

SENT VIA EMAIL (robert.chesson@state.co.us)

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March 31, 2010

Mr. Robert Chesson  
Colorado Oil & Gas Conservation Commission, Department of Natural Resources  
1120 Lincoln Street, Suite 801  
Denver, Colorado 80203

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SCOTT A. RUTHERFORD, P.E.  
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HEATHER S. ALDERMAN  
DAVID L. WALKER

RE: February 2010 Quarterly Monitoring Report  
Berger Tank Battery (API Number 05-123-08554)  
County Road 11 and County Road 20  
Frederick, Weld County, Colorado  
Project Number 1007004

Dear Mr. Chesson:

Enclosed is the February 2010 Quarterly Monitoring Report for the above-referenced site. Please read the attached report for a summary of the sampling activities performed at the site. If you have any questions or require additional information, please contact us.

Sincerely,  
PARAGON CONSULTING GROUP, INC.



Amy Weber, P.E.  
Project Engineer



David M. Rau, P.E., BCEE  
Principal Engineer

ADW/DMR:adwl

enc: February 2010 Quarterly Monitoring Report

cc: Mr. Andy Peterson/Peterson Energy Management (via email)  
Mr. Neil Rehkop/SBC Global (via email)  
Machii-Ross Petroleum Company

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March 23, 2010

Machii-Ross Petroleum Company  
2901 28<sup>th</sup> Street, Suite 205  
Santa Monica, California 90405

RE: Remediation Activities and Quarterly Groundwater Sampling  
Segal Tank Battery  
NW ¼ of Section 24, T4N, R66W  
Weld County, Colorado  
Project Number 1006006

Dear Machii-Ross Petroleum Company:

The purpose of this letter is to present several options for remedial activities for the above-referenced project. The above-referenced site is the location of Machii-Ross Segal Tank Battery site. A. G. Wassenaar, Inc. (AGW) performed site assessment activities at the site in December 2005 which included the drilling and sampling of six (6) monitoring wells. Paragon performed additional assessment activities at the site in 2007, 2008 and 2009.

Soil excavation activities were performed near the water vault and near the aboveground storage tanks (ASTs) in March 2009 and were summarized in the May 4, 2009 Soil Abatement Report. Approximately 684 loose cubic yards of contaminated soil were excavated and transported to Buffalo Ridge Landfill for disposal. The soil was transported by Bellio Trucking to Waste Management's Buffalo Ridge Landfill in Keenesburg, Colorado. Approximately 120 barrels (5,040 gallons) of groundwater were removed from the water-vault excavation and disposed of at a Colorado Oil and Gas Conservation Commission (COGCC)-approved disposal well operated by Conquest Disposal Service. Monitoring well TB-6 was destroyed during excavation activities. The total recoverable petroleum hydrocarbons (TRPH) concentration observed in soil sample AST Lead Pipe collected from the excavation at the outlet of the pipe from the ASTs exceeded the

the Allowable Concentration for total recoverable petroleum hydrocarbons (TRPH). The soil in this area was removed during the initial abatement activities. Groundwater samples were collected by ENVIRON from probes SB-3 through SB-6 for BTEX analyses. BTEX concentrations observed in the groundwater samples collected from SB-3 and SB-5 exceeded the Allowable Concentrations. It should be noted that probe water samples are generally considered qualitative since they were not collected from completed and developed groundwater monitoring wells.

Laboratory results for split groundwater samples BTB-SB-3 and BTB-4 collected during ENVIRON site assessment activities on January 9, 2007 are summarized in Table 2 attached to this letter. BTB-SB-3 and BTB-4 were collected from ENVIRON's probes SB-3 and SB-4, respectively, on January 9, 2007. BTEX concentrations were observed at relatively low concentrations in groundwater sample BTB-4 collected from SB-4 on January 9, 2007. Relatively high BTEX concentrations were observed in the groundwater sample collected by Paragon from probe SB-3 on January 9, 2007. BTEX concentrations observed in BTB-4 collected by Paragon from SB-4 in January 2007 were not observed above the Allowable Concentrations. The BTEX concentrations observed in the groundwater sample collected by Paragon from probe SB-3 exceeded the Allowable Concentrations. It should be noted that probe water samples are generally considered qualitative since they were not collected from completed and developed groundwater monitoring wells.

## **1.2 Abatement Activities**

During a routine site inspection on January 7, 2007, Machii-Ross Petroleum Company personnel observed crude oil (product) in the bermed area for the southern aboveground storage tank (AST). The leak from the AST was repaired on January 7, 2007. It was estimated by Machii-Ross Petroleum Company personnel that approximately 70 barrels (bbls) of oil were released. Key Energy was mobilized to the site to recover the product on January 8, 2007 using a vacuum truck. Excavation activities were also initiated on January 8, 2007. Soil abatement activities consisting of the excavation and off-site disposal of contaminated soil was performed at the site by Flint Energy Services, Inc. (Flint) between January 8, 2007 and January 16, 2007. The approximate limits of the excavation are shown on Figure 3 attached to this letter.

A subsurface drain located to the west of the tank battery was impacted and subsequently excavated. The drain was replaced and the former drain was connected to riser to be used as groundwater recovery points if necessary. In the excavation trench performed during removal of the subsurface drain, four (4) separate slotted horizontal drain lines were installed with risers extending approximately three (3) feet above ground surface. These remedial drains were constructed with two (2) and three (3) inch diameter PVC pipe. The trenches were excavated below observed hydrocarbon impact into what appeared to be a relatively

impermeable, hard and dry siltstone. During the trench excavation, oil/groundwater was removed by a vacuum truck directly from the excavation and from the risers once installed.

On January 11, 2007 following interviews with the property owners, it was discovered that the subsurface drain was connected to an unnamed creek located to the west of the site. Product was then observed on the creek and the release was reported to the National Response Center, the COGCC and the Colorado Department of Public Health and Environment on January 11, 2007.

Paragon and Peterson Energy Management personnel installed booms at the outlet of the subsurface drain to the creek and at several other locations downstream. The booms were maintained and periodically replaced by Peterson Energy Management. Periodically, vacuum trucks were used to remove product from the creek and from vegetation near the creek. On January 12, 2007, the subsurface drain was flushed with approximately 500 gallons of BioSolve and the mixture was recovered from the downstream end of the pipe.

Approximately 100 cubic yards of contaminated soil were excavated from the subsurface drain area. The soil was transported by Flint to the Denver Regional Landfill in Erie, Colorado. Groundwater encountered in the bottom of the excavation during the abatement activities was removed using a vacuum truck. Approximately 10 bbls of oil were recovered during abatement activities. The excavation was backfilled with imported soil.

Seven (7) soil samples, T-1 through T-7, and 12 surface water samples were collected during the abatement process. The TRPH concentration observed in soil sample T-1 exceeded the Allowable Concentration. The excavation area could not be increased to the east of sample location T-1 due to the location of the ASTs. The TRPH concentrations observed in the remaining soil samples collected from the excavation were not observed above the Allowable Concentration. Six (6) Creek Samples were collected from an area of the creek located to the north of County Road 20. Three (3) Tile Drain samples were collected approximately 60 feet upgradient of where the subsurface drain flowed into the creek. Three (3) Drain Outlet samples were collected from the subsurface drain outfall into the creek. BTEX concentrations observed in the surface water samples collected near the site in January and February 2007 were not observed above the Surface Water Standards.

### **1.3 Paragon Site Assessment Activities**

Based on the soil and water contamination observed during excavation activities, additional site assessment was performed at the site in February 2007. Four (4) monitoring wells, PMW-1 through PMW-4, and three (3) direct-push probes, PB-1 through PB-3, were installed at the site on February 12 and 14, 2007 to obtain information regarding potential petroleum hydrocarbon contamination. The approximate locations of the monitoring wells

and direct-push probes are shown on Figure 3 attached to this letter. The TRPH concentration observed in the soil sample analyzed from PB-2 exceeded the Allowable Concentration. The TRPH concentrations in soil samples analyzed from PMW-1, PMW-2, PMW-3, PMW-4, PB-1 and PB-3 were not observed above the Allowable Concentration of 1,000 mg/Kg.

## **2. GEOHYDROLOGY**

Groundwater elevations in wells PMW-1, PMW-2, PMW-3 and PMW-4 were measured by Paragon on February 5, 2010. Groundwater elevation data for the site is summarized in Table 1 which is attached to this report. Groundwater was observed in wells PMW-1, PMW-2, PMW-3 and PMW-4 to range from approximately 6.4 to 7.7 feet below the top of casings on February 5, 2010. Free-phase product was not observed in monitoring wells PMW-1 through PMW-4 on February 5, 2010.

A piezometric surface diagram for groundwater elevations observed during the February 2010 sampling event is attached to this report as Figure 3. The piezometric surface was estimated using the Surfer<sup>®</sup> software distributed by Golden Software based on groundwater table measurements in wells PMW-1, PMW-2, PMW-3 and PMW-4. As seen from Figure 3, the general groundwater flow direction appeared to be towards the northwest. The hydraulic gradient observed at the site on February 5, 2010 was estimated to range from approximately 0.02 to 0.03. The groundwater flow direction and hydraulic gradient estimated for February 2010 are similar to previous observations at the site. It should be noted that local geohydrologic characteristics may change due to variations in precipitation, recharge, stratigraphy or conditions not apparent at the time of sampling.

## **3. GROUNDWATER QUALITY RESULTS**

Information collected during the February 2010 sampling event relative to groundwater quality at the site is summarized below. That information includes temperature, electrical conductance and pH measurements, dissolved oxygen (DO) measurements, and laboratory results.

### **3.1 Field Data**

Groundwater temperature, electrical conductance and pH measurements were performed on February 5, 2010 during purging of wells PMW-1 through PMW-4 prior to collecting groundwater samples for laboratory analysis. Purging of monitoring wells prior to sampling was accomplished using clean disposable bailers. Measurements were recorded during the removal of water from the wells. The wells were considered purged when temperature, electrical conductance, and pH measurements stabilized to within ten (10) percent for three

(3) consecutive measurements and a minimum of three (3) well volumes were removed from the well or after the well was purged essentially dry. The wells were allowed to recharge prior to sampling.

DO measurements were performed in wells PMW-1 through PMW-4 on February 5, 2010. DO monitoring results are summarized in Table 2 attached to this report. As seen from Table 2, DO concentrations were observed to range from approximately 0.9 to 1.3 milligrams per liter (mg/L) during the February 2010 sampling episode. In general, an obvious correlation was not observed between BTEX concentrations observed in groundwater samples and DO measurements in February 2010.

### **3.2 Groundwater Analytical Results**

Groundwater samples were collected from monitoring wells PMW-1 through PMW-4 on February 5, 2010 for laboratory analysis. Groundwater samples were transported under standard chain-of-custody procedures to Technology Laboratory, Inc. (TLI) in Fort Collins, Colorado for BTEX analysis by EPA Method 8260B. Groundwater sample results are summarized in Table 2 attached to this letter. The approximate locations of PMW-1 through PMW-4 and T-1 through T-5 are shown on Figure 4 attached to this letter. Recovery trench wells T-1 through T-5 were scheduled to be sampled every other event. The recovery trench wells were not sampled in February 2010 per that schedule. The TLI laboratory report for wells PMW-1 through PMW-4 is also attached to this letter.

BTEX concentrations were not observed above the laboratory detection limit of 1.0 micrograms per liter ( $\mu\text{g/L}$ ) in the groundwater samples collected from PMW-1 through PMW-4 on February 5, 2010. In general, the BTEX concentrations observed in the groundwater samples collected from PMW-1 through PMW-4 in February 2010 were similar to previous sample results.

BTEX concentrations observed in the groundwater samples collected from PMW-1 through PMW-4 on February 2010 were not observed above the Concentration Levels.

## **4. VACUUM-ENHANCED RECOVERY EVENTS**

A vacuum-enhanced recovery (VER) event using a Key Energy vacuum truck was performed at the recovery trenches, T-1 through T-5, on November 24, 2009. Even though T-1 riser pipe is damaged, Key Energy was still able to recover from this riser pipe location. As seen from Table 3, approximately 268,800 gallons of groundwater have been recovered from recovery wells T-1 through T-5 between March 2007 and November 2009. The recovered groundwater was transported to a COGCC-approved disposal well operated by Conquest Disposal Service. The Key Energy work ticket is attached to this report.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are made based on information obtained during the quarterly sampling event.

1. Groundwater was observed in wells PMW-1, PMW-2, PMW-3 and PMW-4 to range from approximately 6.4 to 7.7 feet below the top of casings on February 5, 2010. Free-phase product was not observed in monitoring wells PMW-1 through PMW-4 on February 5, 2010.
2. The general groundwater flow direction on February 5, 2010 appeared to be towards the northwest. The hydraulic gradient observed at the site on February 5, 2010 was estimated to range from approximately 0.02 to 0.03. The groundwater flow direction and hydraulic gradient estimated for February 5, 2010 are similar to previous observations at the site.
3. In general, the BTEX concentrations observed in the groundwater samples collected from PMW-1 through PMW-4 in February 2010 were similar to previous sample results.
4. BTEX concentrations observed in the groundwater samples collected from PMW-1 through PMW-4 on February 5, 2010 were not observed above the Concentration Levels.
5. The extent of groundwater impacts at the site appears to be limited and bracketed.
6. Approximately 268,800 gallons of groundwater have been recovered from recovery wells T-1 through T-5 between March 2007 and November 2009. The recovered groundwater was transported to a COGCC-approved disposal well operated by Conquest Disposal Service.

The following recommendations are made based on information obtained during the quarterly sampling event.

1. The groundwater monitoring wells and recovery trench locations should be sampled on a quarterly basis. Enhanced-fluid recovery events should be performed at the recovery trench locations the day prior to the sampling events. The results of future sampling events should be used to evaluate the need for additional actions at the site.

## 6. GENERAL COMMENTS

The analyses and opinions expressed in this report are based on data obtained from the indicated locations along with other information described in the report. The report does not

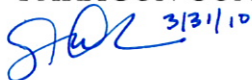


reflect any variations in subsurface geohydrology or contaminant distribution which may occur between sample locations and or across the site. Actual subsurface conditions may vary and may not become evident without further exploration. Due to the dynamic nature of groundwater flow and contaminant migration, subsurface conditions will vary with time.

This report was prepared for the exclusive use of Machii-Ross Petroleum Company for specific application to the subject property and has been prepared in accordance with generally accepted geo-environmental engineering practices. No warranties, either express or implied, are intended or made. In the event that changes in the nature or location of suspected sources of contamination as outlined in this report are observed, the conclusions and recommendations contained in this report shall not be valid unless these changes are reviewed and the opinions of this report are modified and verified in writing by Paragon.

If you have questions or require additional information regarding this site, please do not hesitate to contact us.

Sincerely,  
PARAGON CONSULTING GROUP, INC.



Amy D. Weber, P.E.  
Colorado No. 37665



David M. Rau, P.E., BCEE  
Principal Engineer

ADW/DMR:adwl

enc: Figure 1 - General Location Diagram  
Figure 2 - Vicinity Map  
Figure 3 - Piezometric Surface Diagram  
Figure 4 - Groundwater Sample Results Diagram  
Table 1 - Summary of Groundwater Elevation Data  
Table 2 - Summary of Water Quality Results  
Table 3 - Groundwater Recovery  
Laboratory Report  
Key Energy Work Ticket

cc: Mr. Neil Rehkop/SBC Global (via email)  
Mr. Robert Chesson/COGCC (via email)  
Mr. Andy Peterson/Peterson Energy Management (via email)





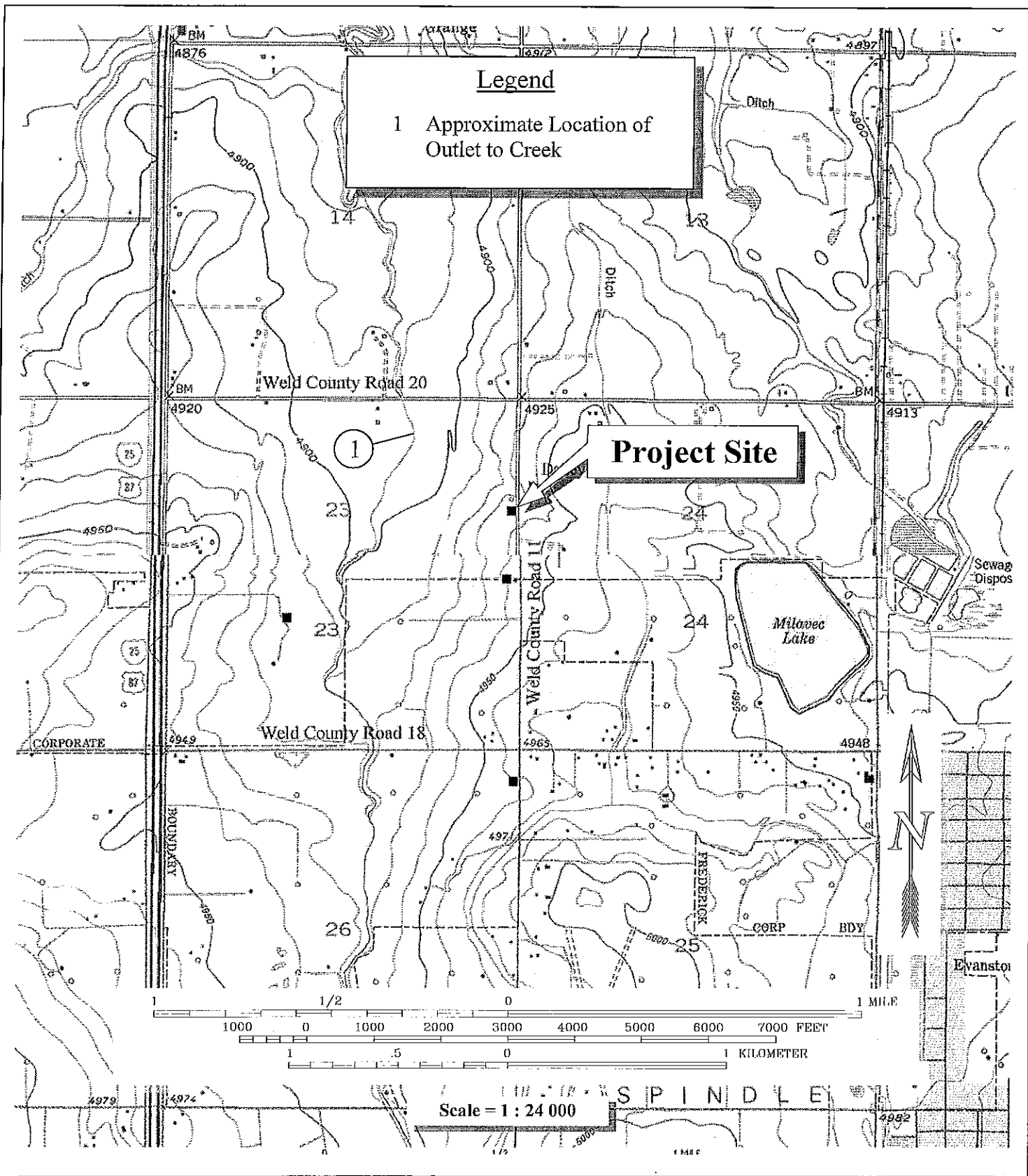
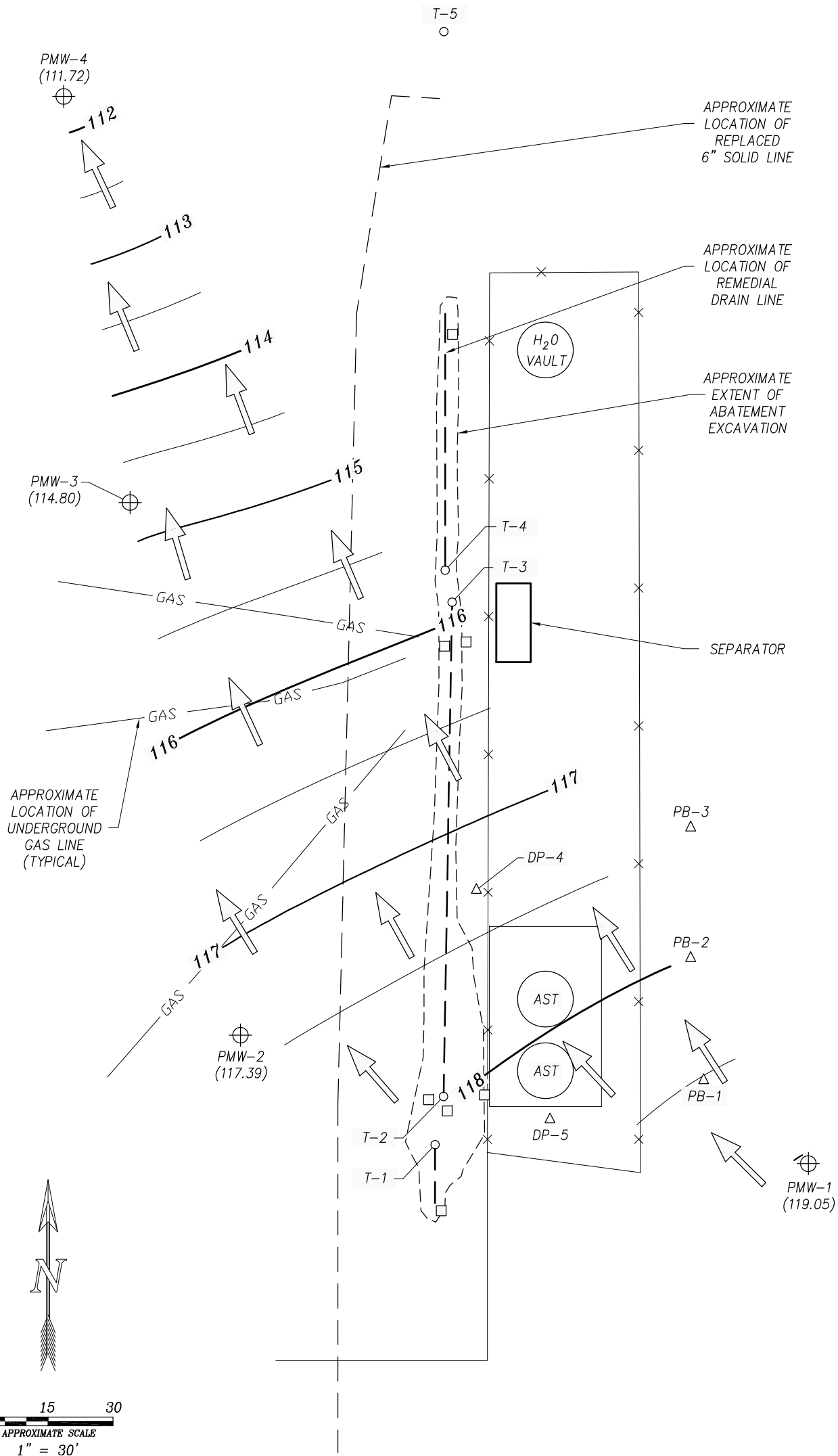


Figure 2 Vicinity Map  
 Machii-Ross Petroleum – Berger Tank Battery  
 Weld County Road 11 and Weld County Road 20, Weld County, Colorado  
 Project No. 1007004 June 2007 Drawn by PJH(04fig2a)

PARAGON



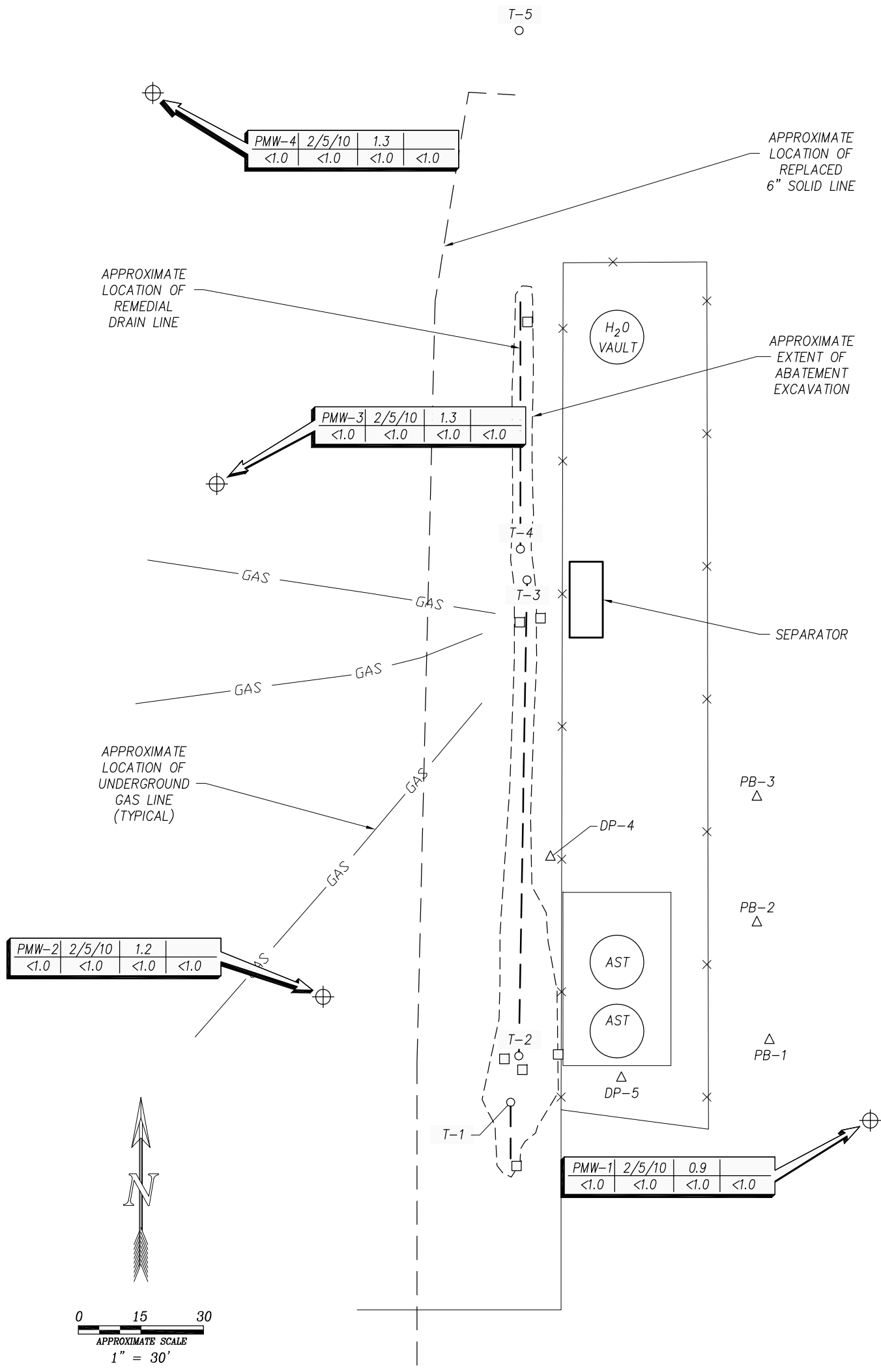
**Legend**

- APPROXIMATE LOCATION OF REMEDIAL DRAIN LINE RISER
- △ APPROXIMATE LOCATION OF SOIL BORING
- ⊕ APPROXIMATE LOCATION OF MONITORING WELL
- APPROXIMATE LOCATION OF SOIL SAMPLE
- ← ESTIMATED DIRECTION OF GROUNDWATER FLOW
- 120— ESTIMATED GROUNDWATER ELEVATION IN FEET ABOVE A COMMON DATUM

NOTE: GROUNDWATER CONTOURS WERE ESTIMATED USING THE "SURFER" PROGRAM FROM GOLDEN SOFTWARE BASED ON DATA COLLECTED FROM WELLS PMW-1, PMW-2, PMW-3, & PMW-4 ON FEBRUARY 5, 2010. ACTUAL CONDITIONS MAY VARY.

**Figure 3 Piezometric Surface Diagram  
Berger Tank Battery  
Machii-Ross Petroleum Company  
Weld County Road 11 & 20  
Weld County, Colorado**

|                      |  |                        |
|----------------------|--|------------------------|
| Project Mngr:<br>ADW | <b>PARAGON</b><br>Consulting Group<br>Environmental Engineering<br>and Geohydrology<br>6901 Broadway<br>Denver, Colorado 80221 | Project No:<br>1007004 |
| Designed by:         |  | Scale:<br>As Shown     |
| Drawn by:<br>PJH     |  | File No:<br>04feb10    |
| Checked by:<br>ADW   |  | Date:<br>Feb 2010      |
| Approved by:<br>DMR  |  | Sheet No:              |



County Road 11

**Legend**

- APPROXIMATE LOCATION OF REMEDIAL DRAIN LINE RISER
  - △ APPROXIMATE LOCATION OF SOIL BORING
  - ⊕ APPROXIMATE LOCATION OF MONITORING WELL
  - APPROXIMATE LOCATION OF SOIL SAMPLE
- | SAMPLE NAME                                  | SAMPLE DATE | B | T | E | X | DO |
|--|-------------|---|---|---|---|----|
| WHERE:                                       |             |   |   |   |   |    |
| B = BENZENE CONCENTRATION IN µg/L.           |             |   |   |   |   |    |
| T = TOLUENE CONCENTRATION IN µg/L.           |             |   |   |   |   |    |
| E = ETHYLBENZENE CONCENTRATION IN µg/L.      |             |   |   |   |   |    |
| X = TOTAL XYLENES CONCENTRATION IN µg/L.     |             |   |   |   |   |    |
| DO = DISSOLVED OXYGEN CONCENTRATION IN mg/L. |             |   |   |   |   |    |
| NM = NOT MEASURED.                           |             |   |   |   |   |    |

**Figure 4 Groundwater Quality Results Diagram  
Berger Tank Battery  
Machii-Ross Petroleum Company  
Weld County Road 11 & 20  
Weld County, Colorado**

|                      |  |                        |
|----------------------|--|------------------------|
| Project Mngr:<br>ADW | <b>PARAGON</b><br>Consulting Group<br>Environmental Engineering<br>and Geohydrology<br>6901 Broadway<br>Denver, Colorado 80221 | Project No:<br>1007004 |
| Designed by:         |  | Scale:<br>As Shown     |
| Drawn by:<br>PJH     |  | File No:<br>04w0210    |
| Checked by:<br>ADW   |  | Date:<br>Feb 2010      |
| Approved by:<br>DMR  |  | Sheet No:              |

**TABLE 1**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**

**PROJECT NAME:** Machii Ross/Berger Battery  
**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado  
**PROJECT NUMBER:** 1007004

| Well Name                                | PMW-1  | PMW-2  | PMW-3  | PMW-4  |
|--|--------|--------|--------|--------|
| Casing Elevation (feet)                  | 125.44 | 124.82 | 121.50 | 119.41 |
| <u>Date Measured: March 1, 2007</u>      |        |        |        |        |
| Depth to Water (feet)                    | 11.38  | 3.96   | 7.02   | 10.42  |
| Groundwater Elevation (feet)             | 114.06 | 120.86 | 114.48 | 108.99 |
| <u>Date Measured: April 9, 2007</u>      |        |        |        |        |
| Depth to Water (feet)                    | 3.99   | 7.60   | 6.71   | 9.61   |
| Groundwater Elevation (feet)             | 121.45 | 117.22 | 114.79 | 109.80 |
| <u>Date Measured: June 13, 2007</u>      |        |        |        |        |
| Depth to Water (feet)                    | 4.11   | 4.70   | 7.20   | 10.61  |
| Groundwater Elevation (feet)             | 121.33 | 120.12 | 114.30 | 108.80 |
| <u>Date Measured: September 28, 2007</u> |        |        |        |        |
| Depth to Water (feet)                    | 3.85   | 8.25   | 8.00   | 11.18  |
| Groundwater Elevation (feet)             | 121.59 | 116.57 | 113.50 | 108.23 |
| <u>Date Measured: January 28, 2008</u>   |        |        |        |        |
| Depth to Water (feet)                    | 4.90   | 7.96   | NM     | 9.79   |
| Groundwater Elevation (feet)             | 120.54 | 116.86 | NM     | 109.62 |
| <u>Date Measured: April 30, 2008</u>     |        |        |        |        |
| Depth to Water (feet)                    | 4.68   | 7.60   | 6.80   | 9.52   |
| Groundwater Elevation (feet)             | 120.76 | 117.22 | 114.70 | 109.89 |
| <u>Date Measured: July 21, 2008</u>      |        |        |        |        |
| Depth to Water (feet)                    | 4.15   | 8.49   | 7.54   | 10.89  |
| Groundwater Elevation (feet)             | 121.29 | 116.33 | 113.96 | 108.52 |
| <u>Date Measured: October 6, 2008</u>    |        |        |        |        |
| Depth to Water (feet)                    | 3.82   | 8.26   | 7.08   | 9.58   |
| Groundwater Elevation (feet)             | 121.62 | 116.56 | 114.42 | 109.83 |
| <u>Date Measured: May 12, 2009</u>       |        |        |        |        |
| Depth to Water (feet)                    | 3.95   | 7.45   | 6.39   | 8.03   |
| Groundwater Elevation (feet)             | 121.49 | 117.37 | 115.11 | 111.38 |
| <u>Date Measured: August 6, 2009</u>     |        |        |        |        |
| Depth to Water (feet)                    | 3.11   | 8.13   | 6.94   | 8.78   |
| Groundwater Elevation (feet)             | 122.33 | 116.69 | 114.56 | 110.63 |
| <u>Date Measured: November 3, 2009</u>   |        |        |        |        |
| Depth to Water (feet)                    | 3.92   | 7.60   | 6.88   | 8.53   |
| Groundwater Elevation (feet)             | 121.52 | 117.22 | 114.62 | 110.88 |
| <u>Date Measured: February 5, 2010</u>   |        |        |        |        |
| Depth to Water (feet)                    | 6.39   | 7.43   | 6.70   | 7.69   |
| Groundwater Elevation (feet)             | 119.05 | 117.39 | 114.80 | 111.72 |

Notes:

1. Approximate well locations are shown on Figure 3.
2. NM = Not Measured.

**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS**

(Page 1 of 4)

**PROJECT NAME:** Machii Ross/Berger Battery

**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado

**PROJECT NUMBER:** 1007004

| Sample Point Name           | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | Dissolved Oxygen (mg/L) |
|-----------------------------|-------------|----------------|----------------|---------------------|----------------|-------------------------|
| PMW-1 <sup>11</sup>         | 03/01/07    | <0.5           | <0.5           | <0.5                | <0.5           | 2.6                     |
| PMW-1                       | 04/09/07    | NS             | NS             | NS                  | NS             | 1.1                     |
| PMW-1                       | 06/13/07    | <0.5           | <0.5           | <0.5                | <0.5           | 0.7                     |
| PMW-1                       | 09/28/07    | <0.5           | <0.5           | <0.5                | <0.5           | 0.1                     |
| PMW-1                       | 01/28/08    | <0.5           | <0.5           | <0.5                | <0.5           | 0.8                     |
| PMW-1                       | 04/30/08    | <0.5           | <0.5           | <0.5                | <0.5           | NM                      |
| PMW-1                       | 07/21/08    | <0.5           | <0.5           | <0.5                | <0.5           | 0.9                     |
| PMW-1                       | 10/06/08    | <1.            | <1.            | <1.                 | <1.            | 1.0                     |
| PMW-1                       | 05/12/09    | <1.            | <1.            | <1.                 | <1.            | 0.8                     |
| PMW-1                       | 08/06/09    | <1.            | <1.            | <1.                 | <1.            | 0.9                     |
| PMW-1                       | 11/03/09    | <1.            | <1.            | <1.                 | <1.            | 1.3                     |
| PMW-1                       | 02/05/10    | <1.            | <1.            | <1.                 | <1.            | 0.9                     |
| PMW-2                       | 03/01/07    | NS             | NS             | NS                  | NS             | 1.2                     |
| PMW-2                       | 04/09/07    | <0.5           | <0.5           | <0.5                | <0.5           | 1.1                     |
| PMW-2                       | 06/13/07    | <0.5           | <0.5           | <0.5                | <0.5           | 0.9                     |
| PMW-2                       | 09/28/07    | <0.5           | <0.5           | <0.5                | <0.5           | 0.3                     |
| PMW-2                       | 01/28/08    | <0.5           | <0.5           | <0.5                | <0.5           | 0.7                     |
| PMW-2                       | 04/30/08    | <0.5           | <0.5           | <0.5                | <0.5           | NM                      |
| PMW-2                       | 07/21/08    | <0.5           | <0.5           | <0.5                | <0.5           | 1.0                     |
| PMW-2                       | 10/06/08    | <1.            | <1.            | <1.                 | <1.            | 1.1                     |
| PMW-2                       | 05/12/09    | <1.            | <1.            | <1.                 | <1.            | 1.1                     |
| PMW-2                       | 08/06/09    | <1.            | <1.            | <1.                 | <1.            | 1.3                     |
| PMW-2                       | 11/03/09    | <1.            | <1.            | <1.                 | <1.            | 1.0                     |
| PMW-2                       | 02/05/10    | <1.            | <1.            | <1.                 | <1.            | 1.2                     |
| <b>Concentration Levels</b> |             | 5.0            | 560.           | 700.                | 1,400.         | NR                      |

**Notes:**

1. Approximate sample locations are shown on Figure 4.
2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.
4. Concentration Levels for groundwater are described in Table 910-1 of Series 900 of the Colorado Oil & Gas Conservation Commission Rules and Regulations established April 1, 2009.
5. **Bold concentrations** indicate an exceedance of the Concentration Levels.
6. NR = Not Regulated.
7. NM = Not Measured.
8. NS = Not Sampled.
9. Groundwater levels did not appear to have stabilized in PMW-1, PMW-2 and PMW-3 since drilling and groundwater samples were not collected from these wells.
10. Groundwater samples BTB-SB-3 and BTB-4 were split samples collected from ENVIRON's probes SB-3 and SB-4, respectively, by Paragon personnel.
11. PMW-1 was inadvertently labeled as PMW-4 during the groundwater sampling performed in March 2007.

**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS**

(Page 2 of 4)

**PROJECT NAME:** Machii Ross/Berger Battery

**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado

**PROJECT NUMBER:** 1007004

| Sample Point Name    | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L)  | Dissolved Oxygen (mg/L) |
|----------------------|-------------|----------------|----------------|---------------------|-----------------|-------------------------|
| PMW-3                | 03/01/07    | NS             | NS             | NS                  | NS              | 1.4                     |
| PMW-3                | 04/09/07    | <0.5           | <0.5           | <0.5                | <0.5            | 1.0                     |
| PMW-3                | 06/13/07    | <0.5           | <0.5           | <0.5                | <0.5            | 1.0                     |
| PMW-3                | 09/28/07    | <0.5           | <0.5           | <0.5                | <0.5            | 0.4                     |
| PMW-3                | 01/28/08    | <0.5           | <0.5           | <0.5                | <0.5            | 0.8                     |
| PMW-3                | 04/30/08    | <0.5           | <0.5           | <0.5                | <0.5            | NM                      |
| PMW-3                | 07/21/08    | <0.5           | <0.5           | <0.5                | <0.5            | 1.1                     |
| PMW-3                | 10/06/08    | <1.            | <1.            | <1.                 | <1.             | 1.2                     |
| PMW-3                | 05/12/09    | <1.            | <1.            | <1.                 | <1.             | 1.0                     |
| PMW-3                | 08/06/09    | <1.            | <1.            | <1.                 | <1.             | 1.1                     |
| PMW-3                | 11/03/09    | <1.            | <1.            | <1.                 | <1.             | 1.0                     |
| PMW-3                | 02/05/10    | <1.            | <1.            | <1.                 | <1.             | 1.3                     |
| PMW-4                | 03/01/07    | NS             | NS             | NS                  | NS              | 1.8                     |
| PMW-4                | 04/09/07    | <0.5           | <0.5           | <0.5                | <0.5            | 1.0                     |
| PMW-4                | 06/13/07    | <0.5           | <0.5           | <0.5                | <0.5            | 1.0                     |
| PMW-4                | 09/28/07    | <0.5           | <0.5           | <0.5                | <0.5            | 2.2                     |
| PMW-4                | 01/28/08    | <0.5           | <0.5           | <0.5                | <0.5            | 0.9                     |
| PMW-4                | 04/30/08    | <0.5           | <0.5           | <0.5                | <0.5            | NM                      |
| PMW-4                | 07/21/08    | <0.5           | <0.5           | <0.5                | <0.5            | 1.3                     |
| PMW-4                | 10/06/08    | <1.            | <1.            | <1.                 | <1.             | 1.0                     |
| PMW-4                | 05/12/09    | <1.            | <1.            | <1.                 | <1.             | 1.1                     |
| PMW-4                | 08/06/09    | <1.            | <1.            | <1.                 | <1.             | 1.0                     |
| PMW-4                | 11/03/09    | <1.            | <1.            | <1.                 | <1.             | 1.2                     |
| PMW-4                | 02/05/10    | <1.            | <1.            | <1.                 | <1.             | 1.3                     |
| BTB-SB-3             | 01/09/07    | <b>20,047.</b> | <b>97,441.</b> | <b>10,824.</b>      | <b>142,796.</b> | NM                      |
| BTB-4                | 01/09/07    | 3.5            | 65.            | 6.0                 | 98.             | NM                      |
| Concentration Levels |             | 5.0            | 560.           | 700.                | 1,400.          | NR                      |

Notes:

1. Approximate sample locations are shown on Figure 4.
2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.
4. Concentration Levels for groundwater are described in Table 910-1 of Series 900 of the Colorado Oil & Gas Conservation Commission Rules and Regulations established April 1, 2009.
5. **Bold** concentrations indicate an exceedance of the Concentration Levels.
6. NR = Not Regulated.
7. NM = Not Measured.
8. NS = Not Sampled.
9. Groundwater levels did not appear to have stabilized in PMW-1, PMW-2 and PMW-3 since drilling and groundwater samples were not collected from these wells.
10. Groundwater samples BTB-SB-3 and BTB-4 were split samples collected from ENVIRON's probes SB-3 and SB-4, respectively, by Paragon personnel.
11. PMW-1 was inadvertently labeled as PMW-4 during the groundwater sampling performed in March 2007.



**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS**

(Page 3 of 4)

**PROJECT NAME:** Machii Ross/Berger Battery

**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado

**PROJECT NUMBER:** 1007004

| Sample Point Name           | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | Dissolved Oxygen (mg/L) |
|-----------------------------|-------------|----------------|----------------|---------------------|----------------|-------------------------|
| T-1                         | 06/25/07    | <b>517.</b>    | <b>1,877.</b>  | 11.                 | <b>4,397.</b>  | NM                      |
| T-1                         | 09/28/07    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 01/28/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 04/30/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 07/21/08    | <b>134.</b>    | 129.           | 124.                | <b>1,550.</b>  | NM                      |
| T-1                         | 10/06/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 05/12/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 08/06/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-1                         | 11/03/09    | 1.             | <1.            | 3.                  | 13.            | NM                      |
| T-1                         | 02/05/10    | NS             | NS             | NS                  | NS             | NM                      |
|                             |             |                |                |                     |                |                         |
| T-2                         | 06/25/07    | <b>868.</b>    | <b>775.</b>    | 12.                 | <b>6,330.</b>  | NM                      |
| T-2                         | 09/28/07    | NS             | NS             | NS                  | NS             | NM                      |
| T-2                         | 01/28/08    | <b>300.</b>    | 49.            | <0.5                | <b>1,415.</b>  | NM                      |
| T-2                         | 04/30/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-2                         | 07/21/08    | <b>289.</b>    | 55.            | 150.                | <b>1,961.</b>  | NM                      |
| T-2                         | 10/06/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-2                         | 05/12/09    | <b>94.</b>     | 65.            | 32.                 | 663.           | NM                      |
| T-2                         | 08/06/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-2                         | 11/03/09    | 2.             | <1.            | 4.                  | 2.             | NM                      |
| T-2                         | 02/05/10    | NS             | NS             | NS                  | NS             | NM                      |
|                             |             |                |                |                     |                |                         |
| T-3                         | 06/25/07    | <b>394.</b>    | 24.            | <0.5                | <b>3,449.</b>  | NM                      |
| T-3                         | 09/28/07    | NS             | NS             | NS                  | NS             | NM                      |
| T-3                         | 01/28/08    | <b>214.</b>    | 8.1            | <0.5                | 627.           | NM                      |
| T-3                         | 04/30/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-3                         | 07/21/08    | <b>199.</b>    | 3.5            | 48.                 | 246.           | NM                      |
| T-3                         | 10/06/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-3                         | 05/12/09    | <1.            | <1.            | <1.                 | <1.            | NM                      |
| T-3                         | 08/06/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-3                         | 11/03/09    | 7.             | <1.            | 4.                  | 2.             | NM                      |
| T-3                         | 02/05/10    | NS             | NS             | NS                  | NS             | NM                      |
|                             |             |                |                |                     |                |                         |
| <b>Concentration Levels</b> |             | 5.0            | 560.           | 700.                | 1,400.         | NR                      |

Notes:

1. Approximate sample locations are shown on Figure 4.
2. µg/L = micrograms per liter.
3. mg/L = milligrams per liter.
4. Concentration Levels for groundwater are described in Table 910-1 of Series 900 of the Colorado Oil & Gas Conservation Commission Rules and Regulations established April 1, 2009.
5. **Bold** concentrations indicate an exceedance of the Concentration Levels.
6. NR = Not Regulated.
7. NM = Not Measured.
8. NS = Not Sampled.
9. Groundwater levels did not appear to have stabilized in PMW-1, PMW-2 and PMW-3 since drilling and groundwater samples were not collected from these wells.
10. Groundwater samples BTB-SB-3 and BTB-4 were split samples collected from ENVIRON's probes SB-3 and SB-4, respectively, by Paragon personnel.
11. PMW-1 was inadvertently labeled as PMW-4 during the groundwater sampling performed in March 2007.

**TABLE 2**  
**SUMMARY OF WATER QUALITY RESULTS**

(Page 4 of 4)

**PROJECT NAME:** Machii Ross/Berger Battery

**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado

**PROJECT NUMBER:** 1007004

| Sample Point Name           | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Xylenes (µg/L) | Dissolved Oxygen (mg/L) |
|-----------------------------|-------------|----------------|----------------|---------------------|----------------|-------------------------|
| T-4                         | 06/25/07    | <b>240.</b>    | 2.2            | <0.5                | <b>1,270.</b>  | NM                      |
| T-4                         | 09/28/07    | NS             | NS             | NS                  | NS             | NM                      |
| T-4                         | 01/28/08    | <b>44.</b>     | 0.7            | <0.5                | 28.            | NM                      |
| T-4                         | 04/30/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-4                         | 07/21/08    | <b>172.</b>    | 6.6            | 17.                 | 66.            | NM                      |
| T-4                         | 10/06/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-4                         | 05/12/09    | <1.            | <1.            | <1.                 | <1.            | NM                      |
| T-4                         | 08/06/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-4                         | 11/03/09    | <b>5.</b>      | <1.            | <1.                 | <1.            | NM                      |
| T-4                         | 02/05/10    | NS             | NS             | NS                  | NS             | NM                      |
|                             |             |                |                |                     |                |                         |
| T-5                         | 06/25/07    | <b>1,451.</b>  | <b>692.</b>    | 426.                | <b>6,938.</b>  | NM                      |
| T-5                         | 09/28/07    | NS             | NS             | NS                  | NS             | NM                      |
| T-5                         | 01/28/08    | <b>168.</b>    | <0.5           | 132.                | <b>1,547.</b>  | NM                      |
| T-5                         | 04/30/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-5                         | 07/21/08    | <b>177.</b>    | 7.5            | 226.                | 1,216.         | NM                      |
| T-5                         | 10/06/08    | NS             | NS             | NS                  | NS             | NM                      |
| T-5                         | 05/12/09    | <b>11.</b>     | <1.            | 40.                 | 165.           | NM                      |
| T-5                         | 08/06/09    | NS             | NS             | NS                  | NS             | NM                      |
| T-5                         | 11/03/09    | <1.            | <1.            | 2.                  | 10.            | NM                      |
| T-5                         | 02/05/10    | NS             | NS             | NS                  | NS             | NM                      |
|                             |             |                |                |                     |                |                         |
| <b>Concentration Levels</b> |             | <b>5.0</b>     | <b>560.</b>    | <b>700.</b>         | <b>1,400.</b>  | <b>NR</b>               |

Notes:

1. Approximate sample locations are shown on Figure 4.
2. µg/L = micrograms per liter.
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4. Concentration Levels for groundwater are described in Table 910-1 of Series 900 of the Colorado Oil & Gas Conservation Commission Rules and Regulations established April 1, 2009.
5. **Bold concentrations** indicate an exceedance of the Concentration Levels.
6. NR = Not Regulated.
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9. Groundwater levels did not appear to have stabilized in PMW-1, PMW-2 and PMW-3 since drilling and groundwater samples were not collected from these wells.
10. Groundwater samples BTB-SB-3 and BTB-4 were split samples collected from ENVIRON's probes SB-3 and SB-4, respectively, by Paragon personnel.
11. PMW-1 was inadvertently labeled as PMW-4 during the groundwater sampling performed in March 2007.

**TABLE 3**  
**GROUNDWATER RECOVERY**  
 (Page 1 of 3)

**PROJECT NAME:** Machii Ross/Berger Battery  
**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado  
**PROJECT NUMBER:** 1007004

| DATE       | WELL NAME       | AMOUNT RECOVERED (gal) | RECOVERY METHOD         |
|------------|-----------------|------------------------|-------------------------|
| 3/23/2007  | T-1 through T-5 | 1,050                  | vacuum extraction truck |
| 5/29/2007  | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 5/31/2007  | T-1 through T-5 | 2,100                  | vacuum extraction truck |
| 6/4/2007   | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 7/3/2007   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 7/5/2007   | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 7/9/2007   | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 7/16/2007  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 7/23/2007  | T-1 through T-5 | 2,184                  | vacuum extraction truck |
| 7/30/2007  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 8/20/2007  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 8/27/2007  | T-1 through T-5 | 1,890                  | vacuum extraction truck |
| 9/4/2007   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 9/18/2007  | T-1 through T-5 | 1,680                  | vacuum extraction truck |
| 10/8/2007  | T-1 through T-5 | 2,100                  | vacuum extraction truck |
| 10/15/2007 | T-1 through T-5 | 1,680                  | vacuum extraction truck |
| 10/22/2007 | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 10/29/2007 | T-1 through T-5 | 2,184                  | vacuum extraction truck |
| 11/5/2007  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 11/14/2007 | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 11/19/2007 | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 12/3/2007  | T-1 through T-5 | 1,470                  | vacuum extraction truck |
| 12/10/2007 | T-1 through T-5 | 1,722                  | vacuum extraction truck |
| 12/17/2007 | T-1 through T-5 | 1,638                  | vacuum extraction truck |
| 12/26/2007 | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 1/2/2008   | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 1/7/2008   | T-1 through T-5 | 1,974                  | vacuum extraction truck |
| 1/14/2008  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 1/21/2008  | T-1 through T-5 | 2,646                  | vacuum extraction truck |
| 1/29/2008  | T-1 through T-5 | 1,764                  | vacuum extraction truck |
| 2/4/2008   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 2/11/2008  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 2/18/2008  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 3/3/2008   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 3/10/2008  | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 3/17/2008  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 3/24/2008  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 3/31/2008  | T-1 through T-5 | 2940                   | vacuum extraction truck |
| 4/8/2008   | T-1 through T-5 | 2,058                  | vacuum extraction truck |
| 4/14/2008  | T-1 through T-5 | 2,436                  | vacuum extraction truck |
| 4/23/2008  | T-1 through T-5 | 2,100                  | vacuum extraction truck |
| 4/28/2008  | T-1 through T-5 | NR                     | vacuum extraction truck |
| 5/5/2008   | T-1 through T-5 | 2,436                  | vacuum extraction truck |
| 5/15/2008  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 5/19/2008  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 5/27/2008  | T-1 through T-5 | NR                     | vacuum extraction truck |

Notes:

- 1) Approximate sample locations are shown on Figure 3.

**TABLE 3**  
**GROUNDWATER RECOVERY**

(Page 2 of 3)

**PROJECT NAME:** Machii Ross/Berger Battery

**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado

**PROJECT NUMBER:** 1007004

| DATE       | WELL NAME       | AMOUNT RECOVERED (gal) | RECOVERY METHOD         |
|------------|-----------------|------------------------|-------------------------|
| 6/2/2008   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 6/10/2008  | T-1 through T-5 | 2,814                  | vacuum extraction truck |
| 6/16/2008  | T-1 through T-5 | 2,142                  | vacuum extraction truck |
| 6/24/2008  | T-1 through T-5 | 2,604                  | vacuum extraction truck |
| 6/30/2008  | T-1 through T-5 | 2,814                  | vacuum extraction truck |
| 7/7/2008   | T-1 through T-5 | 1,848                  | vacuum extraction truck |
| 7/14/2008  | T-1 through T-5 | NR                     | vacuum extraction truck |
| 7/22/2008  | T-1 through T-5 | 1,974                  | vacuum extraction truck |
| 7/28/2008  | T-1 through T-5 | 3,066                  | vacuum extraction truck |
| 8/4/2008   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 8/13/2008  | T-1 through T-5 | 1,680                  | vacuum extraction truck |
| 8/18/2008  | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 8/25/2008  | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 9/3/2008   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 9/8/2008   | T-1 through T-5 | 1,848                  | vacuum extraction truck |
| 9/22/2008  | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 9/29/2008  | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 10/6/2008  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 10/13/2008 | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 11/3/2008  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 11/10/2008 | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 11/17/2008 | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 11/24/2008 | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 12/1/2008  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 12/8/2008  | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 12/15/2008 | T-1 through T-5 | 2,268                  | vacuum extraction truck |
| 12/22/2008 | T-1 through T-5 | 1,974                  | vacuum extraction truck |
| 12/29/2008 | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 1/5/2009   | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 1/12/2009  | T-1 through T-5 | 2,058                  | vacuum extraction truck |
| 1/19/2009  | T-1 through T-5 | 1,680                  | vacuum extraction truck |
| 1/26/2009  | T-1 through T-5 | 2,310                  | vacuum extraction truck |
| 2/2/2009   | T-1 through T-5 | 2,142                  | vacuum extraction truck |
| 2/9/2009   | T-1 through T-5 | 1,680                  | vacuum extraction truck |
| 2/16/2009  | T-1 through T-5 | 2,142                  | vacuum extraction truck |
| 2/23/2009  | T-1 through T-5 | 2,142                  | vacuum extraction truck |
| 3/2/2009   | T-1 through T-5 | 1,890                  | vacuum extraction truck |
| 3/9/2009   | T-1 through T-5 | 2,436                  | vacuum extraction truck |
| 3/16/2009  | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 3/23/2009  | T-1 through T-5 | 2,730                  | vacuum extraction truck |

Notes:

1) Approximate sample locations are shown on Figure 3.

**TABLE 3**  
**GROUNDWATER RECOVERY**  
 (Page 3 of 3)

**PROJECT NAME:** Machii Ross/Berger Battery  
**PROJECT LOCATION:** WCR 11 & WCR 20, Weld County, Colorado  
**PROJECT NUMBER:** 1007004

| DATE                        | WELL NAME       | AMOUNT RECOVERED (gal) | RECOVERY METHOD         |
|-----------------------------|-----------------|------------------------|-------------------------|
| 3/30/2009                   | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 4/6/2009                    | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 4/13/2009                   | T-1 through T-5 | 2,562                  | vacuum extraction truck |
| 4/20/2009                   | T-1 through T-5 | 2,898                  | vacuum extraction truck |
| 4/27/2009                   | T-1 through T-5 | 2,562                  | vacuum extraction truck |
| 5/4/2009                    | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 5/11/2009                   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 5/18/2009                   | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| 5/26/2009                   | T-1 through T-5 | 2,184                  | vacuum extraction truck |
| 6/1/2009                    | T-1 through T-5 | 2,268                  | vacuum extraction truck |
| 6/8/2009                    | T-1 through T-5 | 2,142                  | vacuum extraction truck |
| 6/15/2009                   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 6/22/2009                   | T-1 through T-5 | 2,394                  | vacuum extraction truck |
| 6/29/2009                   | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 7/6/2009                    | T-1 through T-5 | 2,478                  | vacuum extraction truck |
| 7/13/2009                   | T-1 through T-5 | NR                     | vacuum extraction truck |
| 7/20/2009                   | T-1 through T-5 | 2,562                  | vacuum extraction truck |
| 7/27/2009                   | T-1 through T-5 | 1,806                  | vacuum extraction truck |
| 8/3/2009                    | T-1 through T-5 | 2,730                  | vacuum extraction truck |
| 8/10/2009                   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 8/17/2009                   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 8/24/2009                   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 8/31/2009                   | T-1 through T-5 | 2,268                  | vacuum extraction truck |
| 9/14/2009                   | T-1 through T-5 | 2,940                  | vacuum extraction truck |
| 9/28/2009                   | T-1 through T-5 | 3,150                  | vacuum extraction truck |
| 10/12/2009                  | T-1 through T-5 | 2,268                  | vacuum extraction truck |
| 10/26/2009                  | T-1 through T-5 | 2,436                  | vacuum extraction truck |
| 11/24/2009                  | T-1 through T-5 | 2,520                  | vacuum extraction truck |
| <b>TOTAL LIQUID REMOVED</b> |                 | <b>268,842</b>         |                         |

Notes:

- 1) Approximate sample locations are shown on Figure 3.



**TECHNOLOGY LABORATORY, INC.**

**CENTRE PROFESSIONAL PARK**

1012 Centre Avenue  
Fort Collins, Colorado 80526  
(970) 490-1414

**CERTIFICATE OF ANALYSIS**

Paragon Consulting Group, Inc.  
1103 Oak Park Drive  
Fort Collins, CO 80525

Date Received: 02/05/10

Matrix: Water

Project No.: 1007004

| <u>Lab ID</u> | <u>Sample ID</u> | <u>Date Sampled</u> | <u>Date Analyzed</u> | <u>Benzene mg/L</u> | <u>Toluene mg/L</u> | <u>Ethylbenzene mg/L</u> | <u>Total Xylenes mg/L</u> |
|---------------|------------------|---------------------|----------------------|---------------------|---------------------|--------------------------|---------------------------|
| 9928-01       | PMW-1            | 02/05/10            | 02/05/10             | < 0.001             | < 0.001             | < 0.001                  | < 0.001                   |
| 9928-02       | PMW-2            | 02/05/10            | 02/05/10             | < 0.001             | < 0.001             | < 0.001                  | < 0.001                   |
| 9928-03       | PMW-3            | 02/05/10            | 02/05/10             | < 0.001             | < 0.001             | < 0.001                  | < 0.001                   |
| 9928-04       | PMW-4            | 02/05/10            | 02/06/10             | < 0.001             | < 0.001             | < 0.001                  | < 0.001                   |

BTEX Method:

EPA-8260B

Todd Rhea



**TECHNOLOGY LABORATORY, INC.**

**CENTRE PROFESSIONAL PARK**

1012 Centre Avenue  
Fort Collins, Colorado 80526  
(970) 490-1414

**CERTIFICATE OF ANALYSIS**

**QA/QC SURROGATE RECOVERY**

Paragon Consulting Group, Inc.  
1103 Oak Park Drive  
Fort Collins, CO 80525

Date Received: 02/05/10

Matrix: Water

Project No.: 1007004

(% Recovery)

| <u>Lab ID</u> | <u>Sample ID</u> | Bromofluorobenzene<br><u>Limits (70-113%)</u> | Dibromofluoromethane<br><u>Limits (68-120%)</u> | Toluene-d8<br><u>Limits (81-128%)</u> |
|---------------|------------------|---|---|---------------------------------------|
| 9928-01       | PMW-1            | 107   | 113   | 97                                    |
| 9928-02       | PMW-2            | 106   | 114   | 97                                    |
| 9928-03       | PMW-3            | 106   | 116   | 98                                    |
| 9928-04       | PMW-4            | 107   | 117   | 98                                    |

Todd Rhea





Customer Name/No. Machil-Ross Petroleum Co. 41-23 County/Parish Weld State CO  
 Contact Amy Service Location (Berger Refinery) North  
 Directions to Location Rd 11/Rd 18 N 1/4 W into  
 Yard No. 0327 Unit/Asset No. 0106319 Manifest \_\_\_\_\_ RCC No. \_\_\_\_\_  
 SWD Name \_\_\_\_\_  Key SWD  Customer SWD  Public SWD Disposal Ticket No. \_\_\_\_\_

**WORK TICKET DESCRIPTION:**

| Start    | End     | Description   | # BBL | Oil/Water | Rec'd By |
|----------|---------|---|-------|-----------|----------|
| 11:30 Am | 3:00 Pm | Vacuum out the 5 PVC Risers around the tank battery, take to Conquest 2 for disposal. | 60    |           |          |

| Tank No. | Tank No. | Tank No. | Mileage Start | Mileage End |
|----------|----------|----------|---------------|-------------|
|          |          |          |               |             |

**SAFETY EQUIPMENT REQUIRED TO DO THIS JOB:**

- Hard Hat
- Safety Belts
- Safety Harness / Anti Fall Device
- Proper Clothing
- Hearing Protection
- Fire Extinguishers
- Steel Toed Boots
- Cotton/ Rubber Gloves
- Safety Glasses
- Other - Explain:
- Face Shields / Goggles
- Wheel Chock/Cones
- Confined Space Permit
- Work Permit Required
- H2S / Tr-Monitors
- Back Support Belts
- Lock Out/Tag Out
- Ground Cable

**PRE-JOB HAZARD ASSESSMENT:**

| Lifting  | Hazards  | Body Position/Movement  | Environmental Condition   |
|--|--|---|---|
| Manual Lifting (Body Position) <input type="checkbox"/> Y <input type="checkbox"/> N | Proper Tool/Material Placement <input type="checkbox"/> Y <input type="checkbox"/> N | Climbing <input checked="" type="checkbox"/> Y <input type="checkbox"/> N         | <input checked="" type="checkbox"/> Day <input type="checkbox"/> Night <input checked="" type="checkbox"/> Clear      |
| Mechanical Lifting Equipment <input type="checkbox"/> Y <input type="checkbox"/> N   | Hot/Cold Surface or Material <input type="checkbox"/> Y <input type="checkbox"/> N   | Pulling, Pushing <input checked="" type="checkbox"/> Y <input type="checkbox"/> N | <input type="checkbox"/> Drizzle <input type="checkbox"/> Humid <input type="checkbox"/> Rain                         |
| Awkward Body Position <input type="checkbox"/> Y <input type="checkbox"/> N          | Inadequate Lighting <input type="checkbox"/> Y <input type="checkbox"/> N            | Bending <input checked="" type="checkbox"/> Y <input type="checkbox"/> N          | <input type="checkbox"/> Ice <input type="checkbox"/> Snow <input type="checkbox"/> Dust <input type="checkbox"/> Fog |
| Slip/Trip Potential <input type="checkbox"/> Y <input type="checkbox"/> N            | Fall Protection/ Anchor Points <input type="checkbox"/> Y <input type="checkbox"/> N | Twisting Motion <input checked="" type="checkbox"/> Y <input type="checkbox"/> N  | <input type="checkbox"/> Temp <u>50</u> Degrees   |
| Lifting w/Other Employees <input type="checkbox"/> Y <input type="checkbox"/> N      | Pinch Points <input type="checkbox"/> Y <input type="checkbox"/> N                   | Walking <input checked="" type="checkbox"/> Y <input type="checkbox"/> N          | <input type="checkbox"/> Wind _____ mph   |
| Proper Rigging Practices <input type="checkbox"/> Y <input type="checkbox"/> N       | Tranching/Excavation <input type="checkbox"/> Y <input type="checkbox"/> N           | Swinging <input checked="" type="checkbox"/> Y <input type="checkbox"/> N         | <input type="checkbox"/> Chains Required  |
| Access/Exit  | Hand and Finger Hazards <input type="checkbox"/> Y <input type="checkbox"/> N        | Straining <input checked="" type="checkbox"/> Y <input type="checkbox"/> N        | <input type="checkbox"/> Steep Grades   |
| Scaffold (properly inspected) <input type="checkbox"/> Y <input type="checkbox"/> N  | Electrical Hazards <input type="checkbox"/> Y <input type="checkbox"/> N             | Stretching <input checked="" type="checkbox"/> Y <input type="checkbox"/> N       | <input checked="" type="checkbox"/> Mud _____ Condition   |
| Ladder <input type="checkbox"/> Y <input type="checkbox"/> N                         | Welding/Flame Cutting <input type="checkbox"/> Y <input type="checkbox"/> N          | Hoisting <input checked="" type="checkbox"/> Y <input type="checkbox"/> N         | If YES to any HAZARDS - Identify:   |
| Holding of Tools/Materials <input type="checkbox"/> Y <input type="checkbox"/> N     | Mechanical Equipment <input type="checkbox"/> Y <input type="checkbox"/> N           | Over Extending <input checked="" type="checkbox"/> Y <input type="checkbox"/> N   |   |
| Secure Footing <input type="checkbox"/> Y <input type="checkbox"/> N                 | Environmental  | Jumping <input checked="" type="checkbox"/> Y <input type="checkbox"/> N          |   |
|  | Pollution (Personal Exposure) <input type="checkbox"/> Y <input type="checkbox"/> N  | Crawling <input checked="" type="checkbox"/> Y <input type="checkbox"/> N         |   |

| SEQUENCE OF BASIC JOB STEPS    | POTENTIAL AT-RISK BEHAVIORS OR OTHER HAZARDS | POTENTIAL HAND AND/OR FINGER HAZARDS | ACTION TAKEN TO ELIMINATE OR REDUCE POTENTIAL HAZARDS |
|--------------------------------|--|--------------------------------------|---|
| Vacuum out of the 4 PVC Risers | Pressure, Mud, Slud                          | Hose, Valves, Connections            | Close Valves, Chains                                  |
| Close down 4 PVC               | into Fence or Risers                         | fittings                             | Fingers Clear   |
| and Vacuum                     | Station, Spill, Mud                          |                                      | Wear Control, PPE, Posture                            |
| Dispose to Unit                | Station, Spill                               |                                      | Stay away   |
|                                | Station, Spill                               |                                      | Ground Cable  |

Key Approval - Date: 11-24-09 Customer Approval - Date: \_\_\_\_\_

| Asset   | Service Code | Description   | Qty | Rate  | Total  |
|---------|--------------|---|-----|-------|--------|
| 0106319 | 300143       | Minimum <input type="checkbox"/> Transport <input type="checkbox"/> Trans/Vac <input type="checkbox"/> Vacuum   | 3.5 | 74.00 | 259.00 |
|         |              | <input type="checkbox"/> 130 BBL <input type="checkbox"/> 60-90 BBL <input type="checkbox"/> 50 BBL   |     |       |        |
|         |              | <input type="checkbox"/> Hour <input type="checkbox"/> Barrel <input type="checkbox"/> Load <input type="checkbox"/> 130 BBL <input type="checkbox"/> 60-90 BBL <input type="checkbox"/> 50 BBL |     |       |        |
|         |              | Pump/Kill Truck Minimum <input type="checkbox"/> 130 BBL <input type="checkbox"/> 60-90 BBL <input type="checkbox"/> 50 BBL   |     |       |        |
|         |              | Pump/Kill Truck Hourly <input type="checkbox"/> 130 BBL <input type="checkbox"/> 60-90 BBL <input type="checkbox"/> 50 BBL  |     |       |        |
|         |              | Hot Oil Unit Minimum <input type="checkbox"/> 130 BBL <input type="checkbox"/> 75 BBL   |     |       |        |
|         |              | Hot Oil Unit Hourly <input type="checkbox"/> 130 BBL <input type="checkbox"/> 75 BBL  |     |       |        |
|         |              | Hot Oil by the BBL  |     |       |        |
|         |              | Propane   |     |       |        |
|         |              | Winch Truck Minimum <input type="checkbox"/> Light Duty <input type="checkbox"/> Heavy Duty   |     |       |        |
|         |              | Winch Truck Hourly <input type="checkbox"/> Light Duty <input type="checkbox"/> Heavy Duty  |     |       |        |
|         |              | Haul, Set & Deliver Equipment   |     |       |        |
|         |              | <input type="checkbox"/> Swamper <input type="checkbox"/> Special Fluid Helper  |     |       |        |
|         |              | Supervisor <input type="checkbox"/> Truck <input type="checkbox"/> Acid <input type="checkbox"/> Special Fluid  |     |       |        |
|         |              | Fresh Water Key Owned   |     |       |        |
|         |              | Fresh Water Non Key   |     |       |        |
|         |              | Brine Water Key Owned   |     |       |        |
|         |              | Brine Water Non Key   |     |       |        |
|         |              | Disposal Key Owned <input type="checkbox"/> Solid <input type="checkbox"/> B/S  |     |       |        |
|         |              | Disposal Non Key <input type="checkbox"/> Solid <input type="checkbox"/> B/S  |     |       |        |
|         |              | Disposal Key Owned <input type="checkbox"/> Produced <input type="checkbox"/> Flowback  |     |       |        |
|         |              | Disposal Non Key <input type="checkbox"/> Produced <input type="checkbox"/> Flowback  |     |       |        |
|         |              | Third Party   |     |       |        |
|         |              | KCL (Potassium Chloride) Powdered   |     |       |        |
|         |              | KCL Substitute  |     |       |        |
|         |              | KCL <input type="checkbox"/> 2% <input type="checkbox"/> 3% <input type="checkbox"/> 4% <input type="checkbox"/> Other  |     |       |        |
|         |              | Chemicals - Specify:  |     |       |        |
|         |              | FUEL <input type="checkbox"/> Fuel Surcharge <input type="checkbox"/> Fuel Charge   |     |       |        |

Sales tax calculated on invoice

Sub Total 259.00

**PAYROLL:**

| Class   | Employee No. | Employee Name / Signature | Start    | End     | Work | Travel | Down | Other | Total Hours |
|---------|--------------|---------------------------|----------|---------|------|--------|------|-------|-------------|
| DRIVER  | 49078        | Daniel Diaz / [Signature] | 11:30 Am | 3:00 Pm | 3.5  | -      | -    | -     | 3.5         |
| SWAMPER |              |                           |          |         |      |        |      |       |             |
| TRAINEE |              |                           |          |         |      |        |      |       |             |

No Signature Required

RECEIVED

MAR 4

PARAGON