.5 | 1.2 | 12 | <0.5 | <0.5 | <0.5 | 28 | -- | -- |
| | 11/10/03 | 147.49 | 18.16 | 129.33 | 88 | 87 | -- | 4 | <0.5 | <0.5 | <0.5 | 78 | <0.5 | 0.93 | 1.3 | 8.9 | <5 | <50 |
| | 2/4/04 | 147.49 | 10.78 | 136.71 | 120 | <50 | -- | 1.2 | <0.5 | <0.5 | <0.5 | 4.2 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 147.49 | 14.23 | 133.26 | 160 | <50 | -- | 22 | <0.5 | <0.5 | 0.91 | 9.6 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 147.49 | 16.77 | 130.72 | 52 | <50 | -- | 15 | <0.5 | <0.5 | <0.5 | 27 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 147.49 | 18.17 | 129.32 | 380 | <50 | -- | 39 | <0.5 | 11 | <0.5 | 41 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 147.49 | 14.97 | 132.52 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 0.85 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.70 | 12.65 | 135.05 | <50 | 52 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 0.68 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 147.70 | 16.94 | 130.76 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | 4 | -- | -- | -- | -- | -- | -- |
| MW-9 | 8/17/01 | 148.19 | 17.41 | 130.78 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <50 |
| | 10/10/01 | 148.19 | 18.09 | 130.10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/19/01 | 148.19 | 18.66 | 129.53 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| 5'-25' | 12/27/01 | 148.19 | 16.10 | 132.09 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 148.19 | 14.09 | 134.10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 148.19 | 12.88 | 135.31 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 148.19 | 9.91 | 138.28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 148.19 | 10.05 | 138.14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 148.19 | 11.27 | 136.92 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 147.00 | 14.27 | 132.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 147.00 | 14.64 | 132.36 | <50 | 67 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 11/18/02 | 147.00 | 17.32 | 129.68 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | 7.7 | <50 |
| | 2/6/03 | 147.00 | 9.68 | 137.32 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 147.00 | 7.78 | 139.22 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 147.00 | 12.76 | 134.24 | <50 | 74 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 147.00 | 16.95 | 130.05 | <50 | 72 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 147.00 | 10.16 | 136.84 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 147.00 | 13.11 | 133.89 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 147.00 | 15.47 | 131.53 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 147.00 | 17.02 | 129.98 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 147.00 | 13.23 | 133.77 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.00 | 11.61 | 135.39 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 147.00 | 14.73 | 132.27 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-10 | 8/17/01 | 148.36 | 18.23 | 130.13 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <50 |
| | 10/10/01 | 148.36 | 19.14 | 129.22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/19/01 | 148.36 | 19.78 | 128.58 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| 5'-25' | 12/27/01 | 148.36 | 17.53 | 130.83 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 148.36 | 15.73 | 132.63 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 148.36 | 14.23 | 134.13 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 148.36 | 11.24 | 137.12 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 148.36 | 10.84 | 137.52 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 148.36 | 11.74 | 136.62 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 147.17 | 14.81 | 132.36 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 147.17 | 15.21 | 131.96 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 11/18/02 | 147.17 | 18.16 | 129.01 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/6/03 | 147.17 | 10.99 | 136.18 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 147.17 | 8.33 | 138.84 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 147.17 | 12.59 | 134.58 | <50 | **86** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 147.17 | 17.55 | 129.62 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 147.17 | 11.07 | 136.10 | <50 | **96** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 147.17 | 13.23 | 133.94 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 147.17 | 16.07 | 131.10 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 147.17 | 17.77 | 129.40 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 147.17 | 14.17 | 133.00 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.17 | 12.43 | 134.74 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 147.17 | 16.18 | 130.99 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| MW-11 | 8/17/01 | 147.99 | 18.28 | 129.71 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <50 |
| | 10/10/01 | 147.99 | 19.21 | 128.78 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/19/01 | 147.99 | 19.83 | 128.16 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| 5'-25' | 12/27/01 | 147.99 | 17.49 | 130.50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 147.99 | 15.45 | 132.54 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 147.99 | 14.07 | 133.92 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 147.99 | 11.71 | 136.28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 147.99 | 11.19 | 136.80 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 147.99 | 11.80 | 136.19 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 146.79 | 14.91 | 131.88 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 146.79 | 15.39 | 131.40 | <50 | **58** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 11/18/02 | 146.79 | 18.31 | 128.48 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/6/03 | 146.79 | 11.65 | 135.14 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 146.79 | 8.80 | 137.99 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 146.79 | 12.59 | 134.20 | <50 | **79** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 146.79 | 17.71 | 129.08 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 146.79 | 11.64 | 135.15 | <50 | **95** | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 146.79 | 13.18 | 133.61 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 146.79 | 16.26 | 130.53 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 146.79 | 17.90 | 128.89 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 146.79 | 14.45 | 132.34 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 146.79 | 12.54 | 134.25 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 146.79 | 16.07 | 130.72 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |

**Table 2**
**GROUNDWATER ELEVATION AND ANALYTICAL RESULTS**
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

| Well No. | Sampling Date | TOC (feet) | DTW (feet) | GWE (feet) | TPHg (µg/L) | TPHd (µg/L) | TPHmo (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Xylenes (µg/L) | MTBE (µg/L) | DIPE (µg/L) | TAME (µg/L) | ETBE (µg/L) | TBA (µg/L) | Ethanol (µg/L) | Methanol (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-12 | 8/17/01 | 147.93 | 18.31 | 129.62 | **590** | <300 | -- | **19** | <0.5 | <0.5 | <0.5 | **19** | <0.5 | **0.97** | <0.5 | **38** | <5 | **63** |
| | 10/10/01 | 147.93 | 19.20 | 128.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Screen | 11/19/01 | 147.93 | 19.77 | 128.16 | **280** | <150 | -- | **7.9** | <0.5 | <0.5 | <0.5 | **20** | <0.5 | **1.3** | <0.5 | **25** | <5 | <50 |
| 5'-25' | 12/27/01 | 147.93 | 16.99 | 130.94 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 1/14/02 | 147.93 | 14.62 | 133.31 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 2/4/02 | 147.93 | 13.29 | 134.64 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 3/14/02 | 147.93 | 10.51 | 137.42 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/4/02 | 147.93 | 10.63 | 137.30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 5/7/02 | 147.93 | 11.80 | 136.13 | **600** | <100 | -- | **22** | <0.5 | **2.2** | <0.5 | **0.92** | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 7/23/02 | 146.74 | 15.16 | 131.58 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 8/5/02 | 146.74 | 15.55 | 131.19 | **1,000** | <200 | -- | **49** | **0.71** | **37** | **20** | **3.7** | <0.5 | <0.5 | <0.5 | **6.8** | <5 | <100 |
| | 11/18/02 | 146.74 | 18.36 | 128.38 | **99** | <50 | -- | **1** | <0.5 | <0.5 | **1.2** | **7.2** | <0.5 | **0.59** | <0.5 | **10** | <5 | <50 |
| | 2/6/03 | 146.74 | 10.19 | 136.55 | **560** | <200 | -- | **10** | <0.5 | **4.8** | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 5/1/03 | 146.74 | 8.17 | 138.57 | **270** | <100 | -- | **9.3** | <0.5 | **0.64** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 8/1/03 | 146.74 | 13.52 | 133.22 | **770** | <300 | -- | **28** | <0.5 | **16** | <0.5 | **1.1** | <0.5 | <0.5 | <0.5 | <5 | -- | -- |
| | 11/10/03 | 146.74 | 17.80 | 128.94 | **600** | <200 | -- | **12** | <0.5 | **0.57** | <0.5 | **0.69** | <0.5 | <0.5 | <0.5 | <5 | <5 | <50 |
| | 2/4/04 | 146.74 | 10.55 | 136.19 | **240** | **140** | -- | **7.2** | <0.5 | **4.3** | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/28/04 | 146.74 | 13.83 | 132.91 | **670** | <200 | -- | **7.4** | <0.5 | **20** | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/8/04 | 146.74 | 16.37 | 130.37 | **970** | <300 | -- | **23** | <0.5 | **27** | <0.5 | **0.52** | -- | -- | -- | -- | -- | -- |
| | 12/2/04 | 146.74 | 17.91 | 128.83 | <50 | <50 | -- | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 3/27/05 | 146.74 | 13.70 | 133.04 | **740** | <200 | -- | **10** | <0.5 | **41** | **0.61** | <0.5 | -- | -- | -- | -- | -- | -- |
| | 6/14/05 | 146.74 | 12.55 | 134.19 | **330** | <50 | -- | **2.8** | <0.5 | **7.7** | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | 9/13/05 | 146.74 | 16.64 | 130.10 | **300** | <50 | -- | **12** | <0.5 | **1.7** | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- |
| | | | | MCL | -- | -- | -- | 1 | 150 | 300 | 1,750 | 5 | | | | | | |
| | | | | taste & odor threshold | 5 | 100 | -- | -- | 42 | 29 | 17 | 5 | | | | | | |
| | | | | NCRWQCB Cleanup Goals | <50 | 100 | -- | 0.50 | 42 | 29 | 17 | 5 | | | | | | |

**Notes :**

New well survey per geotracker perfromed in July 2002 ( NGS(PID#LV1170) Aluminum Cap HPGNDCA0109 (Vista Point, Hwy 101 )

DTW data for the 9/13/05 sampling event was collected on 9/14/05 following redevelopment and sampling of MW-7 (all wells except MW-7 sampled on 9/13/05)

TOC: Top of casing referenced to benchmark at ( NGS(PID#LV1170) Vista Point, Hwy 101 .

DTW: Depth to water as referenced to benchmark.

GWE: Ground water elevation as referenced to benchmark

µg/L=micrograms per liter

"--": Not analyzed, available, and / or applicable

MCL: Maximum contaminant level, an enforceable drinking water standard

Taste & odor threshold: A drinking water standard

NCRWQCB: North Coast Regional Water Quality Control Board

TPHg: Total petroleum hydrocarbons as gasoline by EPA Method 8260B

TPHmo: Total petroleum hydrocarbons as motor oil by EPA Method 3550/8015M

TPHd: Total petroleum hydrocarbons as diesel by EPA Method 3550/8015M

MTBE: Methyl tertiary butyl ether by EPA Method 8260B

DIPE: Di-isopropyl ether by EPA Method 8260B

TAME: Tertiary amyl methyl ether by EPA Method 8260B

ETBE: Ethyl tertiary butyl ether by Method 8260B

TBA: Tertiary butyl alcohol by EPA Method 8260B

**Table 3**
**SVE Air Sample Analytical Results**
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

| Sample I.D. | Sample Date | TPHg (mg/m3) | B (mg/m3) | T (mg/m3) | E (mg/m3) | X (mg/m3) | MTBE (mg/m3) |
|---|---|---|---|---|---|---|---|
| Inf 7/6/04 (all wells) | 7/6/04 | 4,600 | 14 | 75 | 36 | 140 | <0.5 |
| Influent (all wells) | 7/7/04 | 2,700 | 6.3 | 56 | 34 | 140 | <0.8 |
| VEW-1 Inf | 7/8/04 | 3,500 | 42 | 330 | 82 | 340 | 1.6 |
| VEW-2 Inf | 7/8/04 | 2,500 | 5.3 | 90 | 41 | 190 | <0.5 |
| VEW-3 Inf | 7/8/04 | 4,400 | 4.8 | 37 | 34 | 120 | <0.5 |
| VEW-4 Inf | 7/8/04 | 2,200 | 1.5 | 13 | 27 | 92 | <0.25 |
| VEW-5 Inf | 7/8/04 | 860 | 0.39 | 5 | 14 | 56 | <0.2 |
| VEW-6 Inf | 7/8/04 | 98 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Inf 7/8/04 (all wells) | 7/8/04 | 1,500 | 3.4 | 36 | 23 | 98 | <0.25 |
| Influent (all wells) | 7/9/04 | 1,300 | <0.4 | 1.1 | 12 | 47 | <0.4 |
| Influent 7/15/04 | 7/15/04 | 930 | 0.27 | 0.97 | 8.4 | 31 | <0.2 |
| Influent 7/22/04 | 7/22/04 | 970 | 0.3 | 0.94 | 8.1 | 29 | <0.2 |
| Influent 7/29/04 | 7/29/04 | 1,200 | 2.6 | 22 | 12 | 54 | <0.2 |
| Influent 8/26/04 | 8/26/04 | 3,000 | 5.8 | 32 | 17 | 95 | <0.2 |
| Influent 9/22/04 | 9/22/04 | 2,300 | 3.5 | 26 | 19 | 83 | <0.6 |
| Influent 10/14/04 | 10/14/04 | 2,700 | 5.8 | 47 | 27 | 110 | <0.5 |
| Influent 11/17/04 | 11/17/04 | 6,900 | 12 | 86 | 37 | 120 | <0.5 |
| Influent 12/21/04 | 12/21/04 | 4,200 | 29 | 120 | 27 | 94 | <0.5 |
| Influent 1/17/05 | 1/17/05 | 280 | 0.38 | 3 | 2.3 | 11 | <0.2 |
| Influent 2/7/05 | 2/7/05 | 1,600 | 6.70 | 52 | 14 | 54 | <0.2 |
| Influent 3/17/05 | 3/17/05 | 400 | 1.5 | 9.6 | 2.2 | 9.8 | <0.2 |
| Influent 3/18/05 | 3/18/05 | 1,000 | 3.8 | 26 | 6.7 | 28 | <0.2 |
| Influent 3/21/05 | 3/21/05 | 1,000 | 3.8 | 31 | 6.8 | 34 | <0.2 |
| Influent 3/22/05 | 3/22/05 | 1,500 | 5.4 | 32 | 7.1 | 34 | <0.2 |
| Influent 5/9/05 | 5/9/05 | 380 | 0.9 | 5 | 1.0 | 6 | <0.2 |
| Influent 6/9/05 | 6/9/05 | 990 | 3.6 | 20 | 4.0 | 18 | <0.2 |
| Influent 7/21/05 | 7/21/05 | 140 | 0.4 | 1.6 | 0.23 | 3.7 | <0.2 |
| Influent 8/30/05 | 8/30/05 | 1,200 | 7.0 | 37 | 3.4 | 26 | <0.2 |
| Influent 9/16/05 | 9/16/05 | 2,400 | 3.8 | 46 | 13 | 66 | <0.2 |

**Table 3**
**SVE Air Sample Analytical Results**
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Mckinleyville, California
Blue Rock Project No. NC-24

| Sample I.D. | Sample Date | TPHg (mg/m3) | B (mg/m3) | T (mg/m3) | E (mg/m3) | X (mg/m3) | MTBE (mg/m3) |
|---|---|---|---|---|---|---|---|
| Eff 7/6/04 | 7/6/04 | 23 | <0.2 | 0.26 | <0.2 | <0.2 | <0.2 |
| Effluent | 7/7/04 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent | 7/8/04 | 260 | 0.24 | 4.70 | 6.4 | 27 | <0.2 |
| Effluent | 7/9/04 | 43 | <0.2 | 0.63 | 0.17 | 3.9 | <0.2 |
| Effluent 7/15/04 | 7/15/04 | <20 | <0.2 | <0.2 | 0.24 | 1.3 | <0.2 |
| Effluent 7/22/04 | 7/22/04 | <20 | <0.2 | <0.2 | <0.2 | 0.65 | <0.2 |
| Effluent 7/29/04 | 7/29/04 | <20 | <0.2 | <0.2 | <0.2 | 0.45 | <0.2 |
| Effluent 8/26/04 | 8/26/04 | <20 | <0.2 | 0.35 | <0.2 | 0.4 | <0.2 |
| Effluent 9/22/04 | 9/22/04 | 100 | 0.22 | 2.6 | 1.2 | 6.9 | <0.2 |
| Effluent 10/14/04 | 10/14/04 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 11/17/04 | 11/17/04 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 12/21/04 | 12/21/04 | 54 | 0.32 | 0.66 | <0.2 | 0.22 | <0.2 |
| Effluent 1/17/05 | 1/17/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 2/7/05 | 2/7/05 | 28 | 0.31 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 3/17/05 | 3/17/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 3/18/05 | 3/18/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 3/21/05 | 3/21/05 | 24 | <0.2 | 0.46 | <0.2 | <0.2 | <0.2 |
| Effluent 3/22/05 | 3/22/05 | 27 | <0.2 | 0.34 | <0.2 | <0.2 | <0.2 |
| Effluent 5/9/05 | 5/9/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 6/9/05 | 6/9/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 7/21/05 | 7/21/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Effluent 8/30/05 | 8/30/05 | 22 | <0.2 | 0.43 | <0.2 | <0.2 | <0.2 |
| Effluent 9/16/05 | 9/16/05 | <20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |

Notes:

| | |
|---|---|
| SVE | Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox) |
| Influent | Air sample collected from catox influent |
| Effluent | Air sample collected from catox effluent |
| Ops Time | Catox cumulative site operational hours |
| mg/m3 | Milligrams per cubic meter |
| <#.## | Compound not detected at or below the reported laboratory detection limit |
| TPHg | Total Petroluem Hydrocarbons as gasoline EPA Method 8260B |
| BTEX | Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260B |
| MTBE | Methyl tert-Butyl Ether by EPA Method 8260B |

**Table 4**
**SVE Operational Data**
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Eureka California
Blue Rock Project No. NC-24

| Sample Location | Sample Date | Total Ops Time (hr) | Period Ops Time (hr) | TPHg (mg/m3) | SVE Wells On | Manifold Vacuum (in. w.c.) | Flow (scfm) | TPHg Yield (lb/hr) | Average TPHg Yield (lb/hr) | Avergage TPHg Yield (lbs/day) | Period Yield (lb) | Cumulative Yield (lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Influent | 7/6/04 | 3.50 | 3.50 | 4,600 | VW-1, 2, 3, 4 ,5, 6 | 29.0 | 158 | 2.72 | 2.72 | 65.35 | 10 | 10 |
| Influent | 7/7/04 | 21.2 | 17.7 | 2,700 | VW-1, 2, 3, 4 ,5, 6 | 30.0 | 194 | 1.96 | 2.34 | 56.22 | 41 | 51 |
| Influent | 7/8/04 | 47.0 | 25.8 | 1,500 | VW- 2, 4 ,6 | 35.0 | 182 | 1.02 | 1.49 | 35.82 | 39 | 90 |
| Influent | 7/9/04 | 71.6 | 24.6 | 1,300 | VW- 2, 4 ,6 | 35.0 | 178 | 0.87 | 0.94 | 22.67 | 23 | 113 |
| Influent | 7/15/04 | 217.0 | 145.4 | 930 | VW- 2, 4 ,6 | 35.0 | 183 | 0.64 | 0.75 | 18.05 | 109 | 223 |
| Influent | 7/22/04 | 386.1 | 169.1 | 970 | VW- 2, 4 ,6 | 35.0 | 237 | 0.86 | 0.75 | 17.99 | 127 | 349 |
| Influent | 7/29/04 | 553.0 | 166.9 | 1,200 | VW-1, 2, 3, 4 ,5, 6 | 35.0 | 199 | 0.89 | 0.88 | 21.07 | 147 | 496 |
| Influent | 8/26/04 | 1,150.0 | 597.0 | 3,000 | VW-1, 2, 3, 4 ,5, 6 | 35.0 | 150 | 1.69 | 1.29 | 30.96 | 770 | 1,266 |
| Influent | 9/22/04 | 1,793.0 | 643.0 | 2,300 | VW-1, 2, 3, 4 ,5, 6 | 35.0 | 118 | 1.02 | 1.35 | 32.43 | 869 | 2,135 |
| Influent | 10/14/04 | 2,322.0 | 529.0 | 2,700 | VW -1,4,6 | 35.0 | 257 | 2.60 | 1.81 | 43.39 | 956 | 3,091 |
| Influent | 11/17/04 | 3,000.0 | 678.0 | 6,900 | VW -2,3,5 | 22.0 | 140 | 3.62 | 3.11 | 74.62 | 2108 | 5,199 |
| Influent | 12/21/04 | 3,430.0 | 430.0 | 4,200 | VW- 3,4,6 | 15.0 | 180 | 2.83 | 3.23 | 77.41 | 1387 | 6,586 |
| Influent | 1/17/05 | 4,016.0 | 586.0 | 280 | VW- 3,4,5,6 | 20.0 | 222 | 0.23 | 1.53 | 36.78 | 898 | 7,484 |
| Influent | 2/7/05 | 4,471.0 | 455.0 | 1,600 | VW- 3,4,5,6 | 15.0 | 207 | 1.24 | 0.74 | 17.68 | 335 | 7,820 |
| Influent | 3/17/05 | 4,505.0 | 34.0 | 400 | VW- 3,4,5,6 | 30.0 | 262 | 0.39 | 0.82 | 19.60 | 28 | 7,847 |
| Influent | 3/18/05 | 4,533.0 | 28.0 | 1,000 | VW- 3,4,5,6 | 30.0 | 282 | 1.06 | 0.72 | 17.39 | 20 | 7,868 |
| Influent | 3/21/05 | 4,557.0 | 24.0 | 1,000 | VW- 3,4,5,6 | 22.0 | 268 | 1.00 | 1.03 | 24.72 | 25 | 7,892 |
| Influent | 3/22/05 | 4,565.0 | 8.0 | 1,500 | VW- 3,4,5,6 | 20.0 | 252 | 1.42 | 1.21 | 29.04 | 10 | 7,902 |
| Influent | 5/9/05 | 4,860.0 | 295.0 | 380 | VW- 3,4,5,6 | 15.0 | 244 | 0.35 | 0.88 | 21.16 | 260 | 8,162 |
| Influent | 6/9/05 | 5,520.0 | 660.0 | 990 | VW- 3,4,5,6 | 15.0 | 223 | 0.83 | 0.59 | 14.09 | 388 | 8,550 |
| Influent | 7/21/05 | 6,370.0 | 850.0 | 140 | VW- 3,4,5,6 | 15.0 | 222 | 0.12 | 0.47 | 11.32 | 401 | 8,951 |
| Influent | 8/30/05 | 7,258.0 | 888.0 | 1,200 | VW- 3,4,5,6 | 15.0 | 202 | 0.91 | 0.51 | 12.29 | 455 | 9,406 |
| Influent | 9/16/05 | 7,402.0 | 144.0 | 2,400 | VW- 3,4,5,6 | 15.0 | 273 | 2.45 | 1.68 | 40.35 | 242 | 9,648 |
| | | | | | | | | | | **Cumulative TPHg Recovery (pounds)** | **9,647** | |
| | | | | | | | | | | **Cumulative TPHg Recovery (gallons)** | **1,587** | |

Notes:

| | |
|---|---|
| SVE | Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox) |
| Influent | Air sample collected from thermox influent |
| Total Ops Time | thermox cumulative site operational hours |
| Period Ops Time | Operational period: number of system operating hours since last influent air sampling |
| TPHg | Total Petroluem Hydrocarbons as gasoline EPA Method 8260B |
| mg/m3 | Milligrams per cubic meter |
| <### | Compound not detected at or below the reported laboratory detection limit |
| Vacuum | Vacuum applied to well manifold |
| in. w.c. | Inches water column |
| Flow | Process volumetric flow (Q) measured with a flow averaging pitot tube |
| scfm | Standard cubic feet per minute |
| lb | Pound |
| TPHg Yield | Approximate TPHg yield (lb/hr) based on influent analytical data and air flow (Q) for a given date<br>Yield (lbs/hr) = Influent concentration (mg/m3) x Q (scfm) x (m3/35.31 ft3) x 60 min/hr x lb/453,592 mg<br>Yield (lbs/day) = Yield (lbs/hr) x (24 hr/day) |
| Avg. TPHg Yield | Average hydrocarbon yield during a given operational period;<br>based upon arithmetic average of TPHg yield at beginning and end of operational period. |
| Period Yield | The Period Ops Time (hr) x Average TPHg yield (lbs/hr) during that period.<br>Note that this value is an approximation only, and may not account for daily fluctuations in yield. |
| Cumulative Recovery | Estimated Estimated total SVE system TPHg recovery since startup. |

**Table 5**
**SVE Catox System Treatment Data**
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Blue Rock Project No. NC-24

| | Sample Date | Ops Time (hr) | TPHg (mg/m3) | TPHg DE (%) | Flow (scfm) | Daily Emissions Rate TPHg (lb/day) |
|---|---|---|---|---|---|---|
| AQMD Permit Requirements: | monthly | NA | NA | NA | <250 | 219.12 |
| Influent | 7/6/04 | | 4,600 | | | |
| Effluent | 7/6/04 | 3.50 | 23 | 99.5% | 158 | 0.33 |
| Influent | 7/7/04 | | 2,700 | | | |
| Effluent | 7/7/04 | 21 | <20 | >99.3%* | 194 | <0.35* |
| Influent | 7/8/04 | | 1,500 | | | |
| Effluent | 7/8/04 | 47 | 260 | 82.7% | 182 | 4.25 |
| Influent | 7/9/04 | | 1,300 | | | |
| Effluent | 7/9/04 | 72 | 43 | 96.7% | 178 | 0.69 |
| Influent | 7/15/04 | | 930 | | | |
| Effluent | 7/15/04 | 217 | <20 | >97.8%* | 183 | <0.33* |
| Influent | 7/22/04 | | 970 | | | |
| Effluent | 7/22/04 | 386 | <20 | >97.9%* | 237 | <0.43* |
| Influent | 7/29/04 | | 1,200 | | | |
| Effluent | 7/29/04 | 553 | <20 | >98.3%* | 199 | <0.36* |
| Influent | 8/26/04 | | 3,000 | | | |
| Effluent | 8/26/04 | 1,150 | <20 | >99.3%* | 150 | <0.27* |
| Influent | 9/22/04 | | 2,300 | | | |
| Effluent | 9/22/04 | 1,793 | 100 | 95.7% | 118 | 1.06 |
| Influent | 10/14/04 | | 2,700 | | | |
| Effluent | 10/14/04 | 2,322 | <20 | >99.3%* | 257 | <0.46* |
| Influent | 11/17/04 | | 6,900 | | | |
| Effluent | 11/17/04 | 3,000 | <20 | >99.7%* | 140 | <0.25* |
| Influent | 12/21/04 | 3,430 | 4,200 | | | |
| Effluent | 12/21/04 | | <20 | >99.5%* | 180 | <0.32* |
| Influent | 1/17/05 | 4,016 | 280 | | | |
| Effluent | 1/17/05 | | <20 | >92.9%* | 222 | <0.40* |
| Influent | 2/7/05 | 4,471 | 1,600 | | | |
| Effluent | 2/7/05 | | 28 | 98.3% | 207 | 0.52 |
| Influent | 3/17/05 | 4,505 | 400 | | | |
| Effluent | 3/17/05 | | <20 | >95.0%* | 262 | <0.47* |
| Influent | 3/18/05 | 4,533 | 1,000 | | | |
| Effluent | 3/18/05 | | <20 | >98.0%* | 282 | 0.51 |
| Influent | 3/21/05 | 4,557 | 1,000 | | | |
| Effluent | 3/21/05 | | 24 | 97.6% | 268 | <0.58* |
| Influent | 3/22/05 | 4,565 | 1,500 | | | |
| Effluent | 3/22/05 | | 27 | 98.2% | 252 | 0.61 |
| Influent | 5/9/05 | 4,860 | 380 | | | |
| Effluent | 5/9/05 | | <20 | >94.7%* | 244 | <0.44* |

**Table 5**
**SVE Catox System Treatment Data**
ATC Permit #: NAC - 380
Former Central BP
2160 Central Avenue
Blue Rock Project No. NC-24

| | Sample Date | Ops Time (hr) | TPHg (mg/m3) | TPHg DE (%) | Flow (scfm) | Daily Emissions Rate TPHg (lb/day) |
|---|---|---|---|---|---|---|
| AQMD Permit Requirements: | monthly | NA | NA | NA | <250 | 219.12 |
| Influent | 6/9/05 | 5,520 | 990 | | | |
| Effluent | 6/9/05 | | <20 | >98.0%* | 223 | <0.40* |
| Influent | 7/21/05 | 6,370 | 140 | | | |
| Effluent | 7/21/05 | | <20 | >85.7%* | 222 | <0.40* |
| Influent | 8/30/05 | 7,258 | 1,200 | | | |
| Effluent | 8/30/05 | | 22 | 98.3% | 202 | 0.40 |
| Influent | 9/16/05 | 7,402 | 2,400 | | | |
| Effluent | 9/16/05 | | <20 | >99.2%* | 273 | <0.49* |
| | | | | Avg.TPHg DE (%) | Avg. Flow (cfm) | Avg. Daily Emissions TPHg (lb/day) |
| | | | | >96.6% | 198 | <0.62 |

System Operations/Emissions In Compliance: YES

Notes:

| | |
|---|---|
| SVE | Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox) |
| Influent | Air sample collected from catox influent |
| Effluent | Air sample collected from catox effluent (exhaust) |
| Ops Time | catox cumulative site operational hours |
| TPHg | Total Petroluem Hydrocarbons as gasoline by EPA Method 8260B |
| mg/m3 | Milligrams per cubic meter |
| <#.## | Compound not detected at or below the reported laboratory detection limit |
| Avg. | Average (averages based on monthly and startup data) |
| Flow | Process volumetric flow (Q) measured with a flow averaging pitot tube |
| scfm | Standard cubic feet per minute |
| lb | Pound |
| TPHg DE | TPHg (laboratory analyzed) destruction efficiency based on equation : |
| | TPHg DE = (influent concentration TPHg - effluent concentration TPHg)/influent concentration TPHg x 100 |
| Emissions Rate | Analyte Emissions Rate (lb/day) based upon effluent analytical data and air flow volume (Q) for a given date |
| | Emiss. Rate = Effluent concentration (mg/m3) x Q (scfm) x (m3/35.31 ft3) x 1440 min/day x lb/453,592 mg |
| | Emiss. Rate = Effluent concentration (mg/m3) x Q (scfm) x 8.9908 E-5 |

* Indicates that detection limit of "non-detect" effluent sample was used as concentration value to calculate DE and emissions as most conservative, worst-case scenario.

**Table 6**
**SVE Catox Emissions Calculations**
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
Mckinleyville, CA
Blue Rock Project No. NC - 24

**Effluent Contaminant Concentrations**

| Sample ID | TPHg ($mg/m^3$) | TPHg (ppmv) | Benzene ($mg/m^3$) | Benzene (ppmv) | Toluene ($mg/m^3$) | Toluene (ppmv) | Ethlybenz. ($mg/m^3$) | Ethlybenz. (ppmv) | Xylenes ($mg/m^3$) | Xylenes (ppmv) | MTBE ($mg/m^3$) | MTBE (ppmv) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***AQMD Limits*** | | ***3,569*** | | ***0.138*** | | ***2.4*** | | ***2.74*** | | ***11.61*** | | ***0.069*** |
| EFF 7/6/04 | **23** | **5.4** | 0.20 | 0.050 | **0.26** | **0.063** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 7/7/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 7/8/04 | **260** | **61** | **0.24** | **0.068** | **4.70** | **1.15** | **6.4** | **1.4** | **27** | **5.8** | 0.20 | 0.10 |
| EFF 7/9/04 | **43** | **10** | 0.20 | 0.050 | **0.63** | **0.15** | **0.79** | **0.17** | **3.9** | **0.82** | 0.20 | 0.10 |
| EFF 7/15/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | **0.24** | **0.051** | **1.3** | **0.28** | 0.20 | 0.10 |
| EFF 7/22/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | **0.65** | **0.14** | 0.20 | 0.10 |
| EFF 7/29/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | **0.45** | **0.095** | 0.20 | 0.10 |
| EFF 8/26/04 | 20 | 5.0 | 0.20 | 0.050 | **0.35** | **0.084** | 0.20 | 0.050 | **0.40** | **0.10** | 0.20 | 0.10 |
| EFF 9/22/04 | **100** | **24** | **0.22** | **0.063** | **2.60** | **0.64** | **1.2** | **0.24** | **6.9** | **1.5** | 0.20 | 0.10 |
| EFF 10/14/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 11/17/04 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 12/21/04 | **54** | **13** | **0.32** | **0.093** | **0.66** | **0.16** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 1/17/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 2/7/05 | **28** | **6.5** | 0.20 | 0.050 | **0.31** | **0.075** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 3/17/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 3/18/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 3/21/05 | **24** | **6.2** | 0.20 | 0.050 | **0.46** | **0.12** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 3/22/05 | **27** | **6.8** | 0.20 | 0.050 | **0.34** | **0.090** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 5/9/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 6/9/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 7/21/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 8/30/05 | **22** | **5.5** | 0.20 | 0.050 | **0.43** | **0.11** | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| EFF 9/16/05 | 20 | 5.0 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.050 | 0.20 | 0.10 |
| **AQMD Compliance** | | **yes** | | **yes** | | **yes** | | **yes** | | **yes** | | **yes** |

Note: **Bold** values shown above are actual detected concentrations, whereas plain values shown above are detection limits of "non-detect" samples used for the sake of worst case scanario emissions calculations (actual concentrations are lower).

**Table 6**
**SVE Catox Emissions Calculations**
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
Mckinleyville, CA
Blue Rock Project No. NC - 24

**Emissions Calculation Variables**

| | A | B1 | B2 | B3 | B4 | B5 | B6 | C | D | E1 | E2 | E3 | E4 | E5 | E6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q2 | TPHg | Benzene | Toluene | Ethylbenz. | Xylenes | MTBE | conversion | conversion | TPHg (mw) | Benz (mw) | Toluene (mw) | Ethylben (mw) | Xylenes (mw) | MTBE (mw) |
| | (scfm) | ppmv/1,000,000 | | | | | | (min/day) | 1/360 | (lb/mol) | (lb/mol) | (lb/mol) | (lb/mol) | (lb/mol) | (lb/mol) |
| EFF 7/6/04 | 158 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/7/04 | 197 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/8/04 | 182 | 0.00006 | 0.0000001 | 0.0000011 | 0.00000136 | 0.00000580 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/9/04 | 178 | 0.00001 | 0.0000001 | 0.0000002 | 0.00000017 | 0.00000082 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/15/04 | 183 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000028 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/22/04 | 237 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000014 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/29/04 | 199 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000009 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 8/26/04 | 150 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000010 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 9/22/04 | 118 | 0.00002 | 0.0000001 | 0.0000006 | 0.00000024 | 0.00000153 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 10/14/04 | 257 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 11/17/04 | 140 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 12/21/04 | 180 | 0.00001 | 0.0000001 | 0.0000002 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 1/17/05 | 222 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 2/7/05 | 207 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 3/17/05 | 262 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 3/18/05 | 282 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 3/21/05 | 268 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 3/22/05 | 252 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 5/9/05 | 244 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 6/9/05 | 223 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 7/21/05 | 222 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 8/30/05 | 202 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |
| EFF 9/16/05 | 273 | 0.00001 | 0.0000001 | 0.0000001 | 0.00000005 | 0.00000005 | 0.00000010 | 1440 | 0.0028 | 86.2 | 78.1 | 106.2 | 92.1 | 106.2 | 88.2 |

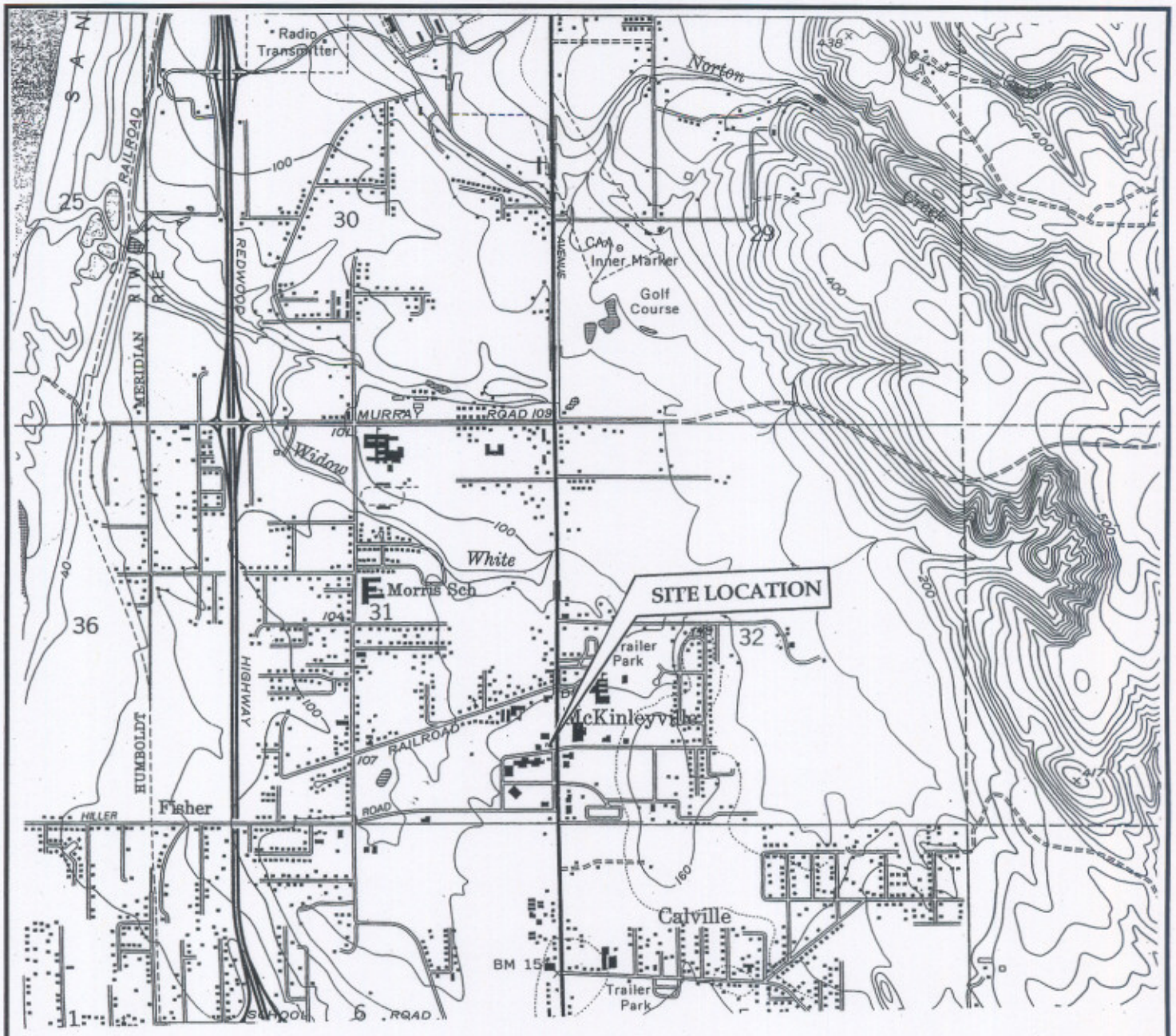
**Table 6**
**SVE Catox Emissions Calculations**
ATC Permit # NAC - 380
Former Central BP
2160 Central Ave.
Mckinleyville, CA
Blue Rock Project No. NC - 24

| | Hydrocarbons Emissions: | | | | | |
|---|---|---|---|---|---|---|
| | TPHg (lb/day) | Benzene (lb/day) | Toluene (lb/day) | Ethylbenzene (lb/day) | Xylenes (lb/day) | MTBE (lb/day) |
| ***AQMD Permit Limts*** | ***219.12*** | ***0.0601*** | ***1.234*** | ***1.621*** | ***6.869*** | ***0.034*** |
| EFF 7/6/04 | 0.29 | 0.0001 | 0.004 | 0.003 | 0.003 | 0.006 |
| EFF 7/7/04 | 0.34 | 0.0002 | 0.004 | 0.004 | 0.004 | 0.007 |
| EFF 7/8/04 | 3.83 | 0.0002 | 0.089 | 0.091 | 0.448 | 0.006 |
| EFF 7/9/04 | 0.61 | 0.0002 | 0.012 | 0.011 | 0.062 | 0.006 |
| EFF 7/15/04 | 0.32 | 0.0002 | 0.004 | 0.003 | 0.022 | 0.006 |
| EFF 7/22/04 | 0.41 | 0.0002 | 0.005 | 0.004 | 0.014 | 0.008 |
| EFF 7/29/04 | 0.34 | 0.0002 | 0.004 | 0.004 | 0.008 | 0.007 |
| EFF 8/26/04 | 0.26 | 0.0001 | 0.005 | 0.003 | 0.006 | 0.005 |
| EFF 9/22/04 | 0.98 | 0.0001 | 0.032 | 0.011 | 0.077 | 0.004 |
| EFF 10/14/04 | 0.44 | 0.0002 | 0.005 | 0.005 | 0.005 | 0.009 |
| EFF 11/17/04 | 0.24 | 0.0001 | 0.003 | 0.003 | 0.003 | 0.005 |
| EFF 12/21/04 | 0.81 | 0.0003 | 0.012 | 0.003 | 0.004 | 0.006 |
| EFF 1/17/05 | 0.38 | 0.0002 | 0.005 | 0.004 | 0.005 | 0.008 |
| EFF 2/7/05 | 0.46 | 0.0002 | 0.007 | 0.004 | 0.004 | 0.007 |
| EFF 3/17/05 | 0.45 | 0.0002 | 0.006 | 0.005 | 0.006 | 0.009 |
| EFF 3/18/05 | 0.49 | 0.0003 | 0.006 | 0.005 | 0.006 | 0.010 |
| EFF 3/21/05 | 0.57 | 0.0003 | 0.014 | 0.005 | 0.006 | 0.009 |
| EFF 3/22/05 | 0.59 | 0.0002 | 0.010 | 0.005 | 0.005 | 0.009 |
| EFF 5/9/05 | 0.42 | 0.0002 | 0.005 | 0.004 | 0.005 | 0.009 |
| EFF 6/9/05 | 0.38 | 0.0002 | 0.005 | 0.004 | 0.005 | 0.008 |
| EFF 7/21/05 | 0.38 | 0.0002 | 0.005 | 0.004 | 0.005 | 0.008 |
| EFF 8/30/05 | 0.38 | 0.0002 | 0.009 | 0.004 | 0.004 | 0.007 |
| EFF 9/16/05 | 0.47 | 0.0003 | 0.006 | 0.005 | 0.006 | 0.010 |
| **AQMD Compliance** | **yes** | **yes** | **yes** | **yes** | **yes** | **yes** |

Note: Emissions rates shown above represent conservative, worst scenario because the effluent concentrations are often "non-detect" and the detection limit is used for calculation of emission rate. Thus, actual emission rate is often lower.

**Calculations:**
TPHg (lb/day) = A * B1 * C * D * E1
Benzene (lb/day) = A * B2 * C * D * E2
Toluene (lb/day) = A * B3 * C * D * E3
Ethylbenzene (lb/day) = A * B4 * C * D * E4
Xylenes (lb/day) = A * B5 * C * D * E5
MTBE (lb/day) = A * B6 * C * D * E6

where:
A: flow rate in standard cubic feet per minute (scfm)
B1: (Concentration of TPHg in ppmv)/1,000,000
B2: (Concentration of Benzene in ppmv)/1,000,000
B3: (Concentration of Toluene in ppmv)/1,000,000
B4: (Concentration of Ethylbenzene in ppmv)/1,000,000
B5: (Concentration of Xylenes in ppmv)/1,000,000
B6: (Concentration of MTBE in ppmv)/1,000,000
C: Conversion from minutes to day
D: Conversion for standard conditions (Assume Ideal Gas Law holds true)
E1: Molecular weight of TPHg - 86.2 lb/lb-mol
E2: Molecular weight of Benzene - 78.1 lb/lb-mol
E3: Molecular weight of Toluene - 106.2 lb/lb-mol
E4: Molecular weight of Ethylbenzene - 92.1 lb/lb-mol
E5: Molecular weight of Xylenes - 106.2 lb/lb-mol
E5: Molecular weight of MTBE - 88.2 lb/lb-mol




SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER
THE MEAN RANGE OF TIDE IS APPROXIMATLY 4 FEET

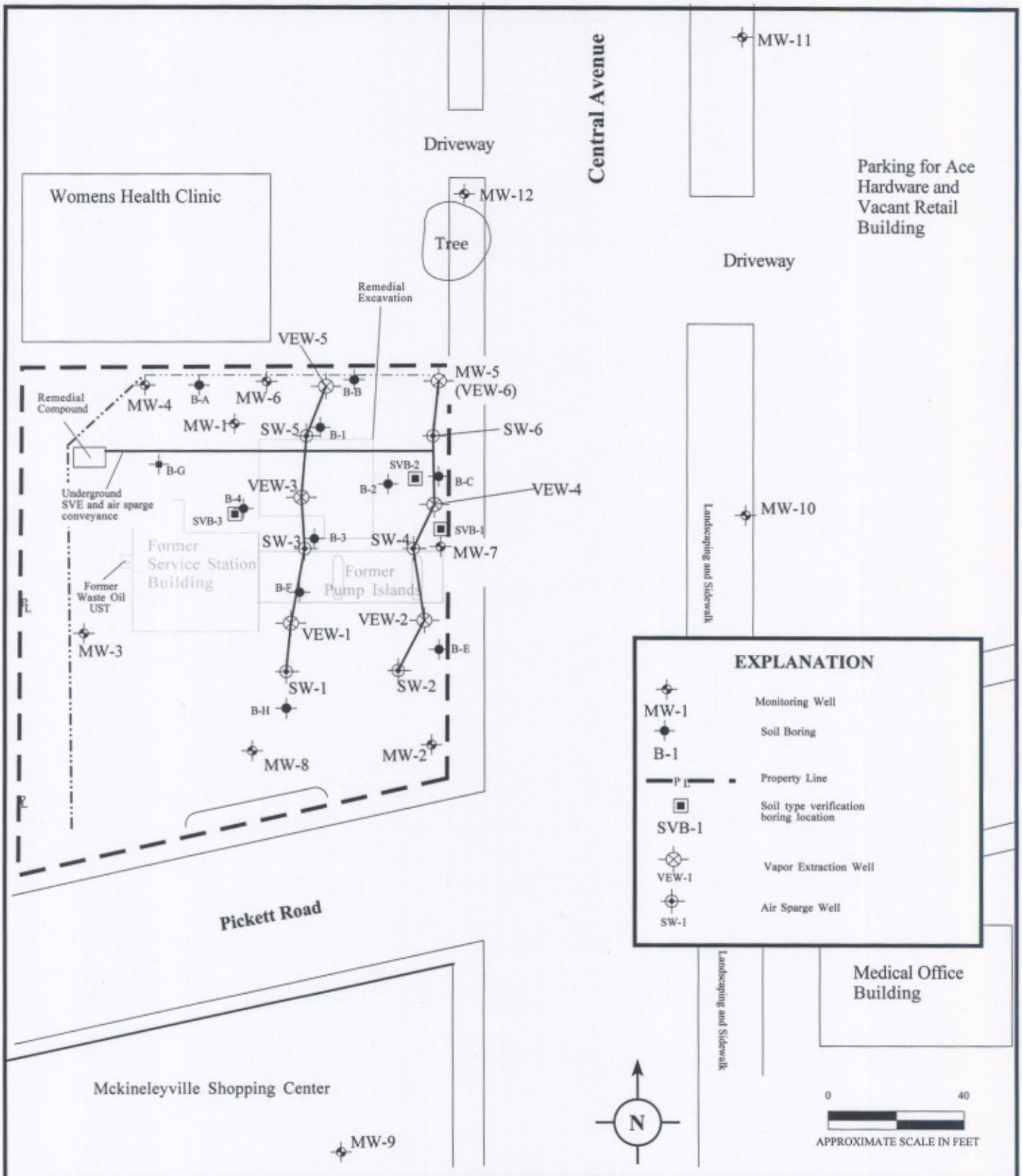
GN MN
0°42' / 12 MILS
18½° / 329 MILS

UTM GRID AND 1972 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

**Site Location Map**
Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

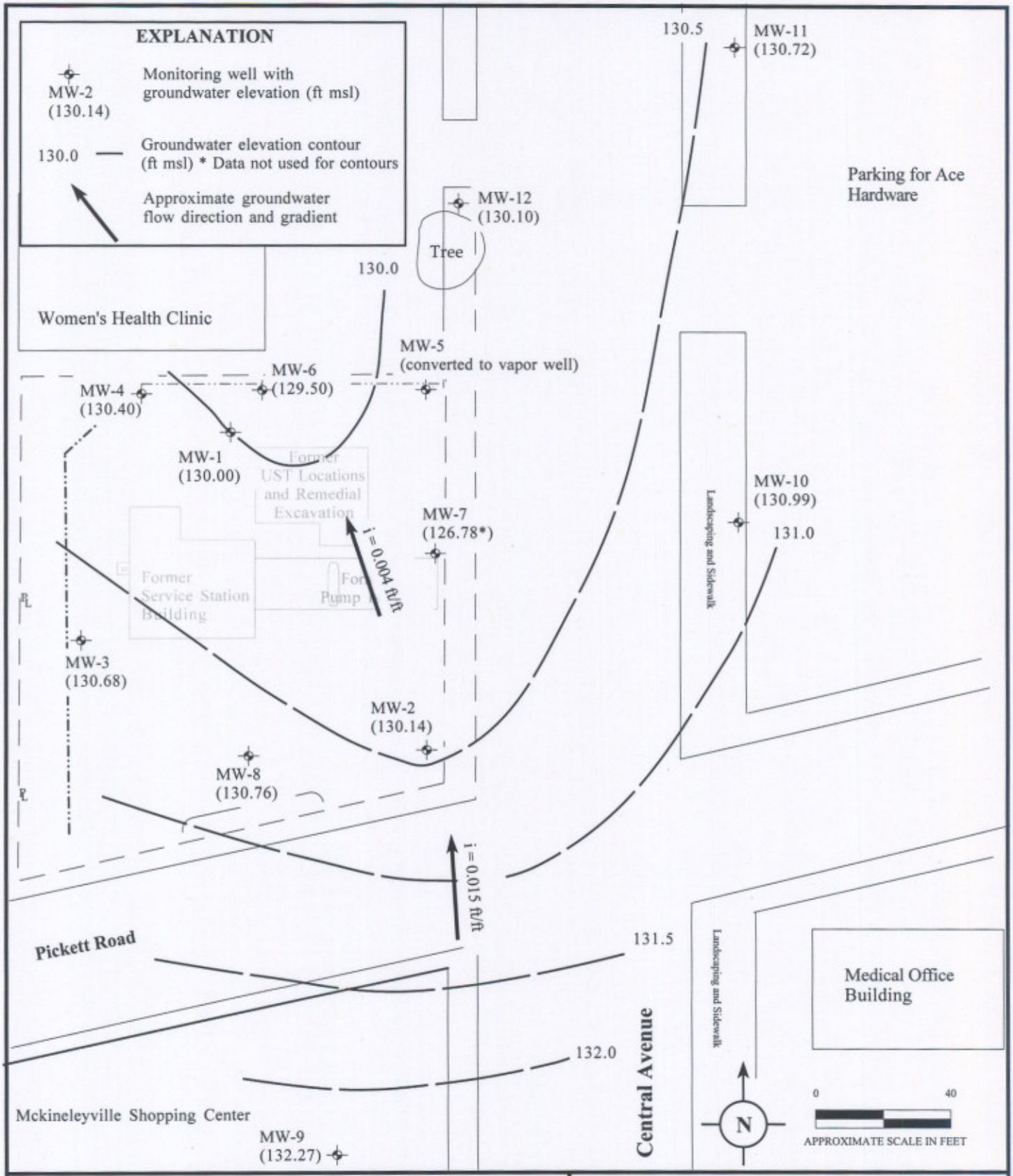
| Project No. | Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 1 |




**Site Plan**
Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

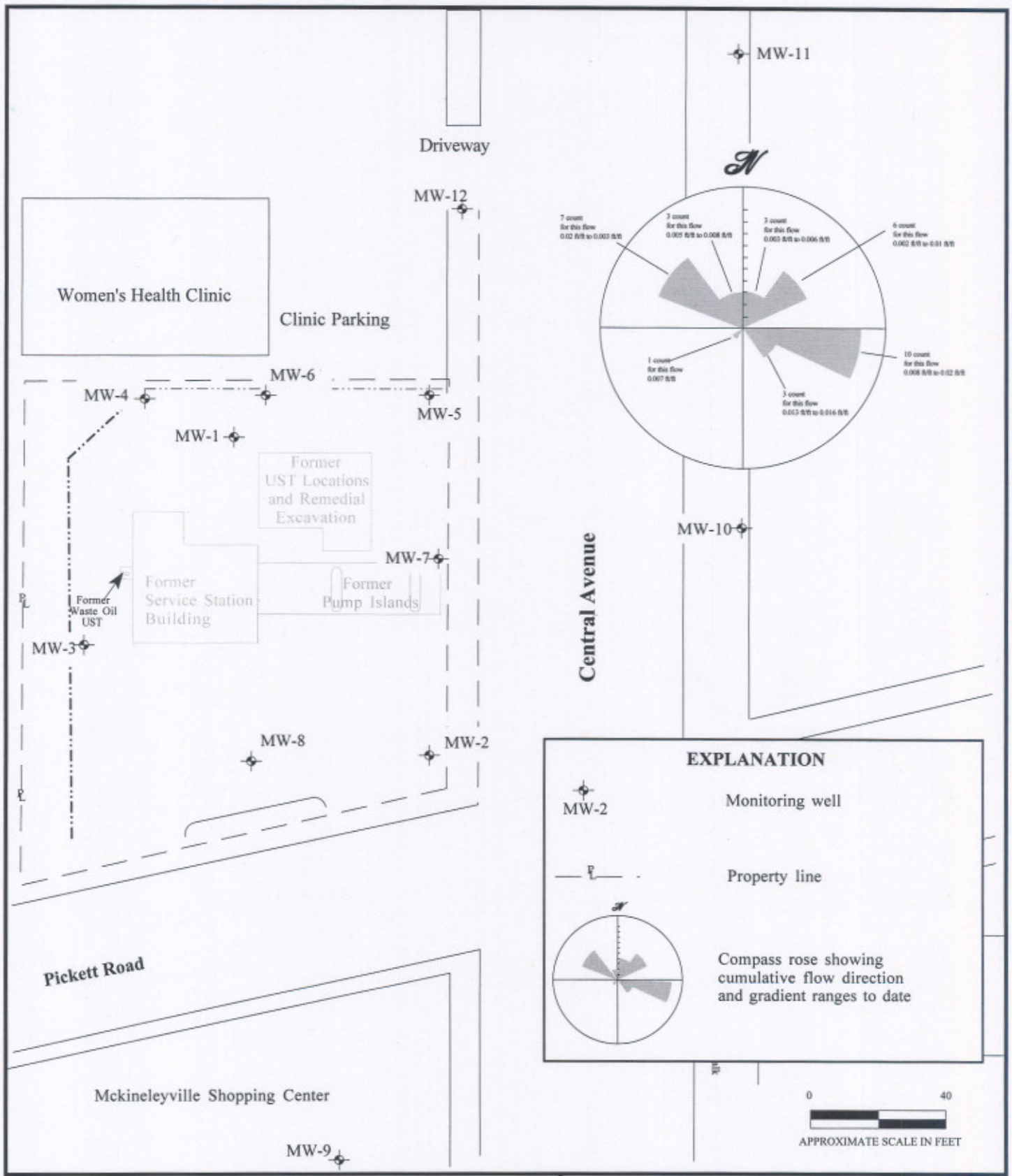
| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 2 |




**Groundwater Elevation and Gradient -9/14/05**
Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

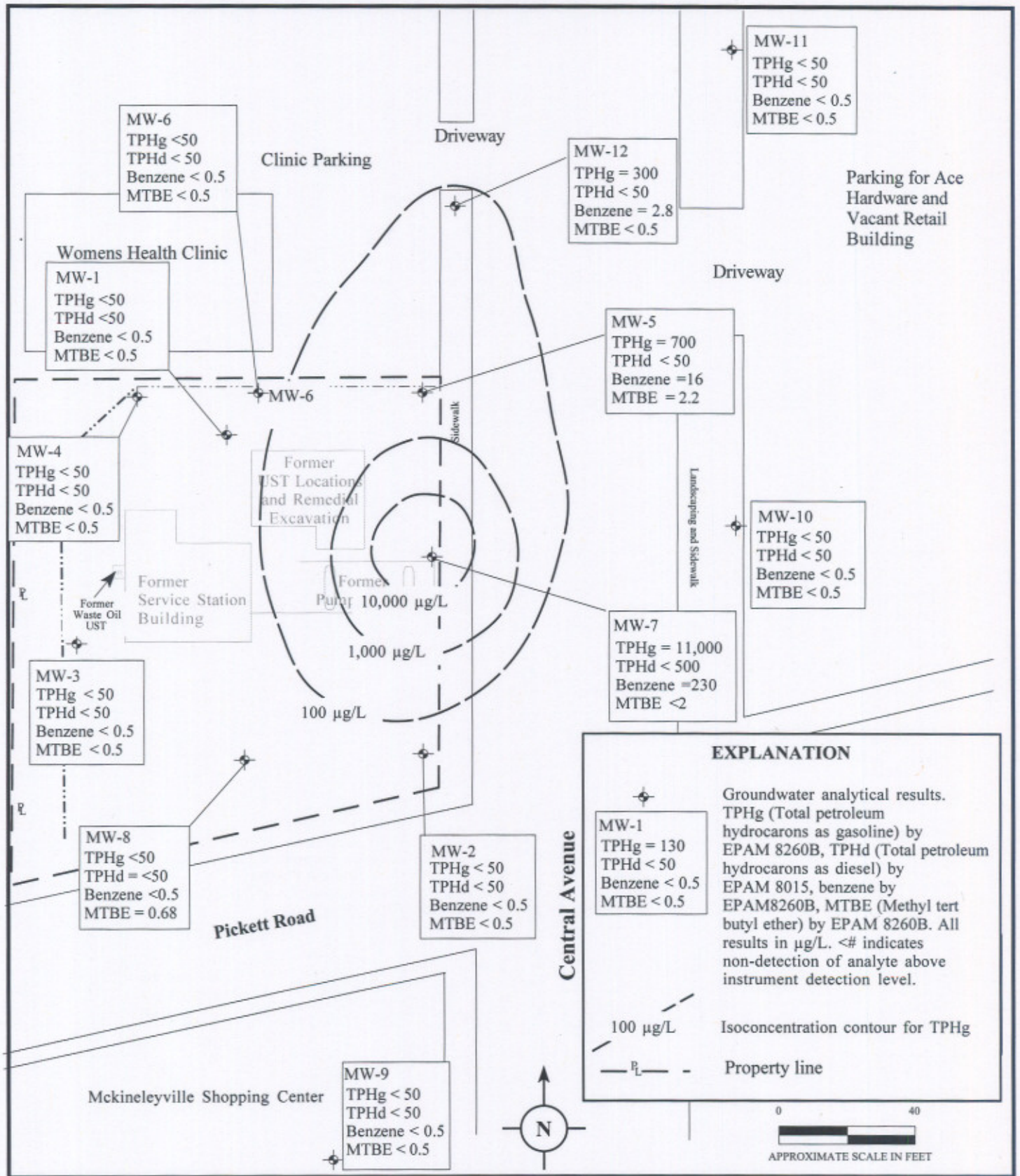
| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 3 |




**Cumulative Flow Direction and Gradient 6/99 to 9/05**
Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 4 |

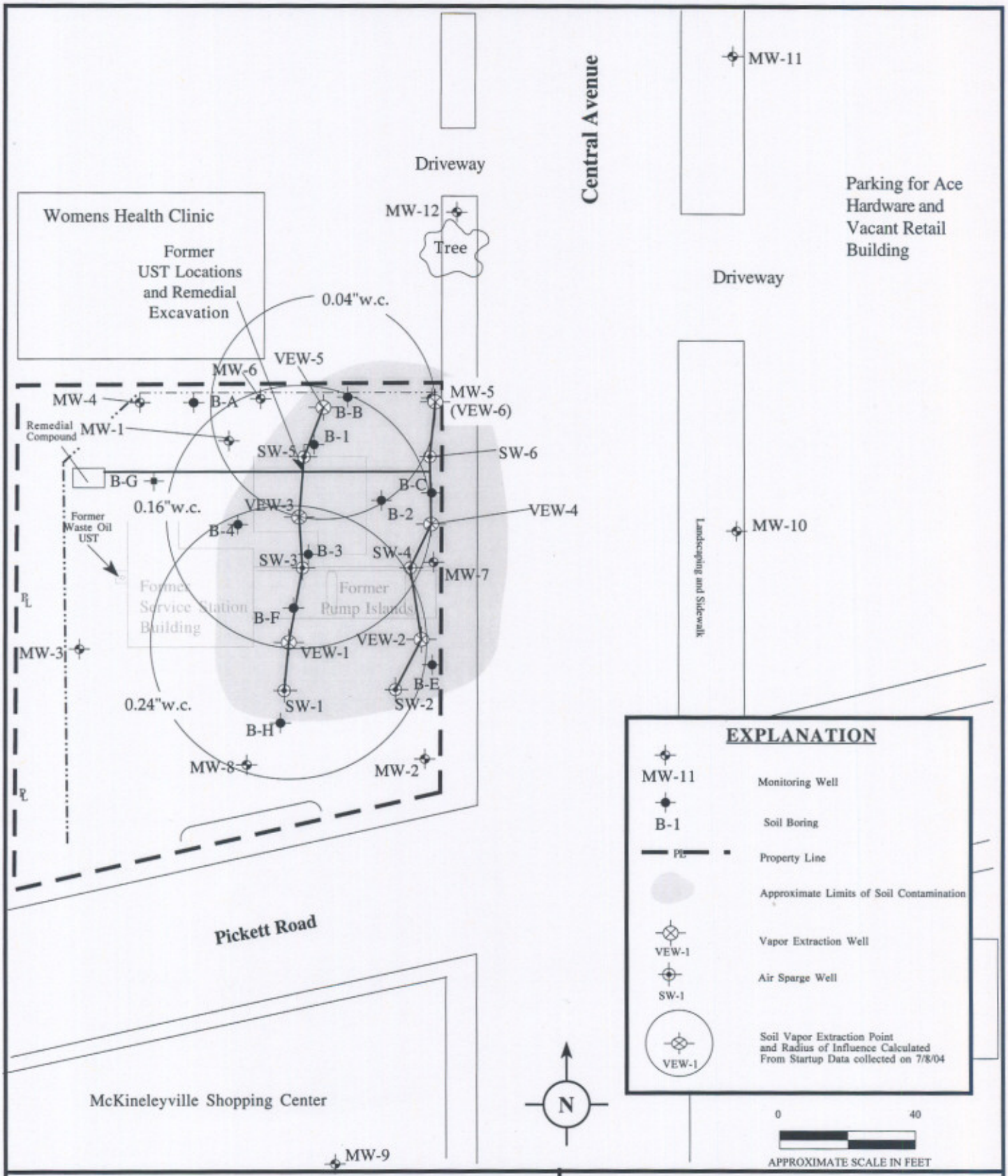



**Dissolved-Phase Hydrocarbon (TPHg) Distribution 9/13/05**

Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 5 |

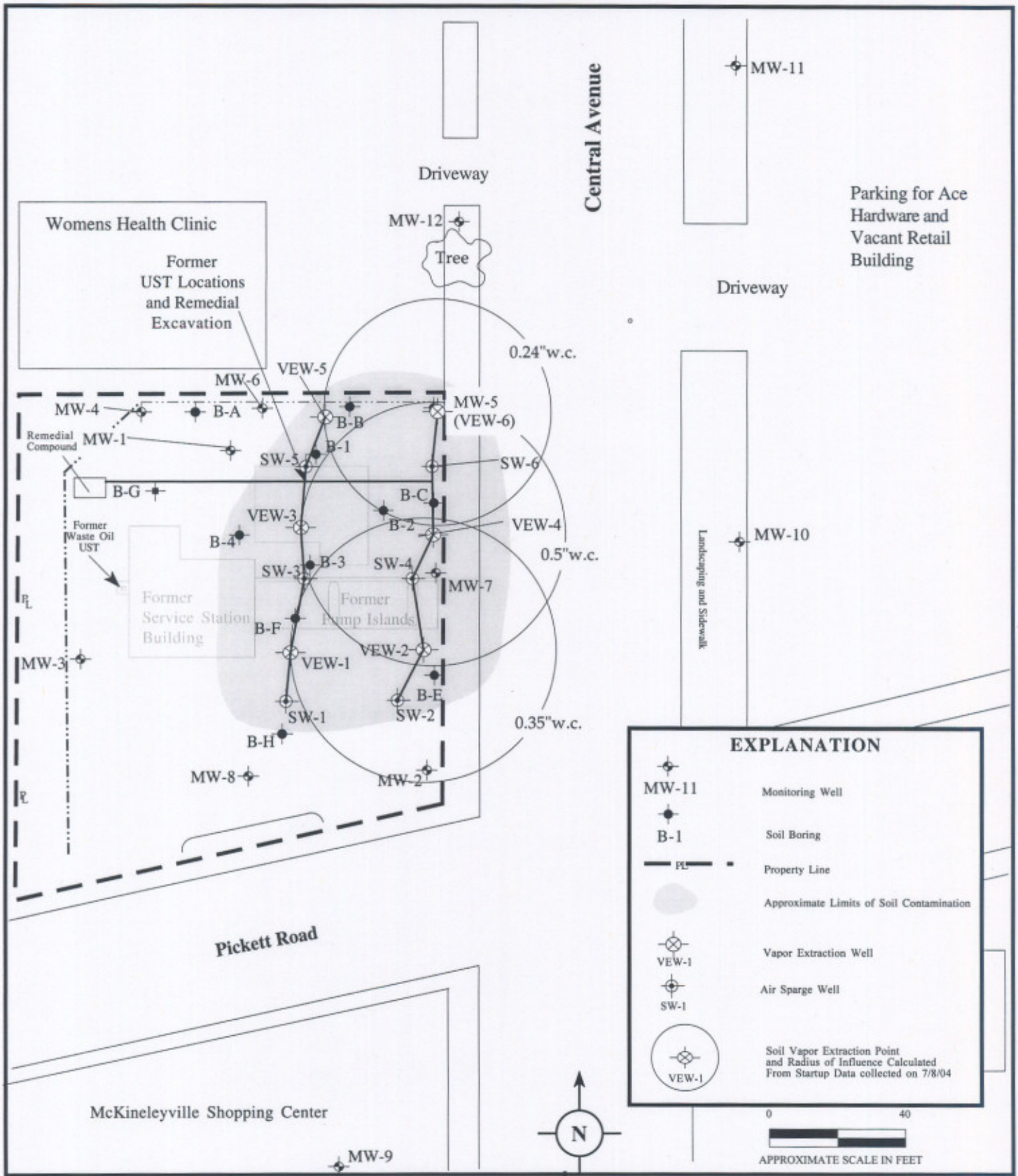



**SVE Layout and Radius of Influence (VEW1, 3, 5)**

Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 6a |

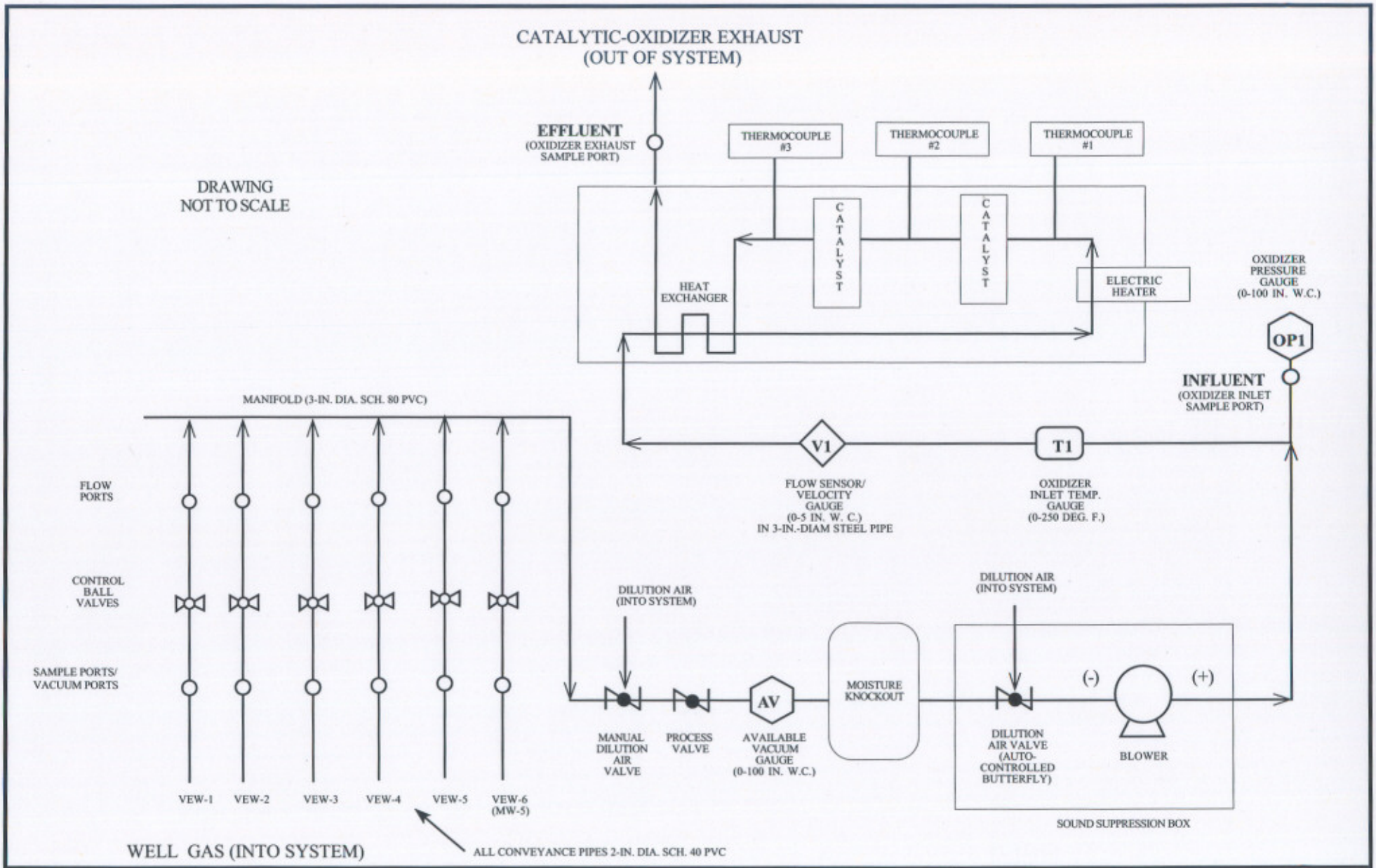



**SVE Layout and Radius of Influence (VEW2,4,6)**

Former Central BP Station
2160 Central Avenue
McKinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

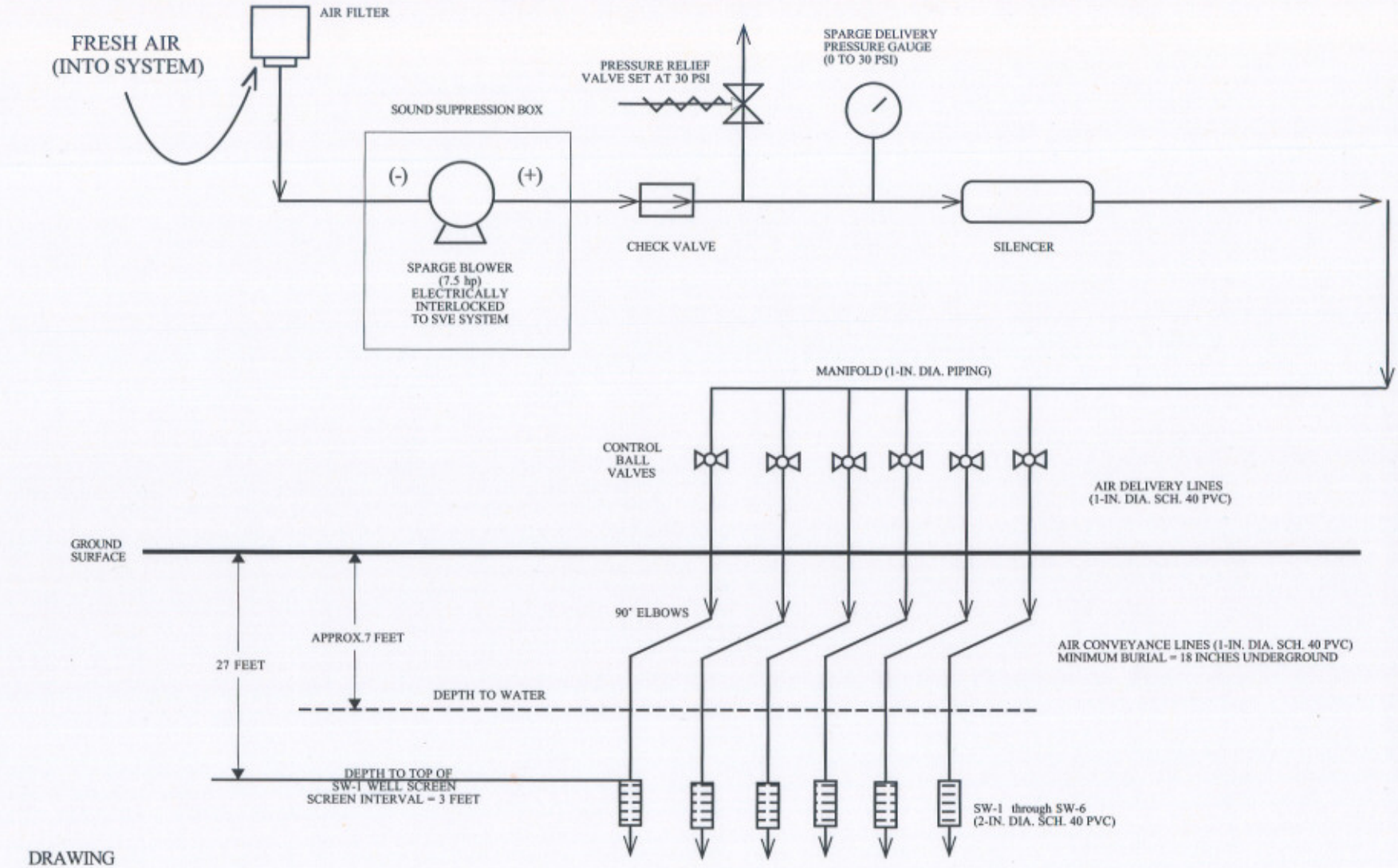
| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 6b |




**Catox and Well Manifold Schematic**
Former Central Bp Station
2616 Central Avenue
Mckinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 7 |




**Air-Sparge Blower And Well Manifold Schematic**
Former Central Bp Station
2616 Central Avenue
Mckinleyville, California

BLUE ROCK ENVIRONMENTAL, INC.

| Project No. | Report Date | Figure |
|---|---|---|
| NC-24 | 9/05 | 8 |

# GAGING DATA/PURGE CALCULATIONS

**Job No.:** NC-24 **Location:** PICO **Date:** 9/14/05 **Tech(s):** AL + JL

| WELL NO. | DIA. (in.) | DTB (ft.) | DTW (ft.) | ST (ft.) | CV (gal.) | PV (gal.) | SPH (ft.) | NOTES |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 2" | | 18.28 | | | | | |
| MW-2 | | | 17.92 | | | | | |
| MW-3 | | | 16.76 | | | | | |
| MW-4 | | | 18.11 | | | | | |
| MW-5 | | | 16.80 | | | | | |
| MW-6 | | | 18.92 | | | | | |
| MW-7 | | 24.02 | 21.31 | 2.71 | 0.43 | 1.29 | 0 | 1.07 = D.O. |
| MW-8 | | | 16.94 | | | | | |
| MW-9 | | | 14.73 | | | | | |
| MW-10 | | | 16.18 | | | | | |
| MW-11 | | | 16.07 | | | | | |
| MW-12 | | | 16.64 | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**Explanation:**

DIA. = Well Diameter
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPH = Thickness of Separate Phase Hydrocarbons

**Conversion Factors (cf):**

2 in. dia. well cf = 0.16 gal./ft.
4 in. dia. well cf = 0.65 gal./ft.
6 in. dia. well cf = 1.44 gal./ft.

BLUE ROCK ENVIRONMENTAL, INC.

# GAGING DATA/PURGE CALCULATIONS

**Job No.:** NC-24 **Location:** 2160 Central Ave. Mekinda/Ville **Date:** 9/13/05 **Tech(s):** JL

| WELL NO. | DIA. (in.) | DTB (ft.) | DTW (ft.) | ST (ft.) | CV (gal.) | PV (gal.) | SPH (ft.) | NOTES |
|---|---|---|---|---|---|---|---|---|
| MW-1 | 2" | 19.93 | 16.81 | 3.12 | 0.49 | 1.47 | 0 | DO = 7.07 |
| MW-2 | | 22.28 | 16.08 | 6.20 | 0.99 | 2.97 | | DO = 6.56 |
| MW-3 | | 19.62 | 15.80 | 3.82 | 0.61 | 1.83 | | DO = 9.30 |
| MW-4 | | 21.67 | 17.15 | 4.52 | 0.72 | 2.16 | | DO = 7.29 |
| MW-5 | | 20.87 | 14.67 | 6.20 | 0.99 | 2.97 | | DO = 10.26 |
| MW-6 | | 22.19 | 18.02 | 4.17 | 0.66 | 1.98 | | DO = 7.80 |
| MW-7 | | 20.74 | ~~14.42~~ | ~~6.32~~ | ~~1.01~~ | ~~3.03~~ | | well dry no sample taken |
| MW-8 | | 24.87 | 15.88 | 8.99 | 1.43 | 4.29 | 0 | DO = 4.44 |
| MW-9 | | 20.02 | 14.55 | 5.47 | 0.87 | 2.61 | | DO = 7.46 |
| MW-10 | | 23.61 | 16.44 | 7.17 | 1.14 | 3.42 | | DO = 7.87 |
| MW-11 | | 24.14 | 16.17 | 7.97 | 1.27 | 3.81 | | DO = 5.41 |
| MW-12 | | 25.02 | 15.47 | 9.55 | 1.52 | 4.56 | | DO = 4.56 |

**Explanation:**

DIA. = Well Diameter
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPH = Thickness of Separate Phase Hydrocarbons

**Conversion Factors (cf):**

2 in. dia. well cf = 0.16 gal./ft.
4 in. dia. well cf = 0.65 gal./ft.
6 in. dia. well cf = 1.44 gal./ft.

BLUE ROCK ENVIRONMENTAL, INC.

# PURGING DATA



**Job No.:** NC-24 **Location:** 2160 Central Ave. **Date:** 9/13/05 **Tech:** JL

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-1 | | | --- | --- | --- |
| Calc. purge | 10:15 | 0.25 | 81 | 60.8 | 5.34 |
| volume | 10:20 | 1.00 | well | dry | @ |
| 1.47 | 10:25 | 1.50 | | 0.80 gal. | |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen: clear / heavy / poor / no sheen / no odor

Sampling Method: Dedicated / Disposable bailer

Sample at: 10:30

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-2 | | | --- | --- | --- |
| Calc. purge | 9:55 | 0.25 | 119 | 60.6 | 5.43 |
| volume | 10:00 | 1.75 | 127 | 61.3 | 5.39 |
| 2.97 | 10:05 | 3.00 | 119 | 61.2 | 5.42 |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen: clear / mod. / good / no sheen / no odor

Sampling Method: Dedicated / Disposable bailer

Sample at: 10:10

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-3 | | | --- | --- | --- |
| Calc. purge | 9:15 | 0.25 | 147 | 58.9 | 5.68 |
| volume | 9:20 | 1.00 | 119 | 58.6 | 5.41 |
| 1.83 | 9:25 | 1.85 | well | Dry @ | 1.5 gal |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen: clear / mod. / mod. / no sheen / no odor

Sampling Method: Dedicated / Disposable bailer

Sample at: 9:30

# PURGING DATA



**Job No.:** NC-24 **Location:** 2160 Central Ave. **Date:** 9/13/05 **Tech:** JL

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-4 | | | --- | --- | --- |
| Calc. purge | 10:55 | 0.25 | 110 | 58.8 | 4.82 |
| volume | 11:00 | 1.25 | 108 | 58.4 | 4.84 |
| 2.16 | 11:05 | 2.20 | 106 | 58.3 | 4.94 |
| | | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / mod. / no sheen / no odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 11:10

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-6 | | | --- | --- | --- |
| Calc. purge | 10:35 | 0.25 | 58 | 59.9 | 5.08 |
| volume | 10:40 | 1.75 | well | dry | @ |
| 1.98 | 10:45 | 3.00 | 1.0 | gal. | |
| | | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / poor / no sheen / slight odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 10:50

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-5 | | | --- | --- | --- |
| Calc. purge | 11:15 | 0.25 | 101 | 62.0 | 5.98 |
| volume | 11:20 | 1.75 | well | dry | @ |
| 2.98 | 11:25 | 3.00 | 1.0 | gal. | |
| | | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / heavy / poor / no sheen / odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 11:30

# PURGING DATA



**Job No.:** NC-24 **Location:** 2160 Central Ave. **Date:** 9/13/05 **Tech:** JL

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-7 | | | --- | --- | --- |
| Calc. purge volume 3.03 | 11:35 | 0.50 | | | |
| | 11:40 | 1.75 | | | |
| | 11:45 | 3.00 | | | |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

Sampling Method: Dedicated / Disposable bailer

Sample at: 11:50

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-8 | | | --- | --- | --- |
| Calc. purge volume 4.29 | 9:35 | 0.25 | 207 | 60.8 | 5.45 |
| | 9:40 | 2.25 | 212 | 61.2 | 5.46 |
| | 9:45 | 4.30 | 210 | 61.2 | 5.50 |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / mod. / no sheen / no odor

Sampling Method: Dedicated / Disposable bailer

Sample at: 9:50

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-9 | | | --- | --- | --- |
| Calc. purge volume 2.61 | 12:35 | 0.25 | 166 | 62.9 | 5.66 |
| | 12:40 | 1.75 | 216 | 62.1 | 5.82 |
| | 12:45 | 2.60 | 219 | 61.8 | 5.86 |
| | | | | | |

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / good / no sheen / no odor

Sampling Method: Dedicated / Disposable bailer

Sample at: 12:50

# PURGING DATA



**Job No.:** NC-24 **Location:** 2160 Central Ave. **Date:** 9/13/05 **Tech:** JL

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-10 | | | --- | --- | --- |
| Calc. purge | 12:55 | 0.25 | 168 | 64.7 | 5.40 |
| volume | 13:00 | 1.75 | 164 | 64.6 | 5.34 |
| 3.42 | 13:05 | 3.45 | 157 | 64.3 | 5.35 |
| | 13:10 | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / good / no sheen / no odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 13:15

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-11 | | | --- | --- | --- |
| Calc. purge | 13:20 | 0.25 | 134 | 65.1 | 5.14 |
| volume | 13:25 | 2.00 | 119 | 64.2 | 5.15 |
| 3.81 | 13:30 | 3.85 | 114 | 63.8 | 5.15 |
| | | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / good / no sheen / no odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 13:35

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-12 | | | --- | --- | --- |
| Calc. purge | 12:00 | 0.50 | 152 | 62.5 | 5.66 |
| volume | 12:05 | 2.25 | 169 | 62.7 | 5.62 |
| 4.56 | 12:10 | 4.55 | 157 | 62.2 | 5.73 |
| | | | | | |

COMMENTS: color, turbidity, recharge, sheen

clear / mod. / mod. / no sheen / odor

Sample for: ~~TPHg~~ ~~TPHd~~ 8260 ~~BTEX~~ ~~MTBE~~ Metals

Purging Method: PVC bailer / Pump

Sampling Method: Dedicated / Disposable bailer

Sample at: 12:15

# PURGING DATA

SHEET OF

**Job No.:** N2 24 **Location:** 2160 Central **Date:** 9/14/05 **Tech:** AL / SL

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| MW-7 | | | --- | --- | --- |
| Calc. purge volume 1.29 | | 0.3 | 109 | 61.5 | 6.31 |
| | | 0.6 | 105 | 61.7 | 6.29 |
| | | 0.9 | 104 | 61.9 | 6.27 |
| | | 1.3 | 104 | 61.9 | 6.27 |

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

HC odor Clear to brown / mod to high turb / mod rech / no sheen

Sampling Method: Dedicated / Disposable bailer

Sample at: 10:22

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| | | | --- | --- | --- |
| Calc. purge volume | | | | | |
| | | | | | |
| | | | | | |

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

Sampling Method: Dedicated / Disposable bailer

Sample at:

| WELL No. | TIME | VOLUME (gal.) | COND. (mS/cm) | TEMP. (deg. F.) | pH |
|---|---|---|---|---|---|
| | | | --- | --- | --- |
| Calc. purge volume | | | | | |
| | | | | | |
| | | | | | |

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC bailer / Pump

COMMENTS: color, turbidity, recharge, sheen

Sampling Method: Dedicated / Disposable bailer

Sample at:

| | |
|---|---|
| DATE | 7/21/05 |
| TECH. | AV |

**Former Mckinleyville BP**
**REMEDIATION SYSTEM O&M FORM**

| | ARRIVAL | DEPARTURE | |
|---|---|---|---|
| Time | 1300 | | |
| SYSTEM STATUS | DWN | up | (up/down) |
| Manual Dilution Valve Position | — | — | % open |
| Vacuum (**AV**) | ~~[illegible]~~ | 15 | in. H2O |
| TPH Concentration In (**Influent**) | — | — | ppm |
| Well + Dilution Air Flow Rate (**V1**) | ~~[illegible]~~ | ~~[illegible]~~ | scfm |
| Oxidizer Pressure (**OP1**) | — | — | in. H2O |
| Temperature Controller (**T1**) | 100 | 725 | °F |
| Recirculation valve position | 2 | 2 | # Turns open |
| TPH Concentration Out (**Effluent**) | — | — | ppm |
| Unit Operational Time | | 6370 | hours |

| | CHECKED | REPLACED |
|---|---|---|
| SVE Blower Filter | ✓ | |
| Separator Liquid level | ✓ | |
| Sparge Air Compressor Filter | | |
| Blower Oil | | |

| **Extraction Wells** | **Vac.** in. H2O | **depth to water** feet | **valve position** % open | **OVM reading** ppm |
|---|---|---|---|---|
| **VE-1** | | ≈ 12 | ~~0~~ | |
| **VE-2** | | ~ | ~~0~~ | |
| **VE-3** | 23 | | 100 | |
| **VE-4** | ~~30~~ | | | |
| **VE-5** | 23 | | | |
| **VE-6** | 24 | | | |

| **Air Sparging Wells** | **sparge press.** ~~in. H2O~~ PSI | **depth to water** feet | **valve position** % open |
|---|---|---|---|
| **SW-1** | ~~0~~ | ≈ 12 | |
| **SW-2** | ~~0~~ | | |
| **SW-3** | ~~0~~ | | |
| **SW-4** | ~~7~~ | | 100 |
| **SW-5** | ~~0~~ | | |
| **SW-6** | ~~0~~ | | |

Remarks: _____

Water Drums Onsite _____

| | |
|---|---|
| DATE | 8/30/05 |
| TECH. | AZ |

**Former Mckinleyville BP**
**REMEDIATION SYSTEM O&M FORM**

| | ARRIVAL | DEPARTURE | |
|---|---|---|---|
| Time | 1500 | 1630 | |
| SYSTEM STATUS | DOWN | UP | (up/down) |
| Manual Dilution Valve Position | 0 | 0 | % open |
| Vacuum (**AV**) | ~~20~~ | 20 | in. H2O |
| TPH Concentration In (**Influent**) | — | — | ppm |
| Well + Dilution Air Flow Rate (**V1**) | 0 | 202 | scfm |
| Oxidizer Pressure (**OP1**) | — | — | in. H2O |
| Temperature Controller (**T1**) | 70 | 730 | °F |
| Recirculation valve position | 1.5 | 1.5 | # Turns open |
| TPH Concentration Out (**Effluent**) | — | — | ppm |
| Unit Operational Time | | 7258 | hours |

| | CHECKED | REPLACED |
|---|---|---|
| SVE Blower Filter | | |
| Separator Liquid level | | |
| Sparge Air Compressor Filter | | |
| Blower Oil | ✓ | |

| **Extraction Wells** | **Vac.** in. H2O | **depth to water** feet | **valve position** % open | **OVM reading** ppm |
|---|---|---|---|---|
| **VE-1** | 0 | ≈15 | 0 | |
| **VE-2** | 0 | ↓ | 0 | |
| **VE-3** | 20 | ↓ | 100 | |
| **VE-4** | ↓ | ↓ | ↓ | |
| **VE-5** | ↓ | ↓ | ↓ | |
| **VE-6** | ↓ | ↓ | ↓ | |

| **Air Sparging Wells** | **sparge press.** ~~in. H2O~~ PSI | **depth to water** feet | **valve position** % open | |
|---|---|---|---|---|
| **SW-1** | 0 | ≈15 | 0 | |
| **SW-2** | 0 | ↓ | 0 | |
| **SW-3** | 11 | ↓ | 100 | 6.5 CFM |
| **SW-4** | 9 | ↓ | ↓ | 8 CFM |
| **SW-5** | 10 | ↓ | ↓ | 7 CFM |
| **SW-6** | 11 | ↓ | ↓ | 4.8 CFM |

Remarks: Syst down on 8/28 power out? new 7.5 Hp sparge pump put and started on 8/25/05

Water Drums Onsite 0