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Annual Groundwater Monitoring Report, January- December 2002

Indian Basin Remediation Project
Eddy County, New Mexico



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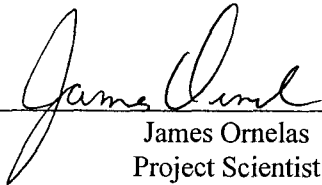
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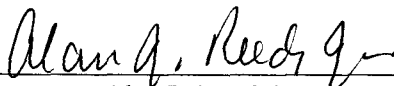
Marathon Oil Company

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**Annual Groundwater Monitoring
Report, January - December 2002**

Indian Basin Remediation Project
Eddy County, New Mexico


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Indian Basin Remediation Project
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Executive Summary

The Indian Basin Gas Plant (site) is located approximately 20 miles northwest of Carlsbad in Eddy County, New Mexico. Cleanup efforts at the site, collectively known as the Indian Basin Remediation Project (IBRP), were initiated in April 1991 to recover free-phase petroleum hydrocarbons related to the release of a liquid by-product of natural gas production known as "condensate". The subsurface at the site includes two distinct geologic zones known as the "Shallow Zone" and the "Lower Queen". Both of these zones contain saturated and unsaturated strata. Currently, there are a total of 150 wells present at the site related to the IBRP. These wells are used for a combination of groundwater monitoring, groundwater and condensate recovery, treated groundwater infiltration and condensate vapor extraction.

In order to determine and evaluate the groundwater flow conditions and separate-phase condensate occurrences, site-wide well gauging events were performed in April and October 2002. The liquid-level measurements obtained from each well and the surveyed well elevations were used to calculate groundwater elevations, with density corrections where condensate was present. The resulting elevation data were used to generate groundwater flow contour maps. Review of these maps and the elevation data indicate Shallow Zone and Lower Queen groundwater flow were consistent with patterns observed in previous years. Flow in the Shallow Zone is to the southeast at an approximate gradient of 0.018, and flow in the Lower Queen is generally radial with a northerly component at an approximate gradient of 0.0005.

During each of the gauging events, groundwater samples were also collected from selected wells to evaluate groundwater quality at the site. In April 2002, the analytical suite included benzene, toluene, ethylbenzene, xylene (BTEX), polynuclear aromatic hydrocarbons (PAHs), water quality control commission (WQCC) metals, total dissolved solids (TDS) and chlorides. In October 2002, groundwater samples were primarily analyzed for BTEX. The analytical results indicate that total BTEX concentrations in both water-bearing units have remained consistent or declined slightly in most wells. Fluctuations in dissolved BTEX concentrations observed in some wells may be attributable to seasonal fluctuations in water levels or precipitation recharge at the site.

Remediation efforts completed at the site in 2002 included continued groundwater extraction and treatment (including dual pump recovery) in the Lower Queen and vapor extraction in the Shallow Zone and Lower Queen. The groundwater extraction and treatment remedy was operated to both recover and control potential migration of condensate in both the liquid and dissolved phase. Recovered groundwater was treated

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and then infiltrated in upgradient wells. During the calendar year, the vapor extraction system (VES) operated in a manner in which one blower was extracting vapor from only one well. This operation allowed enhanced removal of condensate from the subsurface via both recovery in the vapor phase and aerobic biodegradation of condensate.

During 2002, a total of approximately 1,740 barrels of condensate were recovered at the site, as follows:

- The equivalent of approximately 20 barrels of condensate was removed in the vapor phase by VES wells in the Shallow Zone;
- The equivalent of approximately 310 barrels of condensate was removed in the vapor phase by VES wells in the Lower Queen;
- The equivalent of approximately 1,410 barrels of condensate was removed by aerobic biodegradation enhanced by the use of vapor extraction within the Shallow Zone and Lower Queen; and
- No condensate was removed in the liquid phase through pump and treat efforts in the Lower Queen.

Cumulatively, from the initiation of remedial efforts in April 1991 through December 2002, a total of approximately 17,628 barrels of condensate has been removed.

Through the operation of the VES and groundwater recovery systems, Marathon has maintained hydraulic control of the condensate and separate-phase hydrocarbons in groundwater at the site. The operations of the groundwater extraction system between April 2000 and December 2002 have resulted in an asymptotic mass removal trend indicating an ineffective method of removing condensate from the site. In fact, no condensate was recovered by the groundwater extraction system during the calendar year 2002. However, the operations of the VES during the same time period have proven to be an effective and viable technology to enhance condensate mass removal. Ongoing remediation efforts in the year 2003 and beyond will include the following:

- Compliance monitoring and reporting, regular groundwater monitoring; and
- Continued operation of the VES, while continuing to evaluate and modify the wells that will be used for vapor extraction to maximize condensate removal.

As stated in a response by the OCD to the "Petition to Discontinue Groundwater Extraction Operations, Indian Basin Remediation Project" and the "Annual Groundwater Monitoring Report, January-December 2001", requests by Marathon Oil

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Company to discontinue the groundwater extraction system and the abandonment of 39 of the 42 Shallow Zone monitoring wells have been approved by the OCD with the following conditions:

- Marathon Oil Company shall not plug and abandon Shallow Zone monitor wells MW-17, MW-32, and MW-47; and
- The OCD defers comment on dismantling the groundwater extraction system until the OCD has the opportunity to evaluate the future performance of groundwater remediation activities.

The wells selected for abandonment in the Shallow Zone were based on historical gauging results and relative location of these wells. These Shallow Zone wells were chosen for abandonment because of the following:

- Wells have been dry for at least three years;
- Wells have been determined to be redundant because of proximity of other wells;
- Wells did not monitor known groundwater areas of concern; and
- Wells did not provide pertinent information for defining the groundwater flow direction.

Please note that none of the wells included in the OCD-approved Groundwater Monitoring Plan is proposed to be plugged and abandoned.

In addition to the abandonment of wells in the Shallow Zone, monitoring well MW-126, also completed in the Shallow Zone, will be modified. The goal of this monitoring well modification is to enhance the ability of well to remove hydrocarbons via vapor extraction in the future.

No changes to the current Groundwater Monitoring Plan are proposed at this time. However, during each gauging event, liquid-level measurements (depth to water and condensate thickness) will be collected from each accessible monitoring well. In addition, the purging and sampling techniques will be conducted following low-flow procedures during future sampling events as mentioned in the Annual Groundwater Monitoring Report, January-December 2001. Low-flow procedures are preferred for VOC analysis because these procedures minimize aeration of the groundwater sample during sample collection, which improves the sample quality for VOC analysis

**Annual Groundwater Monitoring Report,
January - December 2002**

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*(Ground Water Sampling Procedure Low Stress Purging and Sampling, USEPA
Region II, March 1998).*

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1. Introduction

ARCADIS has prepared this Annual Groundwater Monitoring report on behalf of Marathon Oil Company (Marathon). This report presents the results of the cleanup and monitoring activities conducted between January and December 2002 at the Indian Basin Gas Plant located in Eddy County, New Mexico. These activities are collectively known as the Indian Basin Remediation Project (IBRP). This report has been prepared in accordance with the groundwater monitoring work plan approved by the New Mexico Energy, Minerals, and Natural Resources Department, Oil Conservation Division (OCD) in correspondence to Marathon dated March 4, 1999.

The following section presents a brief summary of the project background. The remaining sections discuss activities conducted during 2002, including investigation activities, monitoring well gauging, groundwater sampling and operation and maintenance of the remediation system.

2. Background

The Indian Basin Gas Plant (site) and IBRP are located approximately 20 miles northwest of Carlsbad, New Mexico, as shown on Figure 1. The site is situated in Township 21 South, in Eddy County, and occupies portions of Range 23 East (Sections 13, 23, 24, 25, and 26) and Range 24 East (Sections 19 and 30). Remediation efforts at the site have been ongoing since April 1991 and are designed to remove separate-phase petroleum hydrocarbons present in the subsurface, primarily condensate, the liquid by-product of natural gas production.

The geology underlying the site is comprised of two distinct zones, both with saturated and unsaturated strata. The geologic units are known as the Shallow Zone and the Lower Queen. As of the end of 2002, there was a total of 77 monitoring wells and 1 infiltration well present in the Shallow Zone, and there was a total of 57 monitoring wells, 2 infiltration wells, 10 vapor extraction wells and 3 supply wells in the Lower Queen. A summary of the completion details regarding installation of these wells is provided in Table 1A and 1B. Figure 2 depicts the site layout, including the locations of each Shallow Zone and Lower Queen well. Additional details regarding local and regional geology and hydrogeology are presented in the report titled *Comprehensive Site Characterization Report for the IBRP*, submitted to the OCD on behalf of Marathon by IT Corporation in December 1998.

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3. Groundwater and Condensate Gauging

In order to determine and evaluate the groundwater flow conditions and separate-phase condensate occurrences at the site as well as changes in these conditions, site-wide well gauging events were performed in April and October 2002. The gauging events consisted of collecting liquid-level measurements from both the Shallow Zone and Lower Queen. The results of the 2002 gauging events as well as precipitation recharge (rainfall) are discussed in the following sections. A summary of historical liquid-level measurement data for the site is presented in Appendix A.

3.1 Shallow Zone Aquifer

A total of 79 locations, consisting of 77 monitoring wells and 2 recovery sumps, completed in the Shallow Zone were gauged during both gauging events in 2002. The liquid-level measurements from each gauging event and the top of casing elevations for the wells were then used to calculate groundwater elevation at each well (density corrections were made as required where condensate was present).

As the data in Appendix A indicate, 41 of the locations completed in the Shallow Zone did not contain groundwater for one or both of the 2002 gauging events. Total fluctuations in groundwater elevation measured in the Shallow Zone Wells containing measurable fluids in 2002 ranged from zero feet in Well MW-31 to 22.47 feet in Well MW-77, including density corrections for the presence of condensate, as indicated by the data presented in Appendix A.

Based on the groundwater elevation measurements from each gauging event, groundwater elevation contour maps were generated for each event. These maps are shown on Figures 3 and 4. As shown on the figures, the observed groundwater flow direction tends to be to the southeast at an approximate gradient of 0.018. The flow direction and gradient are consistent with patterns observed in previous years.

During 2002, a measurable thickness of condensate was detected in Shallow Zone Well MW-126 for both events and in Shallow Zone Well MW-69 for the April 2002 event. The condensate thickness measured in MW-126 was 2.23 feet in April 2002 and 2.57 feet in October 2002 which was consistent with the condensate thickness in October 2001. The condensate thickness measured in MW-69 was 5.03 feet in April 2002 and no condensate was measured in October 2002. There was a significant decrease of condensate in MW-69 present from April to October 2002. Figures 5 and 6 depict the observed condensate distribution for the Shallow Zone during each monitoring event.

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3.2 Lower Queen Aquifer

A total of 69 locations, consisting of 66 monitoring wells, 2 plant water supply wells and 1 infiltration well, completed in the Lower Queen were gauged during both gauging events in 2002. The liquid-level measurements from each gauging event and the top of casing elevations for the wells were then used to calculate groundwater elevation at each well (density corrections were made as required where condensate was present).

As the data in Appendix A indicate, wells VE-04 and VE-05 did not contain groundwater for either of the 2002 gauging events, and Well MW-86 also did not contain groundwater for the October gauging event. Total fluctuations in groundwater elevation measured in the Lower Queen Wells containing measurable fluids in 2002 (pumping wells were not considered) ranged from zero feet in Well 61A to 24.61 feet in Well MW-58.

Based on the groundwater elevation measurements from each gauging event, groundwater elevation contour maps were generated for each event. These maps are shown on Figures 7 and 8. As shown on the figures, the observed groundwater flow direction in the Lower Queen tends to be generally radial with a northerly component at an approximate gradient of 0.0005. This flow direction and gradient are consistent with patterns observed in previous years.

During one or more of the gauging events in 2002, condensate was observed in Lower Queen wells MW-65A, MW-68, MW-72, MW-74, MW-82, MW-84, MW-85, MW-110, MW-113, MW-123, MW-124, MW-129, MW-130 and VE-19. Observed condensate thicknesses in these wells ranged from 0.02 feet in Well MW-110 in April 2002 to 2.67 feet in Well MW-85 in April 2002. Figures 9 and 10 depict the observed condensate distribution for the Lower Queen during each monitoring event.

3.3 Precipitation Recharge

The site has historically received the highest amounts of precipitation between the months of June and October. Precipitation at the site followed the similar trend during the 2002 calendar year. The average annual rainfall measured at the site over the past five years is approximately 7 inches. During 2002, the data collected using the rain gauge maintained at the site indicate that the highest amount of precipitation was received in July (3.30 inches) and September (3.60 inches) with a total of 12.90 inches for the year. This above average rainfall for 2002 caused a rise in groundwater elevations in both the Shallow Zone and Lower Queen. Table 2 summarizes monthly rainfall received at the site during 2002.

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4. Groundwater Sampling and Analysis

ARCADIS personnel conducted two groundwater sampling events at the site in 2002. The sampling events were performed according to the modified Groundwater Monitoring Plan, as approved by the OCD in March 1999. The sampling involved the following:

- In April 2002, groundwater samples were collected from 13 Shallow Zone and 25 Lower Queen wells. These samples were submitted for laboratory analysis and analyzed for BTEX, total dissolved solids (TDS) and chloride using USEPA Methods 8021B, 160.1, and 325.2, respectively, polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8710 and WQCC metals; and
- In October 2002, groundwater samples were collected from 16 Shallow Zone wells and 18 Lower Queen wells. These samples were submitted for BTEX analysis using USEPA Method 8260B.

In order to ensure the quality of the analytical data, trip and field blanks were collected for each event and submitted for analysis. Table 3 summarizes the BTEX and general groundwater chemistry analytical results for April 2002, and Table 4 summarizes the BTEX analytical results for October 2002. Summaries of historical BTEX and general chemistry analytical data are presented in Appendix B. The complete laboratory analytical reports for each groundwater sampling event in 2002 are presented on a CD-Rom inserted in Appendix C.

The groundwater monitoring analytical results for both the Shallow Zone and Lower Queen are discussed in the following sections.

4.1 Shallow Zone Aquifer

4.1.1 BTEX Analysis

During 2002, groundwater samples were collected from a total of 16 different wells completed in the Shallow Zone in April and October 2002. The results of the BTEX laboratory analysis of these groundwater samples is summarized as follows:

- Of the 16 wells sampled, groundwater samples from 11 wells (MW-43, MW-46, MW-50, MW-54, MW-61, MW-65, MW-77, MW-78, MW-79, MW-90, and MW-106) did not contain any BTEX compounds at concentrations above the laboratory limits of detection for at least one of the two sampling events (April and October);

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- Where detected, benzene concentrations ranged from 14 micrograms per liter (ug/L) in Well MW-46 (October 2002) to 116 ug/L in Well MW-14 (April 2002);
- Toluene concentrations ranged from 7 ug/L in Well MW- 106 (October 2002) to <20 ug/L in Well MW-69 (October 2002);
- Ethylbenzene concentrations ranged from 5 ug/L in Well MW-14 (October 2002) to 40 ug/L in Well MW-69 (October 2002); and
- Total xylene concentrations ranged from 16 ug/L in Well MW-55 (April 2002) to <20 ug/L in Well MW-69 (October 2002).

Figures 5 and 6 illustrate the distribution of dissolved BTEX compounds in the Shallow Zone aquifer during 2002. As indicated by the historical data in Appendix B, BTEX concentrations in this water-bearing zone have generally remained stable or declined slightly over time.

In addition to the BTEX analysis in April 2002, groundwater samples were also collected from the 16 Shallow Zone Wells and analyzed for WQCC metals, PAHs, and wet chemistry laboratory analysis.

4.1.2 Water Quality Control Commission Metals Analysis

WQCC metals analysis included aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, and zinc. Of the 16 Shallow Zone Wells sampled in April 2002, manganese, selenium, silver, barium, cobalt, and iron was detected in at least one well above the WQCC metals New Mexico standards. The results of the WQCC metals laboratory analysis of these groundwater samples is summarized as follows:

- Manganese concentrations were detected above New Mexico standards in a total of 6 wells (MW-14, MW-46, MW-50, MW-78, MW-79 and MW-91). Manganese concentrations ranged from 0.23 mg/l in MW-46 to 2.00 mg/l in MW-78;
- Selenium concentrations were detected above New Mexico standards in a total of 3 wells (MW-49, MW-50 and MW-54). Selenium concentrations were 0.05 mg/l in all 3 wells;
- Silver concentrations were detected above New Mexico standards in a total of 2 wells (MW-54 and MW-61). Silver concentrations ranged from 0.07 mg/l in MW-61 to 0.09 mg/l in MW-54;

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- Barium concentrations were detected above New Mexico standards in a total of 2 wells (MW-78, and MW-91). Barium concentrations ranged from 1.12 in MW-78 to 4.92 mg/l in MW-91;
- Cobalt was detected above New Mexico standards in MW-79 at a concentration of 0.09 mg/l; and
- Iron was detected above New Mexico standards in MW-78 at a concentration of 1.04 mg/l.

A summary of the WQCC laboratory analysis is provided in Table 3. A copy of the analytical laboratory reports is inserted in Appendix C. Figure 5A indicates WQCC metals in sampled wells detected above the WQCC regulatory standard.

4.1.3 Polynuclear Aromatic Hydrocarbons (PAHs) Analysis

During the April 2002 sampling event, groundwater samples were also collected from the identical 16 Shallow Zone wells and analyzed for polynuclear aromatic hydrocarbons (PAHs). A complete list of analytes and results for PAHs are presented in Table 3. No PAHs were detected above the New Mexico standards in the groundwater samples collected in April 2002.

4.1.4 Wet Chemistry Analysis

Finally, groundwater samples collected from the identical 16 Shallow Zone wells and analyzed for wet chemistry. The wet chemistry analysis included total dissolved solids (TDS) and chlorides. Of the 16 Shallow Zone Wells sampled in April 2002, TDS and chlorides were detected in at least one well above the wet chemistry New Mexico standards. The results of the wet chemistry laboratory analysis of these groundwater samples is summarized as follows:

- Total dissolved solid concentrations were detected above New Mexico standards in a total of 5 wells (MW-14, MW-49, MW-50, MW-54, and MW-61). Total dissolved solid concentrations ranged from 1,200 mg/l in MW-14 to 6,900 mg/l in MW-50; and
- Chloride concentrations were detected above New Mexico standards in a total of 4 wells (MW-14, MW-49, MW-50 and MW-61). Chloride concentrations ranged from 300 mg/l in MW-14 to 450 mg/l in MW-49.

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A summary of the wet chemistry laboratory analysis is provided in Table 3. A copy of the analytical laboratory reports is inserted in Appendix C. Figure 5A indicates TDS and chlorides in sampled wells detected above the OCD cleanup goals/regulatory limits.

4.2 Lower Queen Aquifer

4.2.1 BTEX Analysis

During 2002, groundwater samples were collected from a total of 25 different Lower Queen wells. The laboratory analysis of these samples is summarized as follows:

- Of the 25 wells sampled, 24 did not contain any BTEX compounds at concentrations above the laboratory limits of detection for at least one of the two sampling events (April and October);
- Benzene was detected in the sample from Well MW-74 at a concentration of 7 ug/L (April 2002) and in the sample from Well MW-67 at a concentration of 6 ug/L (October 2002);
- Toluene was not detected in either of the sampling events (April and October);
- Ethylbenzene was not detected in either of the two sampling events (April and October); and
- Total xylene concentrations were not detected in either of the two sampling events (April and October).

Figures 9 and 10 illustrate the distribution of dissolved BTEX compounds in the Lower Queen during 2002. Similar to that observed in the Shallow Zone, BTEX concentrations in this water-bearing zone have generally remained stable or declined slightly over time as indicated by the data in Appendix B.

In addition to the BTEX analysis in April 2002, groundwater samples were also collected from the 25 Lower Queen Wells and analyzed for WQCC metals, PAHs and wet chemistry laboratory analysis.

4.2.2 Water Quality Control Commission Metals Analysis

WQCC metals analysis included aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver and zinc. Of the 25 Lower Queen Wells sampled in April 2002, manganese, selenium, and lead were detected in at least one well above the WQCC metals New Mexico

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standards. The results of the WQCC metals laboratory analysis of these groundwater samples is summarized as follows:

- Manganese was detected above New Mexico standards in MW-62 at a concentration of 0.50 mg/l;
- Selenium concentrations were detected above New Mexico standards in a total of 6 wells (MW-66, MW-71, MW-87A, MW-88, MW-89 and MW-111). Selenium concentrations ranged from 0.05 mg/l in MW-111 to 0.29 mg/l in MW-87A; and
- Lead was detected above New Mexico standards in MW-89 at a concentration of 0.06 mg/l.

A summary of the WQCC laboratory analysis is provided in Table 3. A copy of the analytical laboratory reports is inserted in Appendix C. Figure 9A indicates WQCC metals in sampled wells detected above the WQCC regulatory standard in the Lower Queen Aquifer during April 2002.

4.2.3 Polynuclear Aromatic Hydrocarbons (PAHs) Analysis

During the April 2002 sampling event, groundwater samples were also collected from the identical 25 Lower Queen wells and analyzed for polynuclear aromatic hydrocarbons (PAHs). Of the 25 Lower Queen Wells sampled in April 2002, PAHs (benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)fluoranthene, benzo(a)pyrene, and indeno(1,2,3-cd)pyrene) were detected above PAH New Mexico standards in only one well (MW-59). A complete list of analytes and results for PAHs are presented in Table 3. Figure 9A indicates PAHs in sampled wells detected above the OCD cleanup goals/regulatory limits during April 2002.

4.2.4 Wet Chemistry Analysis

Finally, groundwater samples were collected from the identical 25 Lower Queen wells and analyzed for wet chemistry. The wet chemistry analysis included TDS and chlorides. Of the 25 Lower Queen Wells sampled in April 2002, TDS and chlorides were detected in at least one well above the wet chemistry New Mexico standards. The results of the wet chemistry laboratory analysis of these groundwater samples is summarized as follows:

- Total dissolved solid concentrations were detected above New Mexico standards in a total of 4 wells (MW-59, MW-71, MW-73 and MW-87A).

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Total dissolved solid concentrations ranged from 1,100 mg/l in MW-71 to 5,800 mg/l in MW-59; and

- Chlorides were detected above New Mexico standards in MW-59 at a concentration of 470 mg/l.

A summary of the wet chemistry laboratory analysis is provided in Table 3. A copy of the analytical laboratory reports is inserted in Appendix C. Figure 9A indicates TDS and chlorides in sampled wells detected above the OCD cleanup goals/regulatory limits.

5. Remediation System Operation and Maintenance

Remediation efforts completed at the site as part of the IBRP from April 1991 through December 2002 have included emergency excavation work; pumping in Rocky Arroyo sumps, open excavations, and Shallow Zone wells; condensate recovery from Shallow Zone Well MW-69; groundwater and condensate recovery (and treatment) including dual pump recovery from the Lower Queen; and vapor extraction in both the Shallow Zone and Lower Queen. The following sections discuss remedial activities conducted at the site during 2002.

5.1 Groundwater Recovery and Infiltration

Groundwater and total fluids (condensate and groundwater) recovery wells operating at the site currently include Wells MW-58, MW-65A, MW-72, MW-75, MW-81, MW-83, MW-84, MW-85, MW-86 and MW-110. Recovered groundwater is treated and then infiltrated in upgradient wells IW-1 and IW-2 in the Lower Queen. During 2002, there was no active groundwater recovery from the Shallow Zone.

During 2002, approximately 1,160,913 barrels of total fluids were recovered from the Lower Queen and treated, with no measurable recovery of condensate in the liquid phase. Subsequently, approximately 1,164,216 barrels of treated water were infiltrated in Lower Queen Infiltration Wells IW-1 and IW-2, and 62,125 barrels of untreated water and condensate were sent to the gas plant for disposal in the Class II injection wells.

Operation of the recovery and infiltration wells is permitted by the New Mexico State Engineer's Office (NMSEO), which requires monthly reports of groundwater withdrawal and infiltration volumes. A summary of monthly and cumulative recovery and infiltration data for 2002 is presented in Table 5.

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5.2 Groundwater Treatment

Recovered groundwater at the site is treated by two air-strippers, designated "east" and "west". During 2002, Marathon personnel collected monthly water samples from the influent and effluent of the air strippers. The monthly sampling events were performed according to the Groundwater Discharge Plan GW-21. The monthly samples were submitted for BTEX analysis using USEPA Method 8260B. Quarterly samples were also submitted for polynuclear aromatic hydrocarbons analysis using USEPA Method 8310 and major cations and anions using USEPA approved methods. The complete laboratory analytical reports for each sampling event can be found electronically on a CD-Rom inserted in Appendix C. Tables 6 and 7 summarize the air stripper influent and effluent analytical data during each sampling event for the east and west air strippers, respectively. As the data presented in the tables indicate, the constituent concentrations in the effluent groundwater were consistently below the New Mexico Water Quality Control Commission groundwater quality standards.

5.3 Vapor Extraction

The following sections provide information regarding the initial startup of the vapor extraction system (VES), field testing and expansion of the VES, and the mass removal results of the VES during 2002.

5.3.1 Startup of Vapor Extraction System

The VES was first started at the site in March 1992, using Shallow Zone wells MW-19, MW-20, MW-21, MW-35 and MW-56. The Shallow Zone VES operated from 1992 through 1994, removing the equivalent of 135 barrels of condensate in the vapor phase, as calculated from effluent vapor concentrations and vapor extraction flow rates. Vapor extraction in the Shallow Zone recommenced in August 1997, using wells MW-11, MW-19, MW-26 and MW-41.

VES was initiated in the Lower Queen in January 1997, using wells VE-1 through VE-5 and MW-61A. The system operated through June 1997, removing the equivalent of approximately 13 barrels of condensate in the vapor phase. Based on the low mass removal rates generated by this system it was decided to discontinue VES operation in this location. Five new vapor extraction wells (VE-16 through VE-20) were installed in 1997, and the system was then relocated to these new wells in June 1997 and operated through the end of 1998.

5.3.2 VES Expansion Field Design Testing

Marathon undertook an extensive program of soil vapor extraction testing in 1999 via evaluating the operation of three VES blowers (VES-100, VES-200, and VES-300). The goal of this testing was two-fold; 1) to maximize recovery of condensate in the vapor phase; and 2) to evaluate the feasibility of using VES as a means to increase the rates of condensate recovery and in turn speed completion of the IBRP. The soil vapor extraction testing continued in 2000 with 19 short term vapor extraction tests (14 to 30 days) being conducted using five VES blowers (VES-100, VES-200, VES-300, VES-400 and VES-500). In addition during 2000, Marathon modified the construction of various Lower Queen monitoring and recovery wells to isolate the zones in which condensate was present. The goals of the well modifications were to allow more effective application of vapor extraction as a stand-alone method of recovering free product and to allow for successful execution of the proposed field design testing needed to help develop a full-scale system design.

Field testing was conducted with a single blower on individual wells to evaluate the flow and vacuum characteristics of each well. In addition, flow rate and hydrocarbon concentration data were used to calculate vapor phase condensate removal rates. Similarly, oxygen concentration readings and air flow rate were used to estimate the oxygen uptake due to microbial respiration in the subsurface, which in turn was used to estimate condensate mass removal via biodegradation.

Total condensate recovery achieved at each well during the field design testing varied across the site. However, with few exceptions the vapor extraction from the modified wells (i.e., discretely screened) yielded the best mass removal rates. Condensate recovery rates for the testing program ranged from approximately 1 barrel per month in well MW-104 to up to 67 barrels a month in well MW-110. The average removal rate was 23 barrels per month per well.

Data from single well testing was also compared to data from multiple well testing to determine which scenario would provide the most efficient mass removal. During July and August, MW-110 was tested using blower VES-400 for 32 days. Over that time, approximately 47 barrels of condensate were removed. Following this, Wells MW-110 and MW-127 were tested simultaneously using blower VES-400. MW-110 and MW-127 were tested for 24 days removing approximately 19 barrels of condensate. The flow rates during both tests were similar at approximately 300 standard cubic feet per minute (scfm). The multiple well testing provided a condensate removal rate of 0.79 barrels per day, which was only 53 % of the condensate removal rate observed during the single well testing (1.47 barrels per day).

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5.3.3 VES Full-Scale Expansion

Based upon the results of the vapor testing completed in 1999 and 2000, 6 blowers (VES-600, VES-700, VES-800, VES-900, VES-1000 and VES-1100) were added to the VES in 2001. Two of the existing blowers, VES-400 and VES-500, were equipped with thermal oxidizers; however, VOC control was no longer needed so these blowers were removed from the Site. Blowers VES-600 and VES-700 were added to the system in July 2001, and blowers VES-800, VES-900, VES-1000 and VES-1100 were added to the system in September 2001. The VES was configured so each blower was extracting vapor from only one well. This configuration allows for operation of a maximum of 9 blowers extracting from up to 9 wells at any one time. The operation of the nine blowers (VES-100, VES-200, VES-300, VES-600, VES-700, VES-800, VES-900, VES-1000 and VES-1100) continued at the site during 2002. A summary of VES operation at the site during 2002 is presented in Table 8.

VES emissions are regulated by the New Mexico Environment Department Bureau of Air Quality under Permit No. R2-176-R1 and operating permit P-176. The permit requires monthly sampling and quarterly reporting to track mass removal and emissions concentrations. A copy of the VES monthly air sampling data collected during 2002 is provided in Appendix D. The following sections discuss VES performance in both hydrogeologic zones at the site during 2002.

5.3.4 Shallow Zone Vapor Extraction

Vapor extraction in the Shallow Zone was conducted from January through August 2002 and included Wells MW-14 and MW-69 and from April through December 2002 including Well MW-126. The vapor extraction ranged from the equivalent of 0.1 barrels of condensate in October to the equivalent of 5.3 barrels of condensate in May. For the year, a total equivalent of approximately 20 barrels of condensate was removed from the Shallow Zone in the vapor phase. A summary of the VES operations, vapor-phase mass removal and aerobic biodegradation is provided in Table 8.

5.3.5 Lower Queen Vapor Extraction

During 2002, vapor extraction in the Lower Queen primarily included wells MW-68, MW-84, MW-85, MW-104, MW-110, MW-112, MW-113, MW-120, MW-121, MW-123, MW-124, MW-125, MW-129 and MW-130. The combined vapor extraction in 2002 ranged from the equivalent of 11.1 barrels of condensate in December to the equivalent of 213 barrels of condensate in January. For the year, a total equivalent of approximately 310 barrels of condensate was removed from the Lower Queen in the

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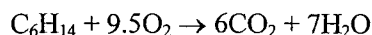
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vapor phase. A summary of the VES operations, vapor-phase mass removal and aerobic biodegradation is provided in Table 8.

5.3.6 Aerobic Biodegradation

As previously mentioned, there has been evidence that a significant amount of aerobic biodegradation of condensate is occurring in the site subsurface. In fact, data suggests that the mass destruction due to aerobic biodegradation may be limited by a lack of sufficient oxygen in the subsurface to support the aerobic respiration. These data indicate that more extensive use of vapor extraction at the site would not only increase vapor-phase mass recovery, but would also increase aerobic biodegradation by adding oxygen to the subsurface.

When oxygen levels measured in soil gas are less than normal atmospheric oxygen levels, the observed reduction can be attributed to microbial aerobic respiration. Thus, aerobic biodegradation of hydrocarbons can be estimated by using the stoichiometry of hydrocarbon oxidation (*Test Plan and Technical Protocol for a Field Treatability Test for Bioventing*, Air Force Center for Environmental Excellence, May 1992) as follows:



This equation uses hexane as a representative hydrocarbon. Using the above equation, it takes approximately three and a half pounds of oxygen to degrade one pound of hydrocarbons. Assuming that some oxygen is utilized in reactions not associated with the degradation of hydrocarbons, it was assumed that five pounds of oxygen would be required to degrade one pound of hydrocarbons.

Table 8 presents a summary of estimated aerobic biodegradation of condensate at the site in 2002. As the data in Table 8 show, it can be estimated that approximately 1,410 barrels of condensate were degraded in 2002.

6. Summary and Action Plan

6.1 Condensate Mass Removal

During 2002, a total of approximately 1,740 barrels of condensate were removed at the site. Of the total recovery, approximately 330 barrels of condensate were removed in the vapor phase by VES efforts in the Shallow Zone and Lower Queen. In addition to the vapor phase recovery, it is estimated that an additional 1,410 barrels of condensate were removed via enhanced aerobic degradation in the subsurface. There was no

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significant amount of condensate removed in the liquid phase through pump and treat efforts at the site.

Overall, the total condensate removed at the site in 2002 represents a slight increase of 3% (42 barrels), as compared to that achieved in 2001. The 2002 removal results continue the substantial increasing trend in recovery as compared to the condensate removed in 1997 and 1998. A chart comparing the mass removal in the liquid phase, vapor phase, and through aerobic degradation for the period of 1997 through 2002 is included as Figure 11. As shown on Figure 11, there was a significant increase of condensate removed both via vapor phase extraction and enhanced aerobic degradation. The decrease in condensate recovery in the liquid phase was initially observed during the second half of 2000 and remained relatively insignificant through the end of 2001. No measurable condensate was recovered in the liquid phase during 2002.

The significant increase in condensate removal from the VES can be attributed to following three items:

- Focusing vapor extraction in discrete zones from the well modifications;
- Increasing the scale of the VES through the addition of six blowers in 2001 for a total of nine blowers; and
- Operating one blower per extraction well, thus increasing the maximum attainable flow rate.

Cumulatively, from the initiation of remedial efforts in April 1991 through December 2002, a total of approximately 17,628 barrels of condensate have been recovered. Of the 17,628 barrels of condensate recovered to date, approximately 3,006 barrels have been removed in the liquid phase from recovery wells and sumps, and the equivalent of approximately 5,984 barrels has been removed or degraded in the vapor phase by VES operation. A summary of monthly and cumulative condensate removed from May 1991 through December 2002 is presented in Table 9.

A technical review of the data collected since April 1991 was performed to determine if the groundwater extraction system is a viable means for removing condensate and controlling condensate migration from the Lower Queen. The lines of evidence suggest that the groundwater extraction system has successfully reduced the volume and mobility of the condensate plume. Continued operation of the groundwater extraction system between April 2000 and December 2002 has resulted in an asymptotic mass removal trend, indicative of the technologies inability to sustain long-term mass removal. Subsequently, Marathon has implemented vapor extraction as a

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viable technology to enhance condensate mass removal. With the VES in place, the residual stabilized condensate plume can be effectively remediated without the aid of continued groundwater extraction. Based on this information, Marathon was granted permission to discontinue the groundwater extraction system by the OCD (with conditions) in a correspondence dated February 03, 2003. The OCD has approved Marathon's request with the condition that "the OCD defers comment on dismantling the ground water extraction system until the OCD has the opportunity to evaluate the future performance of ground water remediation activities" as stated in the OCD's correspondence to the petition. A copy of the correspondence is provided in Appendix F. Details of the request are discussed in the next section.

6.2 Planned Activities

The following sections summarize the activities that will be completed in 2003.

6.2.1 Discontinue Operations of the Groundwater Extraction System

Marathon will discontinue the operations of the groundwater extraction system by implementing the following action plans:

1. Deactivate the groundwater extraction system and monitor groundwater condensate thickness in the Lower Queen groundwater extraction wells MW-58, MW-65A, MW-72, MW-75, MW-81, MW-83, MW-84, MW-85, MW-86 and MW-110 on a monthly basis for three months.
2. If condensate thickness levels remain consistent during this time period, then the groundwater extraction system shall remain off-line.
3. If condensate thickness levels increase in select wells, the VES will be configured to operate on these wells to ensure effective removal of condensate. If VES is unable to reduce the condensate thickness by 50% in three months, the groundwater extraction system will be reactivated for these wells.
4. After two semi-annual monitoring events, free product thickness and dissolved-phase condensate concentrations will be evaluated to demonstrate no adverse impact has occurred regarding plume migration. At this time, Marathon Oil Company will petition to dismantle.

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6.2.2 Continue Operations of the Vapor Extraction System (VES)

The operation of the VES and groundwater recovery systems suggest lines of evidence that Marathon has provided hydraulic control of condensate and separate-phase hydrocarbons in groundwater at the site (as demonstrated by continual gauging and sampling data).

The ongoing remediation efforts in the year 2003 and beyond will include the following:

- Semi-annual groundwater monitoring;
- Compliance monitoring and reporting; and
- Continued operation of the VES while continuing to evaluate the wells that will be used for vapor extraction. The current system has the capacity for nine blowers and nine wells and allows for the flexibility to change which wells are used for vapor extraction.

6.2.3 Shallow Zone Well Abandonment

The Shallow Zone Well Abandonment was approved by the OCD (with condition) in correspondence with Marathon date February 3, 2003. A copy of the correspondence is provided in Appendix F. The request to plug and abandon 42 Shallow Zone Wells mentioned in the "Annual Groundwater Report, January-December 2002" has been approved with the condition that 3 Shallow Zone Wells (MW-17, MW-32 and MW-47) not be plugged and abandoned. These wells are summarized on Table 10 and depicted on Figure 12. The wells were selected based on historical gauging results and their location. Of these wells, 24 wells were selected because they have been dry for at least 3 years. In addition, 15 wells were determined to be redundant because they are located relatively close to other wells, did not monitor known areas of groundwater concern or did not provide pertinent information in defining the groundwater flow direction. A description of the well abandonment procedures follows:

- Wells will be grouted in-place using a neat cement grout or concrete grout consisting of 2 – 8% bentonite;
- A grout pump and tremie pipe will be used to deliver the grout to the bottom of the well;

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- The well surface completion (stickup or flush mount) will be removed and the well will be cut one foot below the existing grade; and
- A concrete pad will be installed at the surface.

Please note that none of the wells included in the OCD-approved groundwater monitor plan is proposed to be abandoned.

6.2.4 Monitoring Well (MW-126) Modification

The monitoring well modification to MW-126 will consist of the installation of 25 feet of 4-inch diameter, 0.04-inch slot poly-vinyl chloride (PVC) screen and 45 feet of 4-inch diameter PVC casing in the open borehole of well MW-126. The total depth of the well is 70 feet below the top of the 7-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) will be placed in the annulus of the well from the bottom of the well to 10 feet above the top of the PVC screen. The remainder of the annulus will be filled with bentonite pellets to the top of the PVC casing. The objective of this modification is to target the intervals of the open borehole of the well containing separate-phase condensate and enhance the ability to achieve hydrocarbon mass removal into the Shallow Zone via vapor extraction.

6.3 Groundwater Monitoring Plan

The current groundwater monitoring plan was approved by the OCD (with conditions) in correspondence with Marathon dated March 4, 1999. No changes to the current Groundwater Monitoring Plan are proposed at this time. However, during each gauging event, liquid level measurements (depth to water and condensate thickness) will be collected from each accessible monitoring well. In addition, the purging and sampling techniques will be conducted using low-flow procedures during future sampling events as mentioned in the Annual Groundwater Monitoring Report, January-December 2001. Low-flow procedures are preferred for VOC analysis since these procedures minimize aeration of the groundwater sample during sample collection, which improves the sample quality for VOC analysis (*Ground Water Sampling Procedure Low Stress Purging and Sampling*, USEPA Region II, March 1998). In addition, low-flow purging and sampling procedures result in the generation of less purge water that needs to be disposed. A copy of the March 1998 USEPA low-flow procedures is included in Appendix E. A summary of the approved Groundwater Monitoring Plan is presented in Table 11.

Table 1A.

Shallow Zone Monitoring Well Construction Details
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well ID	Well Type	Measuring Point Elevation (feet amsl)	Total Depth (feet btoc)	Top of Screen/ Open Hole Interval (feet btoc)	Screen/Open Hole Depth (feet)	Casing Diameter (inches)
MW-1	monitoring	3792.50	15.00	9.00	6.00	2
MW-2	monitoring	3788.72	14.00	4.00	10.00	2
MW-3	monitoring	3787.50	15.00	5.00	10.00	2
MW-4	monitoring	3785.88	17.00	8.00	9.00	2
MW-5	monitoring	3801.69	11.00	6.00	5.00	2
MW-6	monitoring	3785.17	12.00	7.00	5.00	2
MW-7	monitoring	3784.46	16.00	6.00	10.00	2
MW-8	monitoring	3795.04	15.50	5.00	10.50	2
MW-9	monitoring	3807.85	11.00	6.00	5.00	2
MW-10	monitoring	3790.78	17.00	7.00	10.00	4
MW-11	monitoring	3806.96	22.00	12.00	10.00	4
MW-12	monitoring	3809.86	23.00	13.00	10.00	2
MW-13	monitoring	3801.58	20.00	10.00	10.00	2
MW-14	monitoring	3803.61	22.00	12.00	10.00	4
MW-15	monitoring	3803.59	17.00	7.00	10.00	2
MW-16	monitoring	3801.04	20.00	10.00	10.00	4
MW-17	monitoring	3799.55	18.00	8.00	10.00	2
MW-18	monitoring	3795.82	15.00	5.00	10.00	4
MW-19	monitoring	3797.21	17.00	7.00	10.00	4
MW-20	monitoring	3797.59	14.00	4.00	10.00	2
MW-21	monitoring	3798.21	21.00	11.00	10.00	2
MW-22	monitoring	3799.20	16.00	6.00	10.00	2
MW-23	monitoring	3794.48	10.00	5.00	5.00	2
MW-24	monitoring	3794.09	11.00	6.00	5.00	2
MW-25	monitoring	3786.97	8.00	3.00	5.00	2
MW-26	monitoring	3793.01	19.00	9.00	10.00	2
MW-27	monitoring	3790.93	15.00	10.00	5.00	2
MW-28	monitoring	3797.03	16.00	6.00	10.00	2
MW-29	monitoring	3794.06	12.00	7.00	5.00	2
MW-30	monitoring	3788.30	12.00	7.00	5.00	2
MW-31	monitoring	3791.15	16.50	7.00	9.50	4
MW-32	monitoring	3797.47	14.00	9.00	5.00	2
MW-33	monitoring	3802.48	18.00	9.00	9.00	4
MW-34	monitoring	3806.00	17.00	8.00	9.00	2
MW-35	monitoring	3800.81	19.00	14.00	5.00	4
MW-36	monitoring	3792.94	7.00	5.00	2.00	2
MW-37	monitoring	3795.03	19.00	9.00	10.00	4
MW-38	monitoring	3797.32	19.00	9.00	10.00	4
MW-39	monitoring	3796.20	19.00	9.00	10.00	4
MW-40	monitoring	3803.12	12.00	7.00	5.00	2
MW-41	monitoring	3799.04	22.00	12.00	10.00	4
MW-42	monitoring	3804.73	22.00	12.00	10.00	2
MW-43	monitoring	3802.05	22.00	12.00	10.00	4
MW-44	monitoring	3804.14	22.00	12.00	10.00	4
MW-45	monitoring	3808.68	24.00	9.50	14.50	2

Table 1A.

Shallow Zone Monitoring Well Construction Details
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well ID	Well Type	Measuring Point Elevation (feet amsl)	Total Depth (feet btoc)	Top of Screen/ Open Hole Interval (feet btoc)	Screen/Open Hole Depth (feet)	Casing Diameter (inches)
MW-46	monitoring	3805.54	18.00	8.00	10.00	4
MW-47	monitoring	3805.09	19.00	9.00	10.00	2
MW-48	monitoring	3806.18	18.00	8.00	10.00	2
MW-49	monitoring	3805.61	24.00	14.00	10.00	2
MW-50	monitoring	3813.35	35.00	20.00	15.00	2
MW-51	infiltration	3810.86	18.00	8.00	10.00	2
MW-52	monitoring	3817.49	19.00	9.00	10.00	2
MW-53	monitoring	3809.92	13.00	6.00	7.00	2
MW-54	monitoring	3823.86	76.00	41.00	35.00	4
MW-55	monitoring	3794.40	65.00	20.00	45.00	4
MW-56	monitoring	3782.45	42.00	27.00	15.00	4
MW-61	monitoring	3816.20	55.00	45.00	10.00	4
MW-65	monitoring	3763.31	55.00	35.00	20.00	4
MW-69	recovery	3805.11	48.00	13.00	35.00	4
MW-77	monitoring	3775.48	80.00	17.50	62.50	8
MW-78	monitoring	3785.82	85.00	13.00	72.00	8
MW-79	monitoring	3788.39	80.00	8.00	72.00	8
MW-80	monitoring	3821.64	90.00	19.00	71.00	8
MW-90	monitoring	3781.73	60.00	12.50	47.50	4
MW-91	monitoring	3783.07	70.00	12.50	57.50	4
MW-92	monitoring	3785.29	70.00	12.50	57.50	4
MW-93	monitoring	3817.50	70.00	12.50	57.50	4
MW-99	monitoring	3770.05	70.00	12.50	57.50	4
MW-100	monitoring	3773.31	70.00	12.50	57.50	4
MW-101	monitoring	3762.71	70.00	12.50	57.50	4
MW-102	monitoring	3753.69	80.00	12.50	67.50	4
MW-103	monitoring	3743.14	70.00	12.50	57.50	4
MW-105	monitoring	3736.93	80.00	12.50	67.5	4
MW-106	monitoring	3721.97	92.00	12.50	79.5	4
MW-107	monitoring	3726.27	70.00	12.50	57.5	4
MW-109	monitoring	3809.53	--	--	--	--
MW-117	phase II infill	3807.86	47.00	17.00	30.00	4
MW-126	phase II infill	3795.58	70.00	30.00	40.00	7
Sump A10	monitoring	3800.99	--	--	--	--
Sump 16A	monitoring	3785.14	--	--	--	--

Notes:

feet amsl Feet above mean sea level
feet btoc Feet below top of casing
-- Data not available

Table 1B. Lower Queen Monitoring Well Construction Details
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well ID	Well Type	Measuring Point Elevation (feet amsl)	Total Depth (feet btoc)	Top of Screen/ Open Hole Interval (feet btoc)	Screen/Open Hole Depth (feet)	Casing Diameter (inches)
MW-57	monitoring	3787.70	175.00	155.00	20.00	4
MW-58	recovery	3824.07	216.00	191.00	25.00	4
MW-59	monitoring	3819.59	--	--	--	--
MW-60	monitoring	3815.28	220.00	170.00	50.00	4
MW-61A	monitoring	3819.97	214.00	173.50	40.50	4
MW-62	monitoring	3819.90	223.00	177.00	46.00	4
MW-63	monitoring	3826.16	220.00	174.00	46.00	4
MW-64	monitoring	3798.57	200.00	154.00	46.00	4
MW-65A	recovery	3763.26	166.00	115.00	51.00	4
MW-66	monitoring	3828.98	232.50	182.00	50.50	4
MW-67	monitoring	3765.87	163.00	112.00	51.00	4
MW-68	recovery	3797.83	200.00	149.00	51.00	4
MW-70	monitoring	3822.57	222.00	172.00	50.00	4
MW-71	monitoring	3778.05	233.00	165.00	68.00	4
MW-72	dual recovery	3819.32	241.50	181.50	60.00	6
MW-73	monitoring	3820.09	220.00	10.00	210.00	8
MW-74	monitoring	3820.82	220.00	170.00	50.00	6
MW-75	dual recovery	3816.12	220.00	170.00	50.00	6
MW-76	recovery	3796.01	220.00	9.00	211.00	8
MW-81	dual recovery	3817.03	225.00	71.00	154.00	8
MW-82	recovery	3825.07	250.00	67.50	182.50	6
MW-83	recovery	3794.12	202.00	152.00	50.00	6
MW-84	recovery	3759.60	170.00	120.00	50.00	6
MW-85	dual recovery	3824.93	235.00	162.00	73.00	6
MW-86	recovery	3823.99	225.00	185.00	40.00	6
MW-87	monitoring	3740.50	170.00	145.00	25.00	4
MW-87A	monitoring	3739.53	130.00	10.00	120.00	8
MW-88	monitoring	3789.7	175.00	142.50	32.50	8
MW-89	monitoring	3827.68	232.00	188.50	43.50	4
MW-94	recovery	3821.48	230.00	65.00	165.00	8
MW-95	monitoring	3746.26	145.00	111.00	34.00	4
MW-96	monitoring	3739.80	135.00	97.50	37.50	4
MW-97	monitoring	3750.16	148.00	107.50	40.50	4
MW-98	monitoring	3770.15	165.00	127.50	37.50	4
MW-104	monitoring	3793.64	220.00	145.00	75.00	6
MW-108	monitoring	3747.13	--	--	--	--
MW-110	recovery	3812.61	235.00	175.00	60.00	6
MW-111	monitoring	3824.44	230.00	190.00	40.00	4
MW-112	phase I infill	3780.11	211.00	140.00	71.00	6
MW-113*	phase I infill	3772.67	200.00	125.00	75.00	6
MW-114	phase I infill	3805.32	220.00	111.00	109.00	8
MW-115	phase I infill	3804.69	224.00	35.00	189.00	8
MW-116	phase I infill	3792.11	220.00	150.00	70.00	6
MW-117A	phase II infill	3808.24	225.00	46.00	179.00	8
MW-118	phase II infill	3762.88	202.00	112.00	90.00	4
MW-119	phase II infill	3824.74	245.00	185.00	60.00	4

Table 1B. Lower Queen Monitoring Well Construction Details
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well ID	Well Type	Measuring Point Elevation (feet amsl)	Total Depth (feet btoc)	Top of Screen/ OpenHole Interval (feet btoc)	Screen/Open Hole Depth (feet)	Casing Diameter (inches)
MW-120	phase II infill	3820.65	240.00	180.00	60.00	4
MW-121	phase II infill	3820.88	225.00	175.00	50.00	4
MW-122	phase II infill	3822.79	225.00	36.00	189.00	7
MW-123	phase II infill	3768.77	225.00	125.00	100.00	4
MW-124	phase II infill	3777.83	225.00	17.00	208.00	7
MW-125	phase II infill	3790.61	225.00	130.00	95.00	4
MW-127	phase II infill	3825.17	245.00	195.00	50.00	4
MW-128	phase II infill	3786.08	225.00	37.50	187.50	7
MW-129	phase II infill	3800.82	245.00	155.00	90.00	4
MW-130	phase II infill	3775.54	225.00	145.00	80.00	4
MW-131	phase II infill	3784.23	245.00	145.00	100.00	4
IW-1	infiltration	3808.55	230.00	73.00	157.00	12
IW-2	infiltration	3835.86	300.00	159.00	141.00	12
SW-1	monitoring	3808.19	--	--	--	--
SW-2	monitoring	3808.79	--	--	--	--
SW-3	monitoring	3842.29	230.00	81.50	148.50	8
VE-1	vapor extraction	--	214.00	80.00	134.00	8
VE-2	vapor extraction	--	210.00	75.00	135.00	8
VE-3	vapor extraction	--	202.00	75.00	127.00	8
VE-4	vapor extraction	--	183.00	60.00	123.00	8
VE-5	vapor extraction	--	168.00	60.00	108.00	8
VE-16	vapor extraction	3750.96	150.00	42.50	107.50	8
VE-17	vapor extraction	3756.73	130.00	40.00	90.00	8
VE-18	vapor extraction	3756.82	163.00	37.50	125.50	8
VE-19	vapor extraction	3761.18	150.00	115.00	35.00	6
VE-20	vapor extraction	3768.41	160.00	37.50	122.50	8

Notes:

feet amsl Feet above mean sea level

feet btoc Feet below top of casing

-- Data not available

* Construction details not available, modification details are estimated

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Table 2. Summary of Historical Rainfall with Monthly Rainfall During 2002
Marathon Oil Company, Indian Basin Remediation Project
Eddy County, New Mexico.

Historical Rainfall	
Year	Rainfall (inches)
1994	9.31
1995	7.84
1996	16.60
1997	10.65
1998	3.95
1999	4.70
2000	9.75
2001	6.02

Monthly Rainfall During 2002	
Month	Rainfall (inches)
January	0.20
February	1.10
March	0.90
April	0.00
May	0.00
June	0.00
July	3.30
August	0.80
September	3.60
October	1.90
November	0.10
December	0.80
2002 Annual Total	12.70

Source: Rain gauge at Indian Basin Gas Plant

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Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-14 4/18/2002	MW-43 04/17/02	MW-46 04/17/02	MW-49 04/17/02	MW-50 04/17/02	MW-54 04/18/02	MW-55 04/24/02
<i>Volatile Organic Compounds (ug/L)</i>								
Benzene	10	116	<5	<5	19	<5	<5	43
Toluene	750	9	<5	<5	<5	<5	<5	12
Ethylbenzene	750	<5	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5	16
Total BTEX	--	125	0	0	19	0	0	71
<i>WQCC Metals - Dissolved Only (mg/l)</i>								
Aluminum	5	<0.05	<0.05	0.3	<0.05	<0.05	<0.05	<0.05
Arsenic	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	1	0.54	0.13	0.13	0.05	0.01	0.02	0.22
Boron	0.75	0.16	0.16	0.08	0.44	0.32	0.33	0.19
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1.3	<0.01	<0.01	<0.01	<0.01	0.07	<0.01	<0.02
Iron	1	0.97	<0.05	0.17	<0.05	<0.05	0.25	0.34
Lead	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	0.2	0.25	0.1	0.23	0.16	0.69	0.02	0.07
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01
Selenium	0.05	<0.02	<0.02	<0.02	0.05	0.05	0.05	<0.02
Silver	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	0.09	<0.01
Zinc	10	0.04	0.02	<0.01	<0.01	0.05	<0.01	<0.01
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>								
Acenaphthene	--	<5	<5	<5	<5	<5	<5	<5
Acenaphthylene	--	<5	<5	<5	<5	<5	<5	<5
Anthracene	tox	<1	<1	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<1	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	3.06	<1	<1	<1	<1	<1	<1
Fluorene	tox	4.40	<1	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<5	<5	<5	<5	<5	<5
Phenanthrene	tox	1.93	<1	<1	<1	<1	<1	<1
Pyrene	tox	<1	<1	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>								
Total Dissolved Solids	1000	1200	640	490	2600	6900	4500	720
Chloride	250	300	51	37	450	360	180	79

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

116 Indicates result at/above the applicable standard.

9 Indicates result above the laboratory detection limit

<5 Indicates the result is below the specified laboratory detection limit

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Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-61 04/19/02	MW-78 04/22/02	MW-79 04/17/02	MW-91 04/18/02	Mw-90 04/18/02	MW-106 04/17/02
<i>Volatile Organic Compounds (ug/L)</i>							
Benzene	10	<5	<5	<5	36	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5
Total BTEX	--	0	0	0	36	0	0
<i>WQCC Metals - Dissolved Only (mg/l)</i>							
Aluminum	5	0.25	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.1	0.06	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	1	0.02	1.12	0.11	4.92	0.16	0.26
Boron	0.75	0.57	<0.05	0.12	0.08	0.08	<0.05
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	0.09	<0.02	<0.02	<0.02
Copper	1.3	0.05	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1	0.47	1.04	0.1	0.50	<0.05	<0.05
Lead	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	0.2	<0.01	2.00	0.4	0.28	0.02	0.04
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	0.03	<0.01	0.08	0.01	<0.01	<0.01
Selenium	0.05	<0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Silver	0.05	0.07	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	10	0.01	<0.01	0.02	<0.01	<0.01	<0.01
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>							
Acenaphthene	--	<5	<5	<5	<5	<5	<5
Acenaphthylene	--	<5	<5	<5	<5	<5	<5
Anthracene	tox	<1	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	<1	<1	<1	<1	<1	<1
Fluorene	tox	<1	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<5	<5	<5	<5	<5
Phenanthrene	tox	<1	<1	<1	<1	<1	<1
Pyrene	tox	<1	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>							
Total Dissolved Solids	1000	3200	450	490	560	380	350
Chloride	250	390	35	37	55	24	12

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of

-- No standard published

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ARCADIS

Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-57 04/22/02	MW-59 04/23/02	MW-60 04/23/02	MW-61A 04/19/02	MW-62 04/22/02	MW-63 04/18/02	MW-64 04/22/02
<i>Volatile Organic Compounds (ug/L)</i>								
Benzene	10	<5	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5	<5
Total BTEX	--	0	0	0	0	0	0	0
<i>WQCC Metals - Dissolved Only (mg/L)</i>								
Aluminum	5	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.1	<0.02	<0.02	<0.02	0.04	0.03	<0.02	<0.02
Barium	1	0.12	0.02	0.02	0.01	0.86	0.36	0.01
Boron	0.75	0.05	0.27	<0.05	<0.05	0.11	<0.05	<0.05
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1	0.13	<0.05	<0.05	<0.05	0.88	<0.05	<0.05
Lead	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	0.2	0.12	0.15	<0.01	0.12	0.50	<0.01	<0.01
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	0.05	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02
Silver	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	10	<0.01	<0.01	0.01	<0.01	<0.01	0.02	0.02
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>								
Acenaphthene	--	<5	<25	<5	<5	<5	<5	<5
Acenaphthylene	--	<5	<25	<5	<5	<5	<5	<5
Anthracene	tox	<1	<5	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	1.38	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	0.51	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	0.97	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	1.25	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	--	<0.1	0.68	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<5	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	<1	39.5	<1	<1	<1	<1	<1
Fluorene	tox	<1	27.7	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	0.72	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<25	<5	<5	<5	<5	<5
Phenanthrene	tox	<1	25.7	<1	<1	<1	<1	<1
Pyrene	tox	<1	<5	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>								
Total Dissolved Solids	1000	540	5800	710	720	670	320	520
Chloride	250	45	470	9.7	9.5	93	14	14

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

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ARCADIS

Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-66 04/19/02	MW-67 04/22/02	MW-70 04/18/02	MW-71 04/23/02	MW-73 04/24/02	MW-87 04/23/02
<i>Volatile Organic Compounds (ug/L)</i>							
Benzene	10	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5
Total BTEX	--	0	0	0	0	0	0
<i>WQCC Metals - Dissolved Only (mg/l)</i>							
Aluminum	5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.1	<0.02	<0.02	<0.02	<0.02	0.02	<0.02
Barium	1	<0.01	0.04	0.06	0.01	0.06	0.02
Boron	0.75	<0.05	<0.05	<0.05	0.18	0.12	<0.05
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1.3	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01
Iron	1	<0.05	<0.05	<0.05	<0.05	0.16	<0.05
Lead	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	0.2	<0.01	0.02	<0.01	<0.01	0.19	<0.01
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	0.05	0.12	<0.02	<0.02	0.10	0.02	<0.02
Silver	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	10	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>							
Acenaphthene	--	<5	<5	<5	<5	<5	<5
Acenaphthylene	--	<5	<5	<5	<5	<5	<5
Anthracene	tox	<1	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	<1	<1	<1	<1	<1	<1
Fluorene	tox	<1	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<5	<5	<5	<5	<5
Phenanthrene	tox	<1	<1	<1	<1	<1	<1
Pyrene	tox	<1	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>							
Total Dissolved Solids	1000	790	420	310	1100	1800	670
Chloride	250	8.8	5.7	15	45	140	9.9

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

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ARCADIS

Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-74 04/24/02	MW-87A 04/23/02	MW-88 04/19/02	MW-89 04/19/02	MW-94 04/24/02	MW-95 04/23/02
<i>Volatile Organic Compounds (ug/L)</i>							
Benzene	10	7	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5
Total BTEX	-	7	0	0	0	0	0
<i>WQCC Metals - Dissolved Only (mg/l)</i>							
Aluminum	5	<0.05	0.1	0.15	<0.05	<0.05	0.05
Arsenic	0.1	<0.02	<0.02	0.06	<0.02	<0.02	<0.02
Barium	1	0.71	<0.01	<0.01	0.01	0.02	0.28
Boron	0.75	0.19	0.28	0.08	0.06	<0.05	<0.05
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1	1.90	<0.05	<0.05	<0.05	<0.05	<0.05
Lead	0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05
Manganese	0.2	0.17	<0.01	<0.01	<0.01	<0.01	<0.01
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	0.05	<0.02	0.29	0.08	0.07	0.03	<0.02
Silver	0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Zinc	10	<0.01	<0.01	0.01	<0.01	<0.01	0.01
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>							
Acenaphthene	-	<5	<5	<5	<5	<5	<5
Acenaphthylene	-	<5	<5	<5	<5	<5	<5
Anthracene	tox	<1	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	<1	<1	<1	<1	<1	<1
Fluorene	tox	<1	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<5	<5	<5	<5	<5
Phenanthrene	tox	<1	<1	<1	<1	<1	<1
Pyrene	tox	<1	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>							
Total Dissolved Solids	1000	730	2700	750	730	550	330
Chloride	250	100	130	35	48	20	23

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

116 Indicates result at/above the applicable standard.

9 Indicates result above the laboratory detection limit

<5 Indicates the result is below the specified laboratory detection limit

ARCADIS

Table 3. Summary of Analytical Results, April 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	New Mexico Standards	MW-96 04/22/02	MW-97 04/22/02	MW-98 04/23/02	MW-104 04/22/02	MW-108 04/22/02	MW-111 04/19/02
<i>Volatile Organic Compounds (ug/L)</i>							
Benzene	10	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5
Xylenes	620	<5	<5	<5	<5	<5	<5
Total BTEX	--	0	0	0	0	0	0
<i>WQCC Metals - Dissolved Only (mg/l)</i>							
Aluminum	5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	1	0.01	0.05	0.19	0.02	0.1	0.01
Boron	0.75	<0.05	<0.05	<0.05	<0.05	<0.05	0.07
Cadmium	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1.3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Lead	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Manganese	0.2	0.02	<0.01	<0.01	<0.01	<0.01	<0.01
Molybdenum	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel	0.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Selenium	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.05
Silver	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	10	0.01	<0.01	<0.01	<0.01	<0.01	0.02
<i>Polynuclear Aromatic Hydrocarbons (ug/l)</i>							
Acenaphthene	--	<5	<5	<5	<5	<5	<5
Acenaphthylene	--	<5	<5	<5	<5	<5	<5
Anthracene	tox	<1	<1	<1	<1	<1	<1
Benzo (b) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (k) fluoranthene**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) anthracene**	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (a) pyrene	0.7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo (ghi) perylene	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene**	0.2	<1	<1	<1	<1	<1	<1
Dibenzo (a,h) anthracene**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	tox	<1	<1	<1	<1	<1	<1
Fluorene	tox	<1	<1	<1	<1	<1	<1
Indeno (1,2,3-cd)pyrene**	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	tox	<5	<5	<5	<5	<5	<5
Phenanthrene	tox	<1	<1	<1	<1	<1	<1
Pyrene	tox	<1	<1	<1	<1	<1	<1
<i>Wet Chemistry (mg/L)</i>							
Total Dissolved Solids	1000	520	450	330	500	330	750
Chloride	250	13	4.8	14	15	3.4	100

Notes:

ug/L Micrograms per liter.

mg/L Milligrams per liter

WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

116 Indicates result at/above the applicable standard.

9 Indicates result above the laboratory detection limit

<5 Indicates the result is below the specified laboratory detection limit

Table 4. Summary of Analytical Results, October 2002 Semi-Annual Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well ID	Sample Date	Analytical Parameters				
		Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)
Shallow Zone Wells						
MW-14	10/16/2002	23	<5	5	<5	28
MW-39	---	Not Sampled - Well Dry				
MW-43	10/16/2002	<5	8	<5	<5	8
MW-46	10/16/2002	14	<5	<5	<5	14
MW-49	10/16/2002	31	<5	<5	<5	31
MW-50	10/16/2002	<5	<5	<5	<5	0
MW-54	10/21/2002	<5	<5	<5	<5	0
MW-55	10/17/2002	40	<5	8	<5	48
MW-61	10/16/2002	<5	<5	<5	<5	0
MW-65	10/16/2002	<5	<5	<5	<5	0
MW-69	10/18/2002	80	<20	40	<20	120
MW-77	10/21/2002	<5	<5	<5	<5	0
MW-78	10/21/2002	<5	<5	<5	<5	0
MW-79	10/18/2002	<5	<5	<5	<5	0
MW-90	10/17/2002	<5	<5	<5	<5	0
MW-91	10/18/2002	16	<5	5	<5	21
MW-105	--	Not Sampled - Well Dry				
MW-106	10/16/2002	<5	7	<5	<5	7
Lower Queen Wells						
MW-60	10/17/2002	<5	<5	<5	<5	0
MW-61A	10/16/2002	<5	<5	<5	<5	0
MW-64	10/17/2002	<5	<5	<5	<5	0
MW-66	10/16/2002	<5	<5	<5	<5	0
MW-67	10/17/2002	6	<5	<5	<5	6
MW-71	10/16/2002	<5	<5	<5	<5	0
MW-73	10/21/2002	<5	<5	<5	<5	0
MW-74	---	Not Sampled - Condensate Present				
MW-87	10/17/2002	<5	<5	<5	<5	0
MW-87A	10/17/2002	<5	<5	<5	<5	0
MW-88	10/16/2002	<5	<5	<5	<5	0
MW-89	10/16/2002	<5	<5	<5	<5	0
MW-95	10/17/2002	<5	<5	<5	<5	0
MW-96	10/17/2002	<5	<5	<5	<5	0
MW-97	10/17/2002	<5	<5	<5	<5	0
MW-98	10/17/2002	<5	<5	<5	<5	0
MW-104	10/21/2002	<5	<5	<5	<5	0
MW-108	10/17/2002	<5	<5	<5	<5	0
MW-111	10/16/2002	<5	<5	<5	<5	0

Notes:

ug/L Micrograms per liter
 <5 Compound detected below the detection limit - limit indicated
 --- Not Sampled
 6 Indicates result above the detection limit and below the OCD standard
 16 Indicates result at/above OCD standard

OCD Cleanup Goals/Regulatory Limits

Benzene 10 ug/L
 Toluene 750 ug/L
 Ethylbenzene 750 ug/L
 Total Xylenes 620 ug/L

Table 5. Summary of 2002 Groundwater Recovery and Infiltration Data, Marathon Oil Company, Indian Basin Remediation Project Eddy County, New Mexico.

Month	Lower Queen	
	Recovery	Infiltration (IW-1 & IW-2)
January	119,718	124,977
February	110,628	118,033
March	105,543	123,103
April	102,853	107,303
May	104,482	113,059
June	102,424	88,163
July	105,067	116,057
August	106,515	100,328
September	70,893	49,248
October	75,711	75,655
November	71,854	66,809
December	85,223	81,481
Totals	1,160,913	1,164,216

Notes:

Amounts listed in barrels, one barrel is the equivalent of 42 gallons

Table 6. Summary of 2002 Analytical Results, East Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	01/22/02		02/19/02		03/18/02		04/30/02		05/20/02		06/20/02	
		Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
VOCs (ug/L):													
Benzene	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	620	<10	<10	<5	<5	<10	<10	<10	<10	<10	<10	<10	<10
PAHs (ug/L):													
Acenaphthene	NS	--	--	--	<5	--	--	--	--	--	<5	--	--
Acenaphthylene	NS	--	--	--	<5	--	--	--	--	--	<5	--	--
Anthracene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Benzo(b)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(k)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(a)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(a)pyrene	0.7	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(ghi)perylene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Chrysene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Dibenzo(ah)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Fluoranthene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Fluorene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Indeno(1,2,3-cd)pyrene	NS	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Naphthalene	NS	--	--	--	<5	--	--	--	--	--	<5	--	--
Phenanthrene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Pyrene	NS	--	--	--	<1	--	--	--	--	--	<1	--	--
Total Naphthalene plus monomethylnaphthalene	30	--	--	--	ND	--	--	--	--	--	ND	--	--
General Chemistry (mg/L):													
Bromide	NS	--	--	--	<25	--	--	--	--	--	<1	--	--
Chloride	250	--	--	--	<50	--	--	--	--	--	36.2	--	--
Fluoride	1.6	--	--	--	<25	--	--	--	--	--	<1	--	--
Sulfate	600	--	--	--	216	--	--	--	--	--	197	--	--
Metals (mg/L):													
Calcium	NS	--	--	--	134	--	--	--	--	--	120	--	--
Magnesium	NS	--	--	--	57	--	--	--	--	--	51.4	--	--
Potassium	NS	--	--	--	1.2	--	--	--	--	--	1.8	--	--
Sodium	NS	--	--	--	26.1	--	--	--	--	--	28.1	--	--

Notes:

- mg/L Milligrams per liter, equivalent to parts per million.
 ug/L Micrograms per liter, equivalent to parts per billion.
 <10 Indicates that the parameter was not identified above the noted laboratory detection limit.
 -- Indicates that analysis was not performed for the given parameter.
 ND Indicates that no such parameters were detected.
 WQCC New Mexico Water Quality Control Commission.
 NS Indicates that no standard has been published.

Table 6. Summary of 2002 Analytical Results, East Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	07/24/02		08/20/02		09/30/02		10/23/02		11/11/02		12/09/02	
		Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
VOCs (ug/L):													
Benzene	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	620	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
PAHs (ug/L):													
Acenaphthene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Acenaphthylene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Anthracene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(a)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.7	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(ghi)perylene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Chrysene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Dibenzo(ah)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Fluoranthene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Fluorene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Naphthalene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Phenanthrene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Pyrene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Total Naphthalene plus monomethylnaphthalene	30	--	--	--	ND	--	--	--	--	--	--	--	--
General Chemistry (mg/L):													
Bromide	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Chloride	250	--	--	--	33	--	--	--	--	--	--	--	--
Fluoride	1.6	--	--	--	<5	--	--	--	--	--	--	--	--
Sulfate	600	--	--	--	197	--	--	--	--	--	--	--	--
Metals (mg/L):													
Calcium	NS	--	--	--	121	--	--	--	--	--	--	--	--
Magnesium	NS	--	--	--	54.2	--	--	--	--	--	--	--	--
Potassium	NS	--	--	--	1.6	--	--	--	--	--	--	--	--
Sodium	NS	--	--	--	27	--	--	--	--	--	--	--	--

Notes:

- mg/L Milligrams per liter, equivalent to parts per million.
 ug/L Micrograms per liter, equivalent to parts per billion.
 <10 Indicates that the parameter was not identified above the noted laboratory detection limit.
 -- Indicates that analysis was not performed for the given parameter.
 ND Indicates that no such parameters were detected.
 WQCC New Mexico Water Quality Control Commission.
 NS Indicates that no standard has been published.

Table 7. Summary of 2002 Analytical Results, West Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

WQCC Standards	01/22/02		02/19/02		03/18/02		04/30/02		05/20/02		06/20/02	
	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
VOCs (ug/L):												
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	<10	<10	<5	<5	<10	<10	<10	<10	<10	<10	<10	<10
PAHs (ug/L):												
Acenaphthene	--	--	--	<5	--	--	--	--	--	<5	--	--
Acenaphthylene	--	--	--	<5	--	--	--	--	--	<5	--	--
Anthracene	--	--	--	<1	--	--	--	--	--	<1	--	--
Benzo(b)fluoranthene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(k)fluoranthene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(a)anthracene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(a)pyrene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Benzo(ghi)perylene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Chrysene	--	--	--	<1	--	--	--	--	--	<1	--	--
Dibenzo(a,h)anthracene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Fluoranthene	--	--	--	<1	--	--	--	--	--	<1	--	--
Fluorene	--	--	--	<1	--	--	--	--	--	<1	--	--
Indeno(1,2,3-cd)pyrene	--	--	--	<0.1	--	--	--	--	--	<0.1	--	--
Naphthalene	--	--	--	<5	--	--	--	--	--	<5	--	--
Phenanthrene	--	--	--	<1	--	--	--	--	--	<1	--	--
Pyrene	--	--	--	<1	--	--	--	--	--	<1	--	--
Total Naphthalene plus monomethylnaphthalene	--	--	--	ND	--	--	--	--	--	ND	--	--
General Chemistry (mg/L):												
Bromide	--	--	--	<25	--	--	--	--	--	<25	--	--
Chloride	--	--	--	<50	--	--	--	--	--	<50	--	--
Fluoride	--	--	--	<25	--	--	--	--	--	<25	--	--
Sulfate	--	--	--	223	--	--	--	--	--	197	--	--
Metals (mg/L):												
Calcium	--	--	--	133	--	--	--	--	--	114	--	--
Magnesium	--	--	--	56	--	--	--	--	--	48.7	--	--
Potassium	--	--	--	1.2	--	--	--	--	--	1.7	--	--
Sodium	--	--	--	25.6	--	--	--	--	--	29	--	--

Notes:

1. Samples were not collected from the West Air Stripper during September, October, November, and December 2002.
- mg/L: Milligrams per liter, equivalent to parts per million.
- ug/L: Micrograms per liter, equivalent to parts per billion.
- <10: Indicates that the parameter was not identified above the noted laboratory detection limit.
- : Indicates that analysis was not performed for the given parameter.
- ND: Indicates that no such parameters were detected.
- WQCC: New Mexico Water Quality Control Commission.
- NS: Indicates that no standard has been published.

Table 7. Summary of 2002 Analytical Results, West Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	07/24/02		08/20/02		9/30/02 ¹		10/23/02 ¹		11/11/02 ¹		12/09/02 ¹	
		Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
VOCs (ug/L):													
Benzene	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	620	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
PAHs (ug/L):													
Acenaphthene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Acenaphthylene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Anthracene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(a)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.7	--	--	--	<0.1	--	--	--	--	--	--	--	--
Benzo(ghi)perylene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Chrysene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Dibenzo(ab)anthracene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Fluoranthene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Fluorene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	NS	--	--	--	<0.1	--	--	--	--	--	--	--	--
Naphthalene	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Phenanthrene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Pyrene	NS	--	--	--	<1	--	--	--	--	--	--	--	--
Total Naphthalene plus monomethylnaphthalene	30	--	--	--	ND	--	--	--	--	--	--	--	--
General Chemistry (mg/L):													
Bromide	NS	--	--	--	<5	--	--	--	--	--	--	--	--
Chloride	250	--	--	--	<100	--	--	--	--	--	--	--	--
Fluoride	1.6	--	--	--	<5	--	--	--	--	--	--	--	--
Sulfate	600	--	--	--	210	--	--	--	--	--	--	--	--
Metals (mg/L):													
Calcium	NS	--	--	--	116	--	--	--	--	--	--	--	--
Magnesium	NS	--	--	--	52.2	--	--	--	--	--	--	--	--
Potassium	NS	--	--	--	1.3	--	--	--	--	--	--	--	--
Sodium	NS	--	--	--	26	--	--	--	--	--	--	--	--

Notes:

- Samples were not collected from the West Air Stripper during September, October, November, and December 2002.
- Milligrams per liter, equivalent to parts per million.
- Micrograms per liter, equivalent to parts per billion.
- Indicates that the parameter was not identified above the noted laboratory detection limit.
- Indicates that analysis was not performed for the given parameter.
- Indicates that no such parameters were detected.
- New Mexico Water Quality Control Commission.
- Indicates that no standard has been published.

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Table 8. Summary of SVE Operation, Vapor-Phase Mass Removal, and Aerobic Biodegradation, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

VES-100				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-112	Lower Queen	3.87	20.16
February	MW-112	Lower Queen	2.22	10.88
March 1-15	MW-112	Lower Queen	0.46	0.97
March 16-30	MW-123	Lower Queen	2.31	9.89
1st Quarter 2002 Estimated Subtotal			8.86	41.90
April	MW-123	Lower Queen	3.97	8.36
May	MW-123	Lower Queen	4.97	6.41
June	MW-123	Lower Queen	1.90	7.68
2nd Quarter 2002 Estimated Subtotal			10.84	22.45
July	MW-123	Lower Queen	2.96	10.57
August	MW-123	Lower Queen	2.33	14.23
September	MW-123	Lower Queen	1.17	15.86
3rd Quarter 2002 Estimated Subtotal			6.46	40.66
October	MW-123	Lower Queen	0.47	12.72
November	MW-123	Lower Queen	0.48	8.13
December	MW-123	Lower Queen	0.28	3.45
4th Quarter 2002 Estimated Subtotal			1.23	24.30
2002 Subtotal, VES-100			27.39	129.31

VES-200				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-14	Shallow Zone	1.70	9.98
February	MW-14	Shallow Zone	1.99	6.84
March	MW-14	Shallow Zone	2.52	8.43
1st Quarter 2002 Estimated Subtotal			6.21	25.25
April	MW-14	Shallow Zone	1.63	9.93
May	MW-14	Shallow Zone	0.61	5.38
June	MW-14	Shallow Zone	0.30	8.42
2nd Quarter 2002 Estimated Subtotal			2.54	23.73
July	MW-14	Shallow Zone	0.09	5.90
August	MW-14	Shallow Zone	0.00	8.64
September	MW-68	Lower Queen	0.04	1.62
3rd Quarter 2002 Estimated Subtotal			0.13	16.16
October	MW-68	Lower Queen	0.30	2.03
November	MW-68	Lower Queen	0.30	2.49
December	MW-68	Lower Queen	0.31	1.81
4th Quarter 2002 Estimated Subtotal			0.91	6.33
2002 Subtotal, VES-200			9.79	71.47

VES-300				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-69	Shallow Zone	0.35	10.38
February	MW-69	Shallow Zone	0.72	6.84
March	MW-69	Shallow Zone	0.24	19.80
1st Quarter 2002 Estimated Subtotal			1.31	37.02
April	MW-69	Shallow Zone	0.88	13.59
May	MW-69	Shallow Zone	2.19	5.21
June	MW-69	Shallow Zone	0.44	2.50
2nd Quarter 2002 Estimated Subtotal			3.51	21.30
July	MW-69	Shallow Zone	0.00	0.74
August	MW-69	Shallow Zone	0.11	2.92
September	MW-85	Lower Queen	0.18	1.18
3rd Quarter 2002 Estimated Subtotal			0.29	4.84
October	MW-85	Lower Queen	0.00	0.00
November	MW-85	Lower Queen	0.00	0.00
December	MW-85	Lower Queen	0.58	1.53
4th Quarter 2002 Estimated Subtotal			0.58	1.53
2002 Subtotal, VES-300			5.69	64.69

VES-400				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	NR	--	--	--
February	NR	--	--	--
March	NR	--	--	--
1st Quarter 2002 Estimated Subtotal			0.00	0.00
April	NR	--	--	--
May	NR	--	--	--
June	NR	--	--	--
2nd Quarter 2002 Estimated Subtotal			0.00	0.00
July	NR	--	--	--
August	NR	--	--	--
September	NR	--	--	--
3rd Quarter 2002 Estimated Subtotal			0.00	0.00
October	NR	--	--	--
November	NR	--	--	--
December	NR	--	--	--
4th Quarter 2002 Estimated Subtotal			0.00	0.00
2002 Subtotal, VES-400			0.00	0.00

Notes:

Condensate recovery and operational data provided by Marathon Oil.

bbl - Barrels of condensate recovered, one barrel is the equivalent of 42 gallons.

NR - Not running.

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Table 8. Summary of SVE Operation, Vapor-Phase Mass Removal, and Aerobic Biodegradation, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

VES-500				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	NR	--	--	--
February	NR	--	--	--
March	NR	--	--	--
1st Quarter 2002 Estimated Subtotal			0.00	0.00
April	NR	--	--	--
May	NR	--	--	--
June	NR	--	--	--
2nd Quarter 2002 Estimated Subtotal			0.00	0.00
July	NR	--	--	--
August	NR	--	--	--
September	NR	--	--	--
3rd Quarter 2002 Estimated Subtotal			0.00	0.00
October	NR	--	--	--
November	NR	--	--	--
December	NR	--	--	--
4th Quarter 2002 Estimated Subtotal			0.00	0.00
2002 Subtotal, VES-500			0.00	0.00

VES-600				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-110	Lower Queen	15.22	44.06
February	MW-110	Lower Queen	12.17	38.12
March	MW-110	Lower Queen	9.52	27.23
1st Quarter 2002 Estimated Subtotal			36.91	109.41
April	MW-110	Lower Queen	14.34	34.72
May	MW-110	Lower Queen	14.83	29.84
June	MW-110	Lower Queen	9.36	22.58
2nd Quarter 2002 Estimated Subtotal			38.53	87.14
July	MW-110	Lower Queen	7.98	33.43
August	MW-110	Lower Queen	4.12	24.59
September	MW-110	Lower Queen	6.42	19.24
3rd Quarter 2002 Estimated Subtotal			18.52	77.26
October	MW-110	Lower Queen	4.81	21.30
November	MW-110	Lower Queen	4.19	17.57
December	MW-110	Lower Queen	4.29	17.15
4th Quarter 2002 Estimated Subtotal			13.29	56.02
2002 Subtotal, VES-600			107.25	329.83

VES-700				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-121	Lower Queen	7.12	14.43
February	MW-121	Lower Queen	7.69	11.58
March	MW-121	Lower Queen	4.17	15.36
1st Quarter 2002 Estimated Subtotal			18.98	41.37
April	MW-121	Lower Queen	0.31	14.96
May	MW-121	Lower Queen	1.52	7.09
June	MW-121	Lower Queen	1.52	7.09
2nd Quarter 2002 Estimated Subtotal			3.35	29.14
July	MW-121	Lower Queen	0.05	10.19
August	MW-121	Lower Queen	0.00	10.79
September	MW-121	Lower Queen	1.00	5.80
3rd Quarter 2002 Estimated Subtotal			1.05	26.78
October	MW-121	Lower Queen	0.07	5.59
November	MW-121	Lower Queen	0.00	5.23
December	MW-121	Lower Queen	1.37	7.29
4th Quarter 2002 Estimated Subtotal			1.44	18.11
2002 Subtotal, VES-700			24.82	115.40

VES-800				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-85	Lower Queen	4.95	12.51
February	MW-85	Lower Queen	3.68	7.42
March 1-6	MW-85	Lower Queen	0.27	0.83
March 7-31	MW-120	Lower Queen	1.41	6.25
1st Quarter 2002 Estimated Subtotal			10.31	27.01
April	MW-120	Lower Queen	0.00	0.00
May	MW-120	Lower Queen	0.00	0.00
June	MW-120	Lower Queen	1.04	10.61
2nd Quarter 2002 Estimated Subtotal			1.04	10.61
July	MW-120	Lower Queen	4.43	14.33
August	MW-120	Lower Queen	1.13	23.36
September	MW-120	Lower Queen	3.03	9.65
3rd Quarter 2002 Estimated Subtotal			8.59	47.34
October	MW-120	Lower Queen	8.32	10.46
November	MW-120	Lower Queen	11.51	6.54
December	MW-120	Lower Queen	3.31	4.34
4th Quarter 2002 Estimated Subtotal			23.14	21.34
2002 Subtotal, VES-800			43.08	106.30

Notes:

Condensate recovery and operational data provided by Marathon Oil.
bbl - Barrels of condensate recovered, one barrel is the equivalent of 42 gallons.
NR - Not running.

Table 8. Summary of SVE Operation, Vapor-Phase Mass Removal, and Aerobic Biodegradation, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

VES-900				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-130	Lower Queen	4.99	27.64
February	MW-130	Lower Queen	3.24	16.76
March	MW-124	Lower Queen	3.52	27.32
April 1-18	MW-124	Lower Queen	1.64	13.34
1st Quarter 2002 Estimated Subtotal			13.39	85.06
April 19-30	MW-130	Lower Queen	2.85	6.58
May	MW-130	Lower Queen	7.08	16.84
June	MW-130	Lower Queen	2.45	21.68
2nd Quarter 2002 Estimated Subtotal			12.38	45.10
July	MW-130	Lower Queen	1.87	13.36
August	MW-130	Lower Queen	1.51	24.59
September	MW-124	Lower Queen	0.78	16.79
3rd Quarter 2002 Estimated Subtotal			4.16	54.74
October	MW-124	Lower Queen	0.87	17.39
November	MW-124	Lower Queen	0.90	11.65
December	MW-124	Lower Queen	0.35	5.79
4th Quarter 2002 Estimated Subtotal			2.12	34.83
2002 Subtotal, VES-900			32.05	219.73

VES-1100				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-125	Lower Queen	12.45	29.97
February 1-21	MW-125	Lower Queen	10.52	12.26
February 22-28	MW-129	Lower Queen	2.21	5.27
March	MW-129	Lower Queen	8.53	16.23
1st Quarter 2002 Estimated Subtotal			33.71	63.73
April 1-12	MW-129	Lower Queen	2.10	9.26
April 13-30	MW-126	Shallow Zone	0.79	5.74
May	MW-126	Shallow Zone	2.50	10.65
June	MW-126	Shallow Zone	0.92	11.36
2nd Quarter 2002 Estimated Subtotal			6.31	37.01
July	MW-126	Shallow Zone	0.76	10.47
August	MW-126	Shallow Zone	1.06	13.12
September	MW-126	Shallow Zone	0.00	9.27
3rd Quarter 2002 Estimated Subtotal			2.82	32.86
October	MW-126	Shallow Zone	0.07	2.01
November	MW-126	Shallow Zone	0.00	2.12
December	MW-126	Shallow Zone	0.38	1.16
4th Quarter 2002 Estimated Subtotal			0.45	5.29
2002 Subtotal, VES-1100			42.29	138.89

VES-1000				
Date	Well	Location	Vapor Phase Condensate Recovered (bbl)	Biodegradation Condensate Recovered (bbl)
January	MW-113	Lower Queen	5.36	44.17
February	MW-113	Lower Queen	3.52	25.84
March	MW-113	Lower Queen	3.97	27.53
1st Quarter 2002 Estimated Subtotal			12.85	97.54
April	MW-113	Lower Queen	4.93	17.41
May	MW-113	Lower Queen	7.65	17.18
June	MW-113	Lower Queen	3.28	20.48
2nd Quarter 2002 Estimated Subtotal			15.86	55.07
July	MW-113	Lower Queen	3.73	20.25
August	MW-113	Lower Queen	2.20	25.19
September	MW-113	Lower Queen	0.96	16.69
3rd Quarter 2002 Estimated Subtotal			6.89	62.13
October	MW-113	Lower Queen	0.37	8.00
November	MW-113	Lower Queen	0.88	4.23
December	MW-113	Lower Queen	0.58	7.83
4th Quarter 2002 Estimated Subtotal			1.83	20.06
2002 Subtotal, VES-1000			37.43	234.80

Summary of 2002 Condensate Recovery		
	Vapor Phase	Biodegradation
Shallow Zone Wells	20.25	191.40
Lower Queen Wells	309.54	1219.02
Total	329.79	1410.42

Notes:
Condensate recovery and operational data provided by Marathon Oil.
bbl - Barrels of condensate recovered, one barrel is the equivalent of 42 gallons.
NR - Not running.

Table 9. Summary of Historical Condensate Recovery Data, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Response Pumping	Vacuum Truck Recovery	Open Pit Volatilization	Open Frac Tank Volatilization	Shallow Zone Sump 16A	Shallow Zone Sump A-11	Shallow Zone MW-59	Shallow Zone MW-86	Lower Queen Pump and Treat	Vapor Extraction Shallow Zone	Vapor Extraction Lower Queen	Aerobic Biodegradation	Total Condensate Recovery
Apr-91	717.3	33.0	485.0	4,447.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5162.3
May-91	2,041.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2041.0
Jun-91	714.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	714.0
Jul-91	220.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	220.0
Aug-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sep-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oct-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nov-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	26.0
Dec-91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	12.5
Subtotal 1991	3,692.3	33.0	485.0	4,447.0	0.0	0.0	0.0	0.0	38.5	0.0	0.0	0.0	8,675.8
Jan-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0	0.0	13.0
Feb-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.5
Mar-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	5.1	0.0	0.0	8.2
Apr-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.9	0.0	0.0	9.7
May-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	5.1	0.0	0.0	13.6
Jun-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	4.9	0.0	0.0	6.1
Jul-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.3	5.1	0.0	0.0	12.4
Aug-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	5.1	0.0	0.0	13.0
Sep-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5
Oct-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	5.1	0.0	0.0	9.9
Nov-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	4.9	0.0	0.0	5.5
Dec-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	5.1	0.0	0.0	5.9
Subtotal 1992	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.5	45.8	0.0	0.0	99.3
Jan-93	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	4.2	0.0	0.0	5.4
Feb-93	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.3	0.0	0.0	0.0	2.9
Mar-93	0.0	0.0	0.0	0.0	0.0	2.8	0.0	0.0	1.9	0.0	0.0	0.0	4.7
Apr-93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	3.7
May-93	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	1.1	5.1	0.0	0.0	9.6
Jun-93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	4.6	0.0	0.0	5.4
Jul-93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.6
Aug-93	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	4.7	0.0	0.0	0.0	6.4
Sep-93	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0	3.7	0.0	0.0	0.0	8.3
Oct-93	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	5.5	10.6	0.0	0.0	22.3
Nov-93	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	1.6	12.2	0.0	0.0	22.6
Dec-93	0.0	0.0	0.0	0.0	0.0	0.0	15.3	0.0	1.8	12.7	0.0	0.0	29.8
Subtotal 1993	0.0	0.0	0.0	0.0	3.4	8.6	36.7	0.0	22.9	53.1	0.0	0.0	122.7

Notes:
Amounts listed in barrels, one barrel is the equivalent of 42 gallons

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Table 9. Summary of Historical Condensate Recovery Data, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Response Pumping	Vacuum Truck Recovery	Open Pit Volatilization	Open Frac Tank Volatilization	Shallow Zone Sump 16A	Shallow Zone Sump A-11	Shallow Zone MW-59	Shallow Zone MW-86	Lower Queen Pump and Treat	Vapor Extraction Shallow Zone	Vapor Extraction Lower Queen	Aerobic Biodegradation	Total Condensate Recovery
Jan-94	0.0	0.0	0.0	0.0	0.0	0.0	5.4	0.0	2.5	10.1	0.0	0.0	18.0
Feb-94	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	4.2	9.6	0.0	0.0	20.5
Mar-94	0.0	0.0	0.0	0.0	0.0	0.0	17.8	0.0	3.2	9.0	0.0	0.0	30.0
Apr-94	0.0	0.0	0.0	0.0	0.0	0.0	10.8	0.0	2.3	8.0	0.0	0.0	21.1
May-94	0.0	0.0	0.0	0.0	0.0	0.0	30.1	0.0	2.6	0.0	0.0	0.0	32.7
Jun-94	0.0	0.0	0.0	0.0	0.0	0.0	23.8	0.0	2.9	0.0	0.0	0.0	26.7
Jul-94	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	4.1	0.0	0.0	0.0	11.0
Aug-94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.9
Sep-94	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	1.6	0.0	0.0	0.0	7.7
Oct-94	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	1.5	0.0	0.0	0.0	4.6
Nov-94	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	3.9	0.0	0.0	0.0	7.0
Dec-94	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	3.8	0.0	0.0	0.0	4.5
Subtotal 1994	0.0	0.0	0.0	0.0	0.0	0.0	114.5	0.0	34.6	36.7	0.0	0.0	185.8
Jan-95	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	5.1	0.0	0.0	0.0	6.2
Feb-95	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	2.6	0.0	0.0	0.0	10.2
Mar-95	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	2.1	0.0	0.0	0.0	7.1
Apr-95	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	5.3	0.0	0.0	0.0	6.8
May-95	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	2.5	0.0	0.0	0.0	4.1
Jun-95	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	2.3	0.0	0.0	0.0	3.8
Jul-95	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	4.1	0.0	0.0	0.0	5.1
Aug-95	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	9.9	0.0	0.0	0.0	10.9
Sep-95	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	3.9	0.0	0.0	0.0	4.0
Oct-95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	6.3
Nov-95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	5.3
Dec-95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	0.0	0.0	8.8
Subtotal 1995	0.0	0.0	0.0	0.0	0.0	0.0	20.4	0.0	58.1	0.0	0.0	0.0	78.5

Notes:
Amounts listed in barrels, one barrel is the equivalent of 42 gallons

Table 9. Summary of Historical Condensate Recovery Data, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Response Pumping	Vacuum Truck Recovery	Open Pit Volatilization	Open Frac Tank Volatilization	Shallow Zone Sump 16A	Shallow Zone Sump A-11	Shallow Zone MW-69	Shallow Zone MW-86	Lower Queen Pump and Treat	Vapor Extraction Shallow Zone	Vapor Extraction Lower Queen	Aerobic Biodegradation	Total Condensate Recovery
Jan-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	0.0	7.9
Feb-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.9	0.0	0.0	0.0	65.9
Mar-96	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	56.0	0.0	0.0	0.0	57.2
Apr-96	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	45.5	0.0	0.0	0.0	53.4
May-96	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	64.8	0.0	0.0	0.0	64.9
Jun-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	139.0	49.0	0.0	0.0	0.0	188.0
Jul-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	27.5	0.0	0.0	0.0	52.5
Aug-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.3	0.0	0.0	0.0	22.3
Sep-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	0.0	0.0	0.0	16.4
Oct-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.7
Nov-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	2.6
Dec-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.0
Subtotal 1996	0.0	0.0	0.0	0.0	0.0	0.0	9.2	164.0	362.7	0.0	0.0	0.0	555.9
Jan-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.1	0.0	1.3
Feb-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	3.9	0.0	11.1
Mar-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.2	0.0	2.1	0.0	34.3
Apr-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	0.0	3.1	0.0	12.8
May-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.8	0.0	2.4	0.0	40.2
Jun-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.3	0.0	1.2	0.0	29.5
Jul-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.0	0.0	0.3	0.0	44.3
Aug-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.5	1.7	0.4	0.0	28.6
Sep-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.3
Oct-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.8	0.0	0.1	0.0	31.9
Nov-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.5	0.0	0.1	0.0	20.6
Dec-97	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.4	0.0	0.1	0.0	26.5
Subtotal 1997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	265.6	1.9	14.0	0.0	281.5

Notes:

Amounts listed in barrels, one barrel is the equivalent of 42 gallons

Table 9. Summary of Historical Condensate Recovery Data, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Response Pumping	Vacuum Truck Recovery	Open Pit Volatilization	Open Frac Tank Volatilization	Shallow Zone Sump 16A	Shallow Zone Sump A-11	Shallow Zone MW-69	Shallow Zone MW-96	Lower Queen Pump and Treat	Vapor Extraction Shallow Zone	Vapor Extraction Lower Queen	Aerobic Biodegradation	Total Condensate Recovery
Jan-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5	0.0	0.3	0.0	23.8
Feb-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.5	0.0	0.1	0.0	83.6
Mar-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.7	0.1	0.4	0.0	38.2
Apr-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.5	0.5	1.6	0.0	29.6
May-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.4	0.0	1.3	0.0	39.7
Jun-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.9	2.8	0.1	0.0	46.8
Jul-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	8.7	16.6	0.0	43.0
Aug-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.1	5.2	14.7	0.0	91.9
Sep-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.0	7.7	18.9	0.0	79.6
Oct-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.0	10.8	12.5	0.0	65.3
Nov-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.3	24.3	16.9	0.0	95.5
Dec-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	66.5	93.6	0.0	211.4
Subtotal 1998	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	611.3	66.5	93.6	0.0	670.4
Jan-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	0.0	27.2	28.0	87.3
Feb-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.4	0.0	18.7	21.0	81.1
Mar-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	0.0	29.8	147.0	215.8
Apr-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.2	0.0	18.7	39.0	104.9
May-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.7	0.0	40.2	28.0	86.9
Jun-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	93.5	29.0	131.3
Jul-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	0.0	15.7	70.0	94.3
Aug-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	0.0	13.5	70.0	91.9
Sep-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.2	0.0	24.3	53.0	153.5
Oct-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	124.0	0.0	32.5	100.0	256.5
Nov-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.6	0.0	44.9	110.0	262.5
Dec-99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	105.6	0.0	55.4	101.0	262.0
Subtotal 1999	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	617.6	0.0	414.4	796.0	1,828.0

Notes:
Amounts listed in barrels, one barrel is the equivalent of 42 gallons

Table 9. Summary of Historical Condensate Recovery Data, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Response Pumping	Vacuum Truck Recovery	Open Pit Volatilization	Open Frac Tank Volatilization	Shallow Zone Sump 16A	Shallow Zone Sump A-11	Shallow Zone MW-69	Shallow Zone MW-86	Lower Queen Pump and Treat	Vapor Extraction Shallow Zone	Vapor Extraction Lower Queen	Aerobic Biodegradation	Total Condensate Recovery
Jan-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	110.8	0.0	61.8	33.5	206.1
Feb-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	114.4	0.0	33.5	40.1	188.0
Mar-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	146.0	0.0	32.7	51.7	230.5
Apr-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	0.0	51.4	97.7	188.0
May-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.1	0.0	32.3	63.8	178.2
Jun-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.4	0.0	21.5	81.9	180.8
Jul-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.3	0.0	21.1	90.3	171.7
Aug-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	16.0	73.3	91.2
Sep-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.0	9.5	39.7	49.3
Oct-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.0	15.5	25.7	65.2
Nov-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	16.8	60.4	78.6
Dec-00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	59.4	83.8
Subtotal 2000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	667.4	0.0	336.5	707.4	1711.3
Jan-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	95.2	105.8
Feb-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.0	13.7	105.5	123.2
Mar-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	71.2	82.9
Apr-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	52.1	59.2
May-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	12.3	87.6	100.9
Jun-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	73.2	84.4
Jul-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.3	101.9	133.2
Aug-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.2	67.9	99.0
Sep-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	1.1	59.1	192.4	259.1
Oct-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	48.5	153.6	203.6
Nov-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.1	43.5	148.9	200.1
Dec-01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	50.4	194.7	247.2
Subtotal 2001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	4.73	330.47	1344.0	1698.5
Jan-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	54.0	213.3	269.3
Feb-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	45.3	141.8	189.8
Mar-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	34.2	159.8	196.8
Apr-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	30.1	133.9	167.3
May-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	36.1	98.6	140.0
Jun-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	19.6	112.4	133.6
Jul-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	21.0	119.2	141.1
Aug-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	11.3	147.4	159.9
Sep-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	96.1	109.7
Oct-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	15.2	79.5	94.8
Nov-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.3	58.0	76.2
Dec-02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	11.1	50.4	61.9
Subtotal 2002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	20.25	309.84	1410.42	1740.2
TOTALS	3,692.3	33.0	465.0	4,447.0	3.4	6.6	180.8	164.0	2,651.5	228.0	1,498.5	4,257.8	17,627.8

Notes:
Amounts listed in barrels, one barrel is the equivalent of 42 gallons

Table 10. Summary of Shallow Zone Wells Proposed for Abandonment, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Well Proposed To Be Abandoned	Rationale (see below for definition)
MW-1	1
MW-2	2
MW-3	2
MW-5	2
MW-6	2
MW-7	2
MW-8	2
MW-9	2
MW-15	1
MW-18	2
MW-20	3
MW-21	1
MW-23	2
MW-25	2
MW-27	2
MW-28	1
MW-29	2
MW-30	2
MW-31	1
MW-33	1
MW-34	1
MW-35	1
MW-36	2
MW-37	1
MW-38	1
MW-39	3
MW-40	2
MW-42	1
MW-44	1
MW-52	2
MW-53	2
MW-80	2
MW-92	1
MW-93	2
MW-99	2
MW-101	2
MW-102	1
MW-103	1
MW-107	2

Key to Rationale

¹ Area near well is monitored by other well/wells

² Well dry for four or more years

³ Well dry for three years

Shallow Zone

Well ID	Sampling Schedule				
	Month April	semi-annual	Analytical Parameters annual e/o year		Month October
MW-14	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-39	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-43	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-46	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-49	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-50	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-54	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-55	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-61	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-65	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-69	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-77	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-78	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-79	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-90	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-91	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-105	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-106	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X

Lower Queen

Well ID	Sampling Schedule				
	Month April	semi-annual	Analytical Parameters annual e/o year		Month October
MW-57	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-59	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-60	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-61A	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-62	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-63	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-64	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-66	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-67	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-70	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-71	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-73	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-74	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-87	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-87A	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-88	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-89	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-94	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	
MW-95	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-96	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-97	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-98	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-104	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-108	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X
MW-111	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X

Notes:

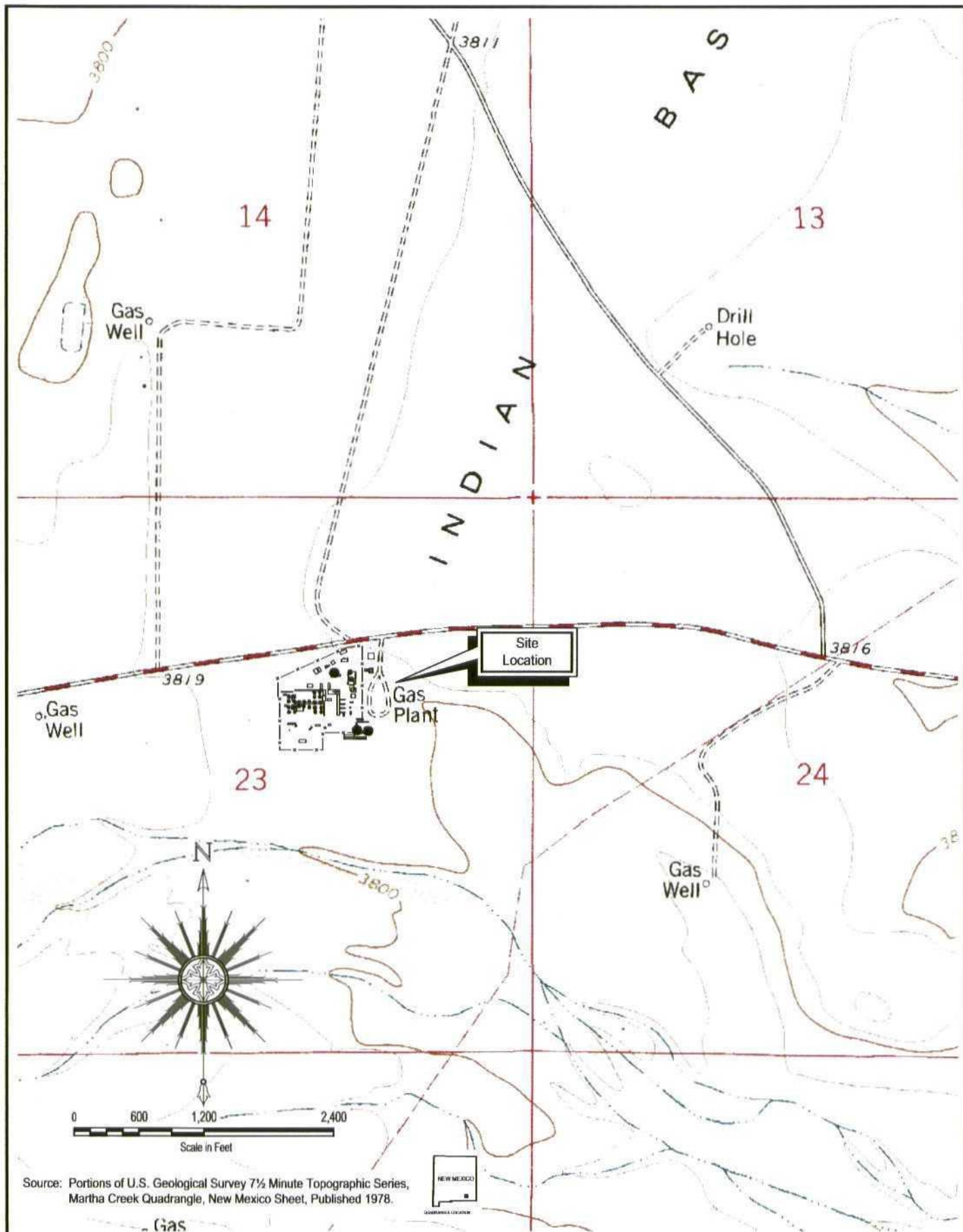
SVOC and WQCC metals analysis will fall on even years (i.e., 2002, 2004, etc.)

SVOCs Semi-Volatile Organic Compounds via Method 8310

WQCC metals New Mexico Water Quality Control Commission metals (dissolved only for arsenic, lead, selenium, aluminum, barium, boron, cadmium, chromium, cobalt, copper, iron, manganese, molybdenum, nickel, silver, and zinc)

TDS Total Dissolved Solids

e/o year Every other year



Source: Portions of U.S. Geological Survey 7 1/2 Minute Topographic Series, Martha Creek Quadrangle, New Mexico Sheet, Published 1978.

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Drawing Date
7 February 2003

File Name
MT778101.dwg

File Location
(AutoCAD) \DWC\Marathon Oil\Indian Basin\MT000778.001

Task Manager
J. Ornelas

Project Director
A.J. Reed, Jr.

Area Manager
A. Schmidt

Marathon Oil Company
Indian Basin Remediation Project

Technical Review
S. Tischer

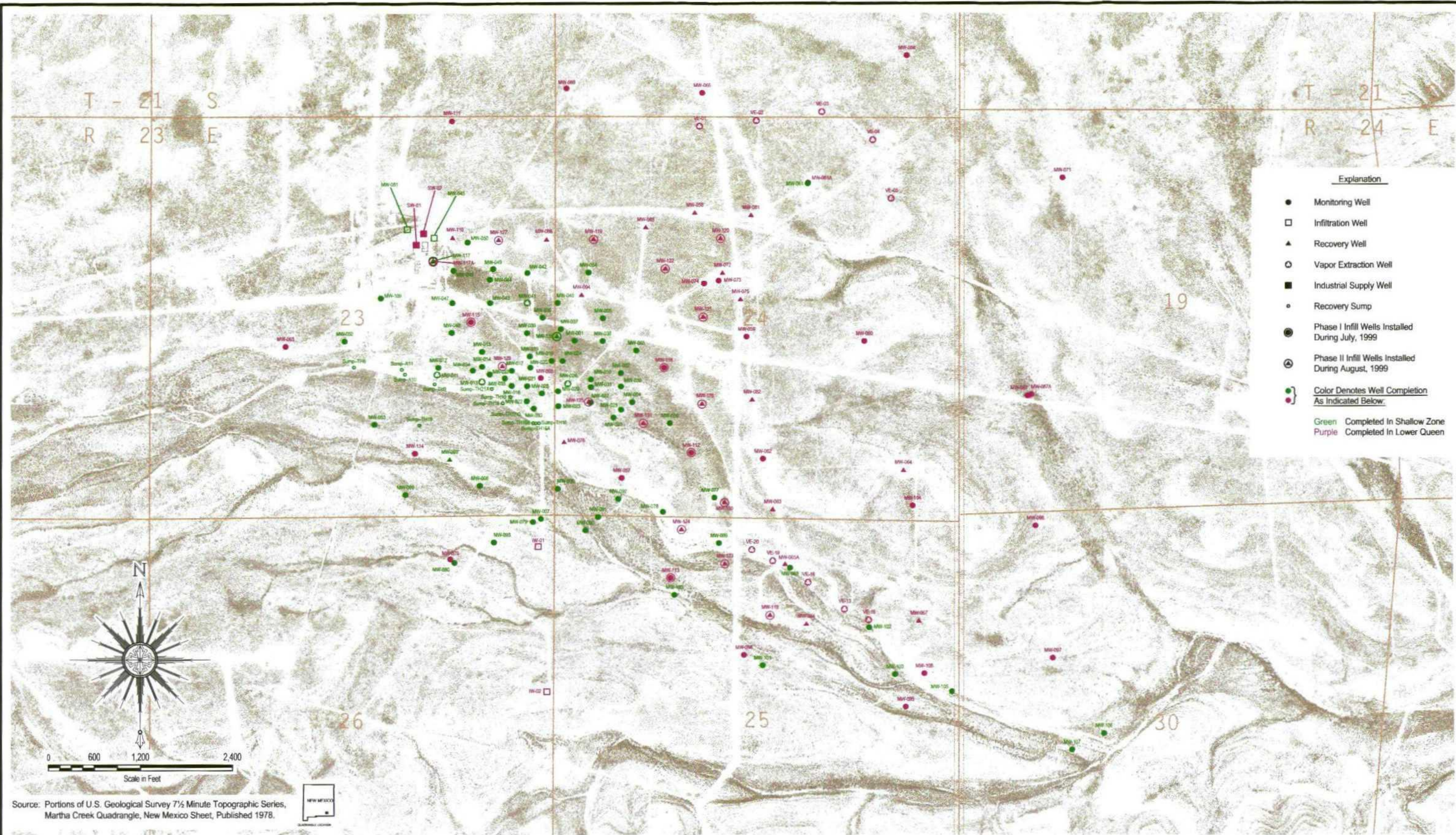
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31-D09-00066

Site Location

Project Number
MT000778.0001

Figure
1

Eddy County, New Mexico



Source: Portions of U.S. Geological Survey 7 1/2 Minute Topographic Series, Martha Creek Quadrangle, New Mexico Sheet, Published 1978.

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File Name
MT778102.dwg

File Location
\\AutoCAD\\DWG\\Marathon Oil\\MT000778.001

Unique Number
31-009-00064

Project Director
A.J. Reed, Jr.

Area Manager
A. Schmidt

Task Manager
J. Ornelas

Technical Review
S. Tischer

Project Number

MT000778.0001

Figure

2

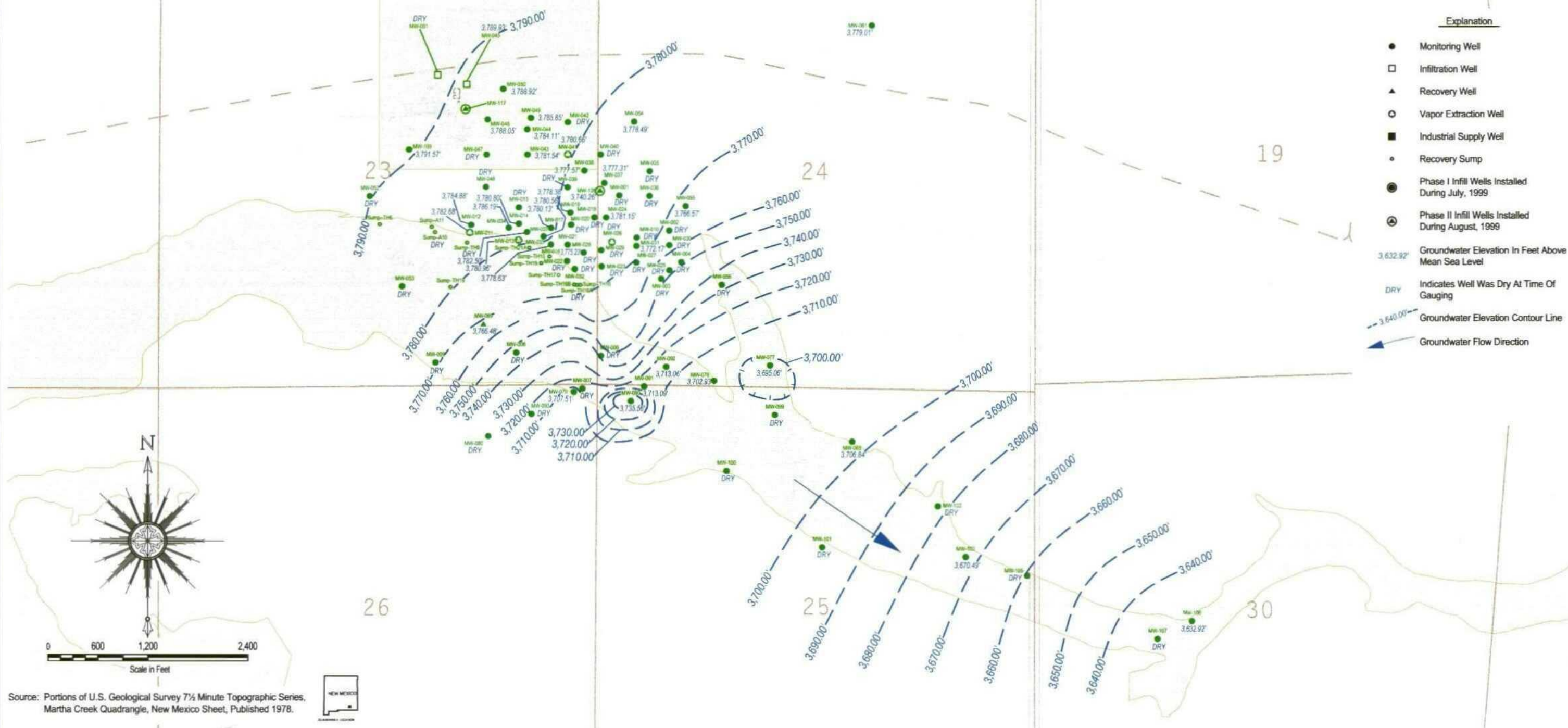
Marathon Oil Company
Indian Basin Remediation Project

Site Layout

Eddy County, New Mexico

T - 21 - S
R - 23 - E

T - 21 - S
R - 24 - E



Source: Portions of U.S. Geological Survey 7 1/2 Minute Topographic Series, Martha Creek Quadrangle, New Mexico Sheet, Published 1978.



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Drawing Date
5 February 2003

File Name
MT778103.dwg

File Location
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Unique Number
31-009-00058

Project Director
A.J. Reed, Jr.

Area Manager
A. Schmidt

Task Manager
J. Ornelas

Technical Review
S. Tischer

Project Number
MT000778.0001

Figure
3

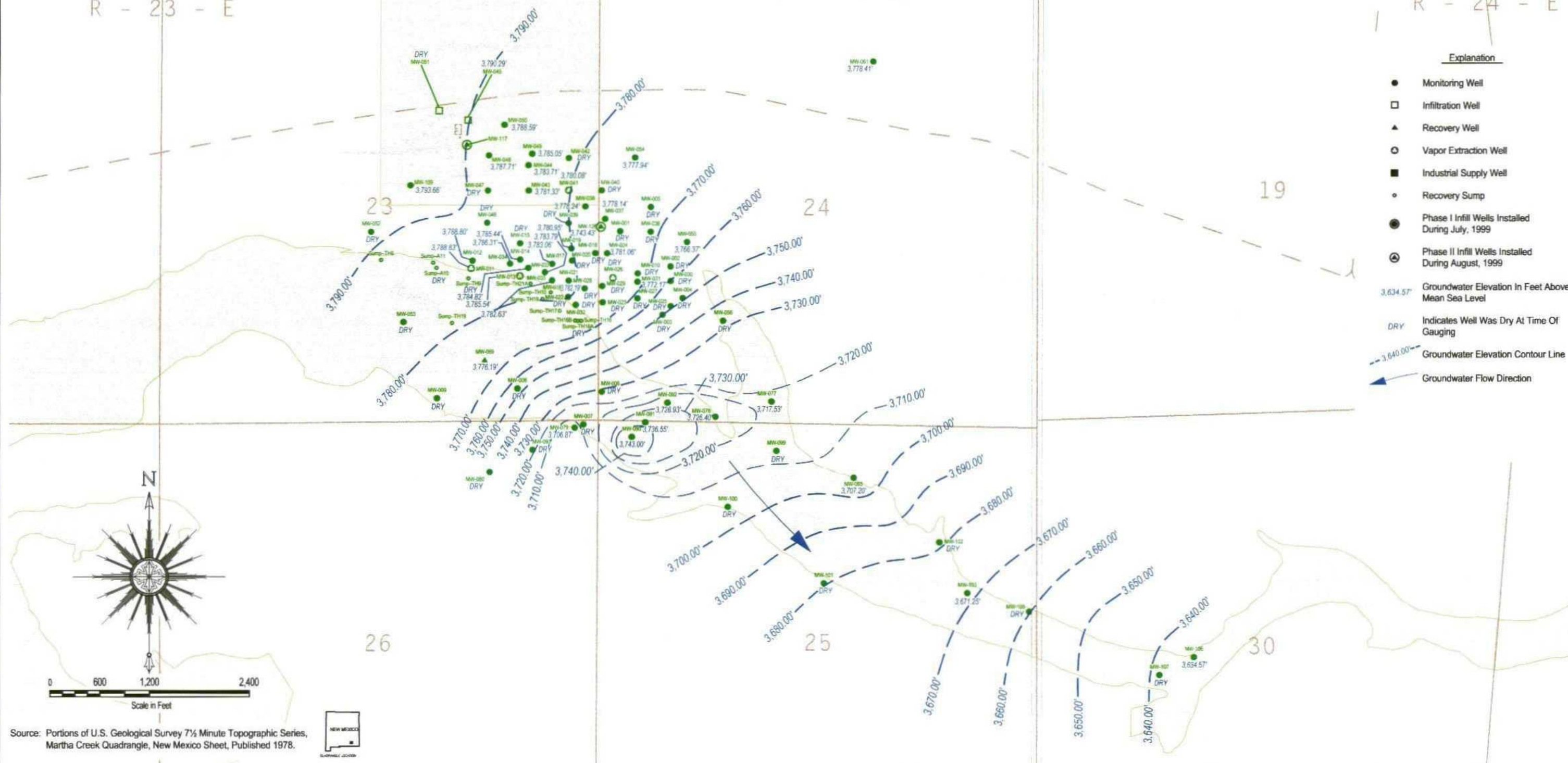
Marathon Oil Company
Indian Basin Remediation Project
Shallow Zone Groundwater Elevation Contours
April, 2002
Eddy County, New Mexico

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R - 23 - E

T - 21 - S
R - 24 - E



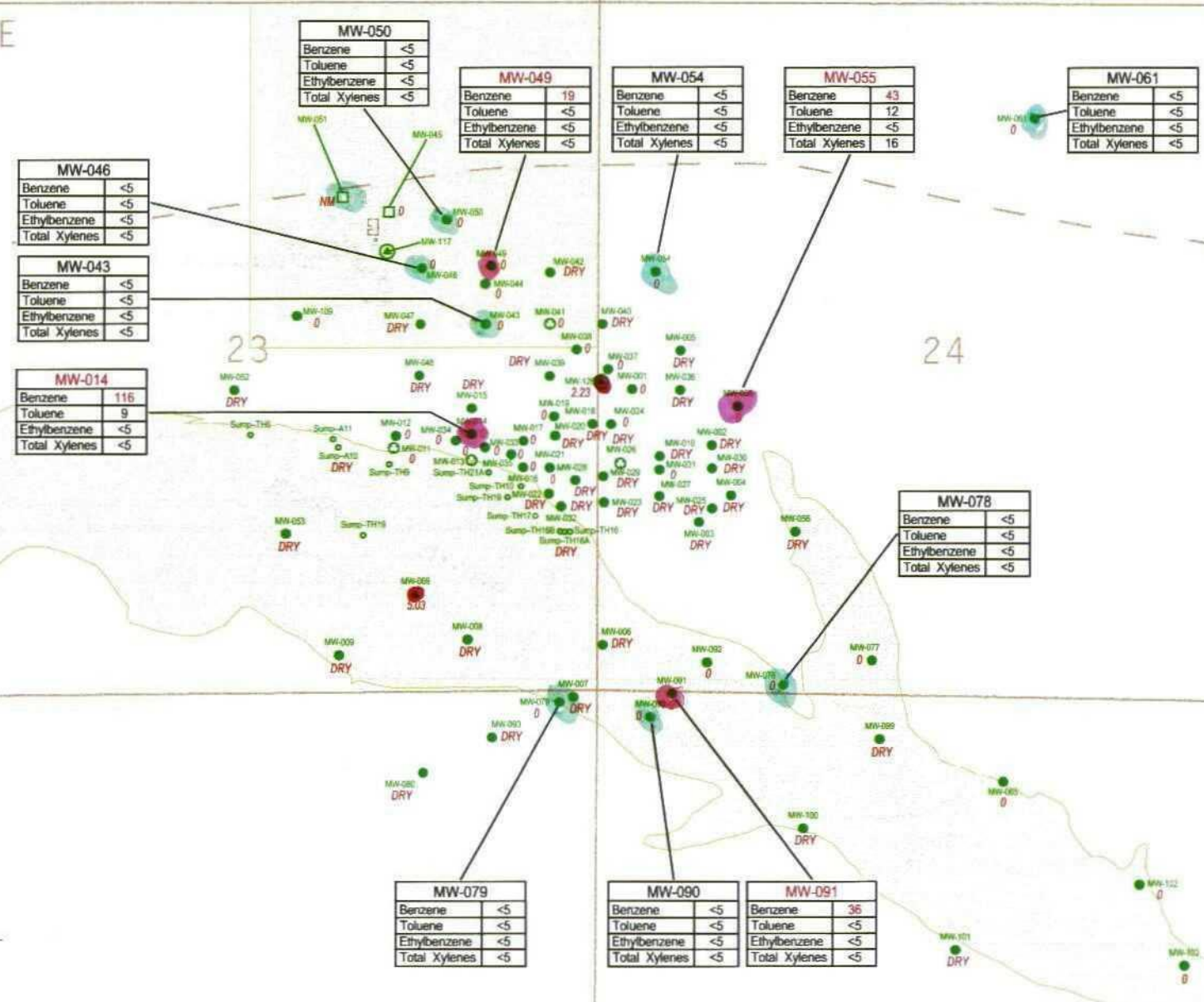
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Drawing Date 5 February 2003	File Name MT778104.dwg	File Location \\AutoCAD\\DWG\\Marathon Oil\\MT000778.001	Unique Number 31-009-00059	Project Director A.J. Reed, Jr.	Area Manager A. Schmidt
Marathon Oil Company Indian Basin Remediation Project Shallow Zone Groundwater Elevation Contours October, 2002 Eddy County, New Mexico				Task Manager J. Ornelas	Technical Review S. Tischer
Project Number MT000778.0001				Figure 4	

T - 21 - S
R - 23 - E



- Explanation**
- Monitoring Well
 - Infiltration Well
 - ▲ Recovery Well
 - Vapor Extraction Well
 - Industrial Supply Well
 - Recovery Sump
 - Phase I Infill Wells Installed During July, 1999
 - Phase II Infill Wells Installed During August, 1999
 - 5.03 Thickness Of Separate-Phase Condensate In Feet
 - DRY Indicates Well Was Dry At Time Of Gauging

Well ID

Red Indicates BTEX Constituents Present At Concentrations Above Regulatory Limits.

Indicates Constituent Not Detected Above Noted Laboratory Detection Limit (With Limit Shown).

Concentration (µg/L)

Constituent

OCD Cleanup Goals/Regulatory Limits

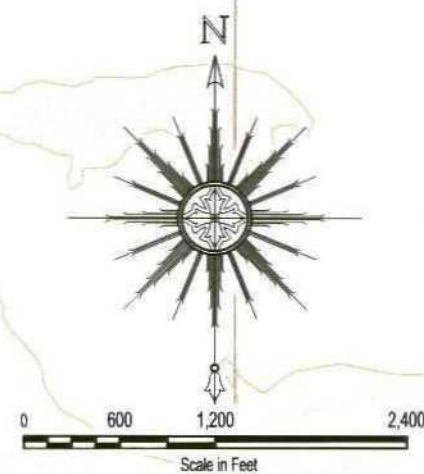
Benzene	10 µg/L
Toluene	750 µg/L
Ethylbenzene	750 µg/L
Total Xylenes	620 µg/L

Notes:

OCD New Mexico Energy, Minerals And Natural Resources Department, Oil Conservation Division

µg/L Micrograms Per Liter

mg/L Milligrams Per Liter



Source: Portions of U.S. Geological Survey 7½ Minute Topographic Series, Martha Creek Quadrangle, New Mexico Sheet, Published 1978.

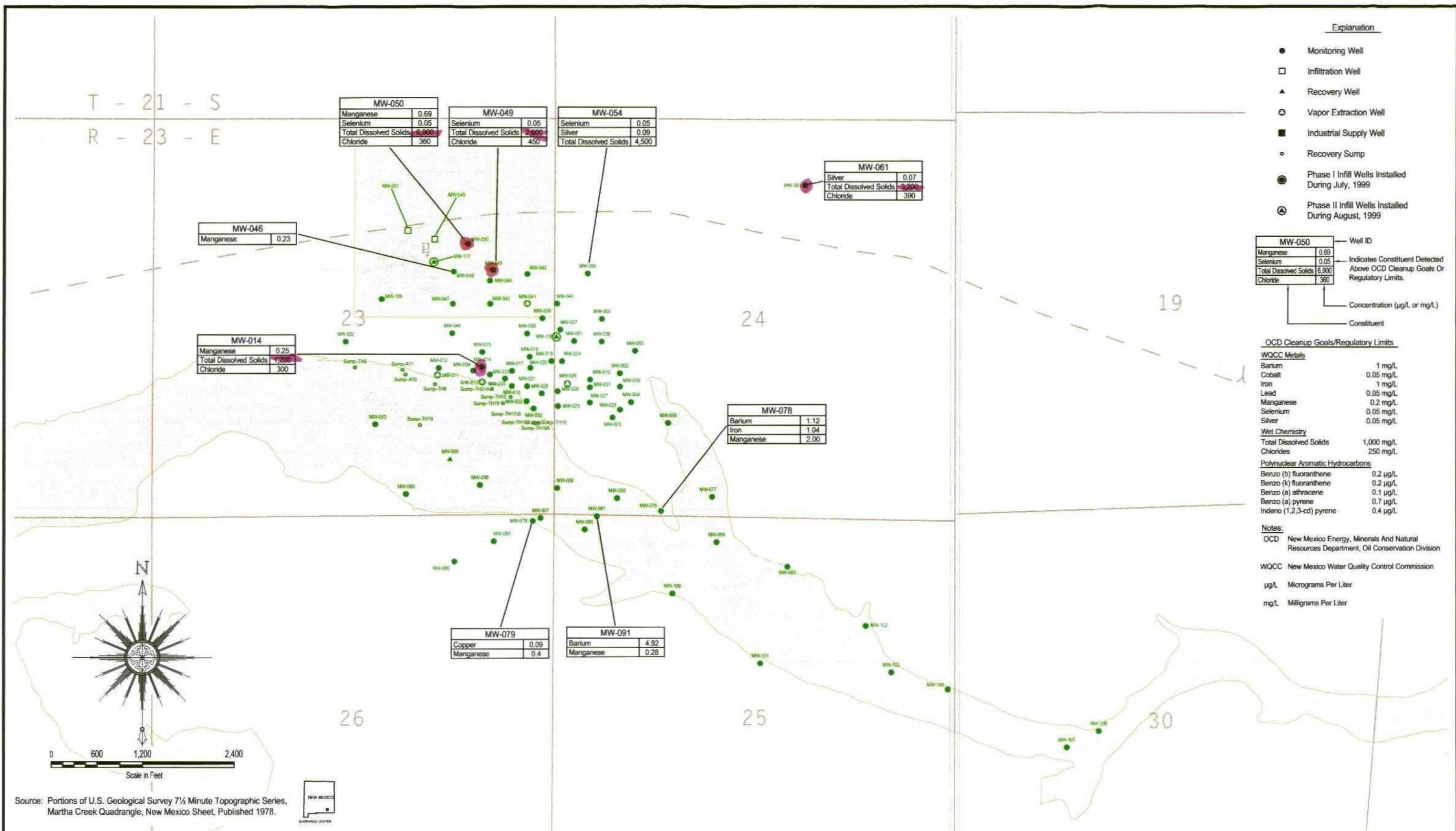


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Drawing Date 6 February 2003	File Name MT778105.dwg	File Location AutoCAD\DWG\Marathon Oil\MT000778.001	Unique Number 31-009-00060	Project Director A.J. Reed, Jr.	Area Manager A. Schmidt
				Task Manager J. Ornelas	Technical Review S. Tischer
				Project Number MT000778.0001	Figure 5
				Marathon Oil Company Indian Basin Remediation Project BTEX And Separate-Phase Condensate Distribution Shallow Zone April, 2002 Eddy County, New Mexico	

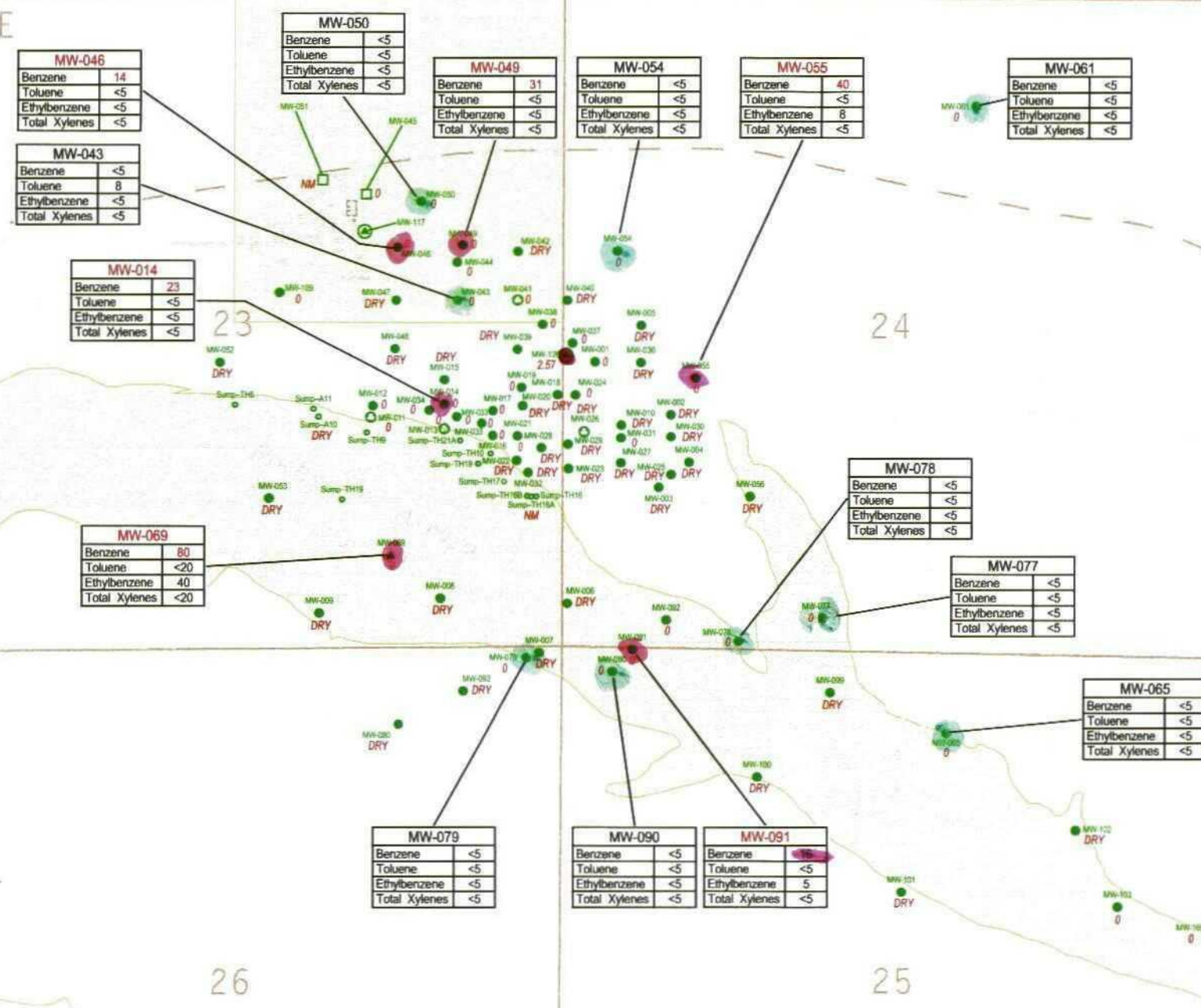
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						Marathon Oil Company Indian Basin Remediation Project										Task Manager J. Ornelas		Technical Review S. Tischer	
						WQCC Metals And Wet Chemistry Constituents Detected Above OCD Cleanup Goals/Regulatory Limits Shallow Zone April, 2002										Project Number MT000778.0001		Figure 5A	
						Eddy County, New Mexico													
	No.	Date	Revision Description			By	Ckd												

T - 21 - S
R - 23 - E



- Explanation**
- Monitoring Well
 - Infiltration Well
 - ▲ Recovery Well
 - Vapor Extraction Well
 - Industrial Supply Well
 - Recovery Sump
 - Phase I Infill Wells Installed During July, 1999
 - Phase II Infill Wells Installed During August, 1999
 - 5.03 Thickness Of Separate-Phase Condensate In Feet
 - DRY Indicates Well Was Dry At Time Of Gauging
 - NM Well Not Gauged; Not Accessible
- Well ID**
- Red Indicates BTEX Constituents Present At Concentrations Above Regulatory Limits.
- Indicates Constituent Not Detected Above Noted Laboratory Detection Limit (With Limit Shown).
- Concentration (µg/L)
- Constituent

OCD Cleanup Goals/Regulatory Limits

Benzene	10 µg/L
Toluene	750 µg/L
Ethylbenzene	750 µg/L
Total Xylenes	620 µg/L

Notes:

OCD New Mexico Energy, Minerals And Natural Resources Department, Oil Conservation Division

µg/L Micrograms Per Liter

mg/L Milligrams Per Liter

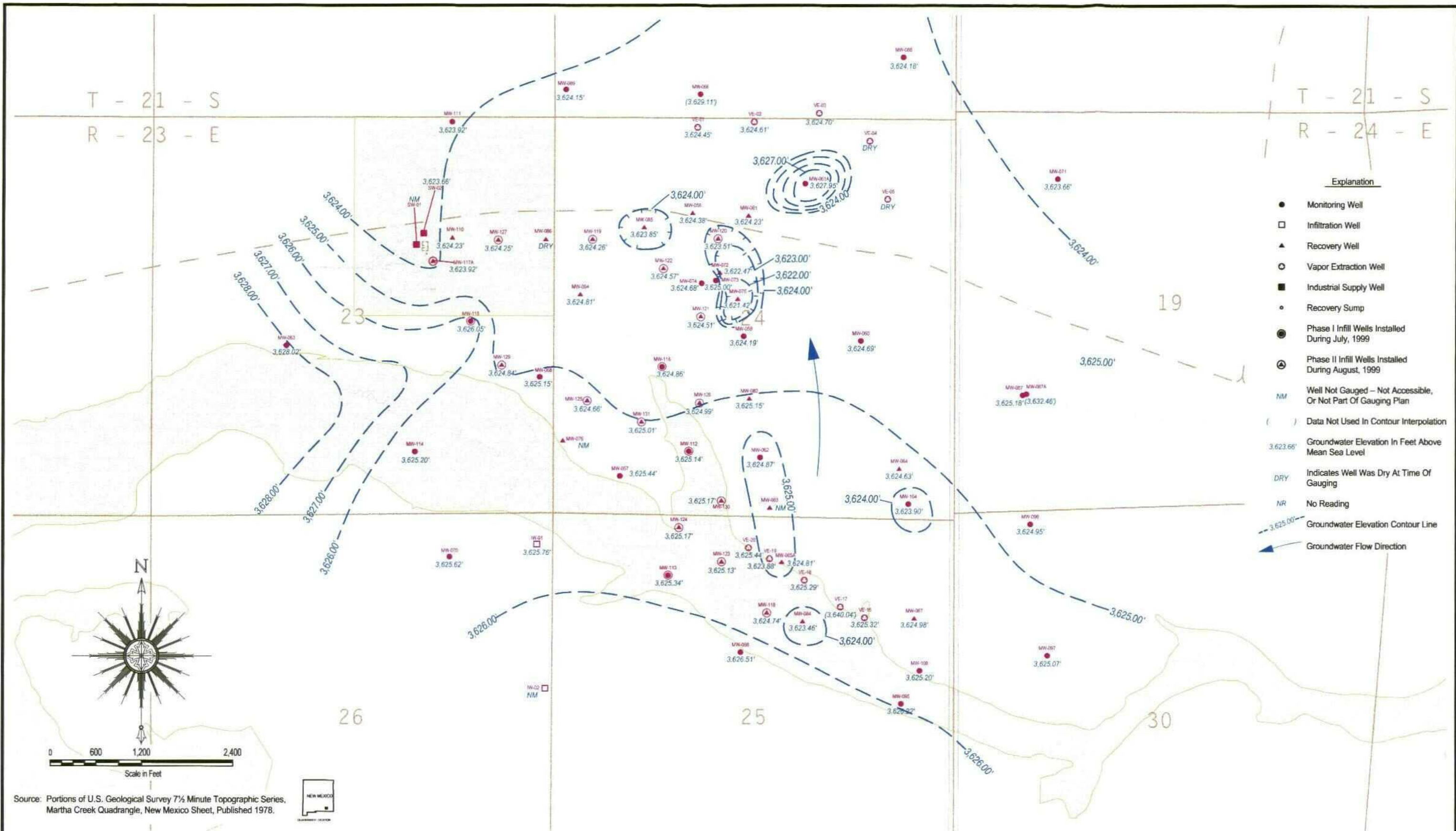
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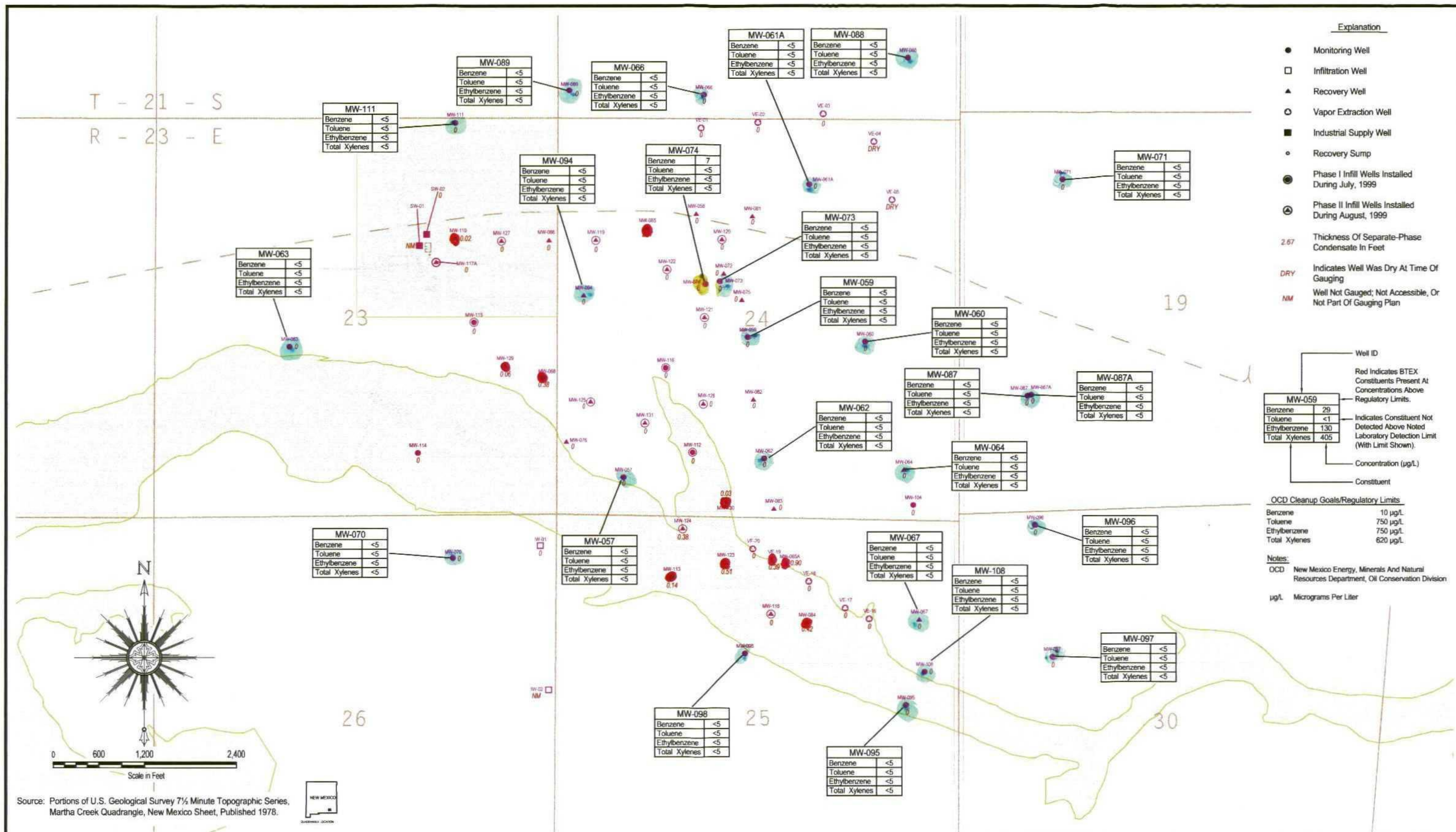


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Drawing Date 6 February 2003	File Name MT778106.dwg	File Location \\AutoCAD\\DWG\\Marathon Oil\\MT000778.001	Unique Number 31-009-00061	Project Director A.J. Reed, Jr.	Area Manager A. Schmidt
Marathon Oil Company Indian Basin Remediation Project BTEX And Separate-Phase Condensate Distribution Shallow Zone October, 2002 Eddy County, New Mexico				Task Manager J. Ornelas	Technical Review S. Tischer
				Project Number MT000778.0001	Figure 6



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						Marathon Oil Company Indian Basin Remediation Project Lower Queen Groundwater Elevation Contours October, 2002 Eddy County, New Mexico				Task Manager J. Ornelas	Technical Review S. Tischer
										Project Number MT000778.0001	Figure 8
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Drawing Date
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File Name
MT778109.dwg

File Location
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Unique Number
31-009-00062

Project Director
A.J. Reed, Jr.

Area Manager
A. Schmidt

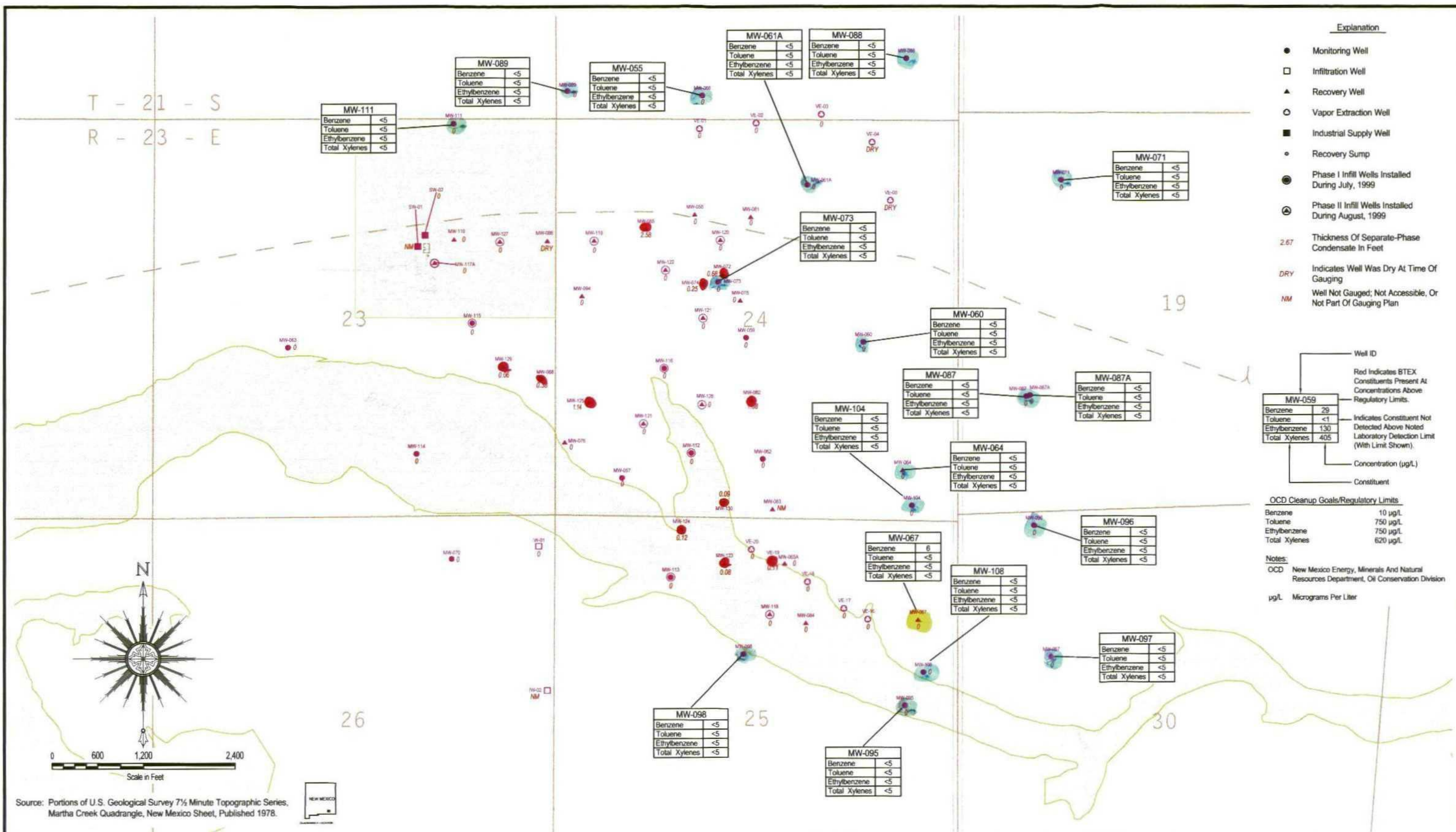
Task Manager
J. Ornelas

Technical Review
S. Tischer

Project Number
MT000778.0001

Figure
9

Marathon Oil Company
Indian Basin Remediation Project
BTEX And Separate-Phase Condensate Distribution
Lower Queen April, 2002
Eddy County, New Mexico



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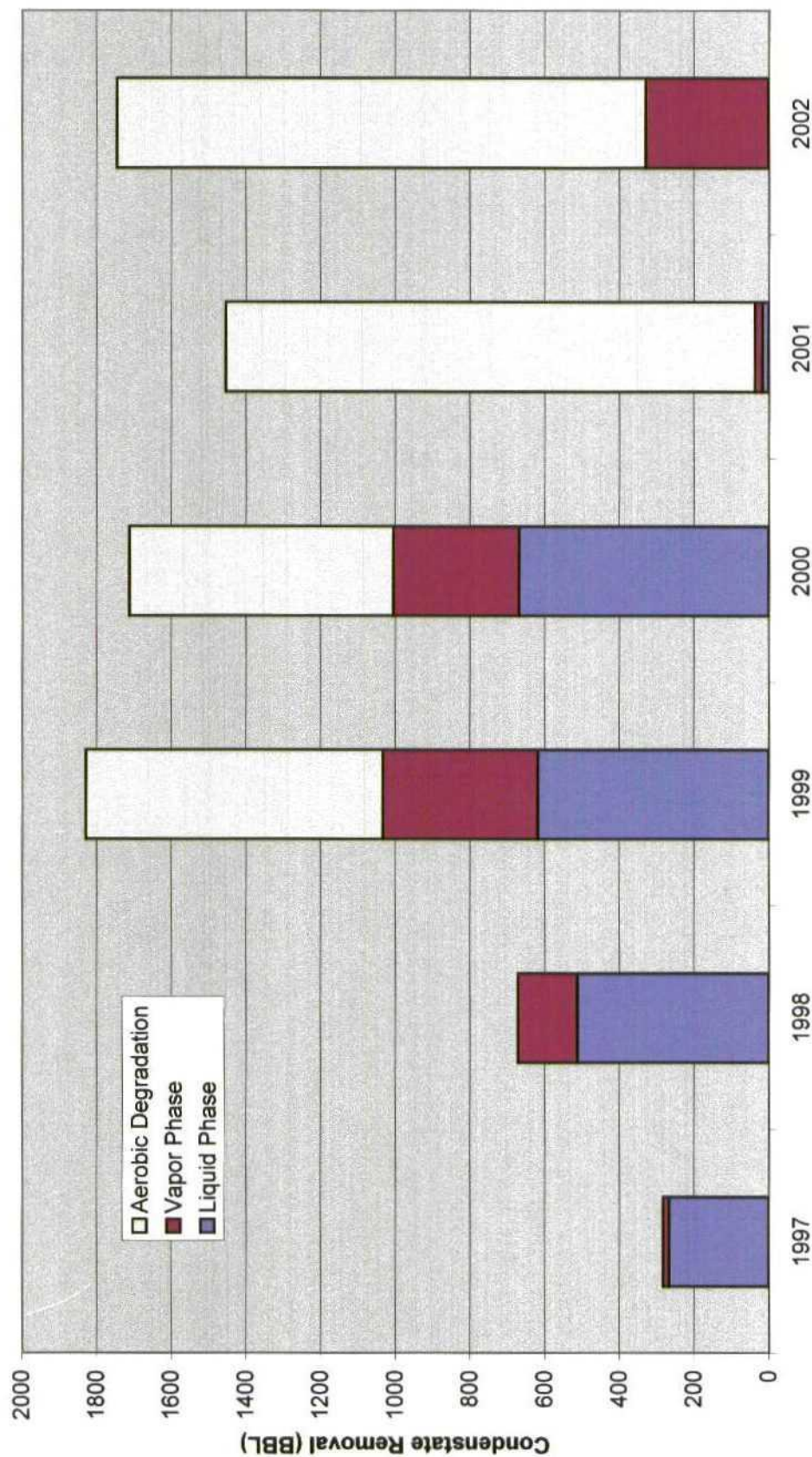
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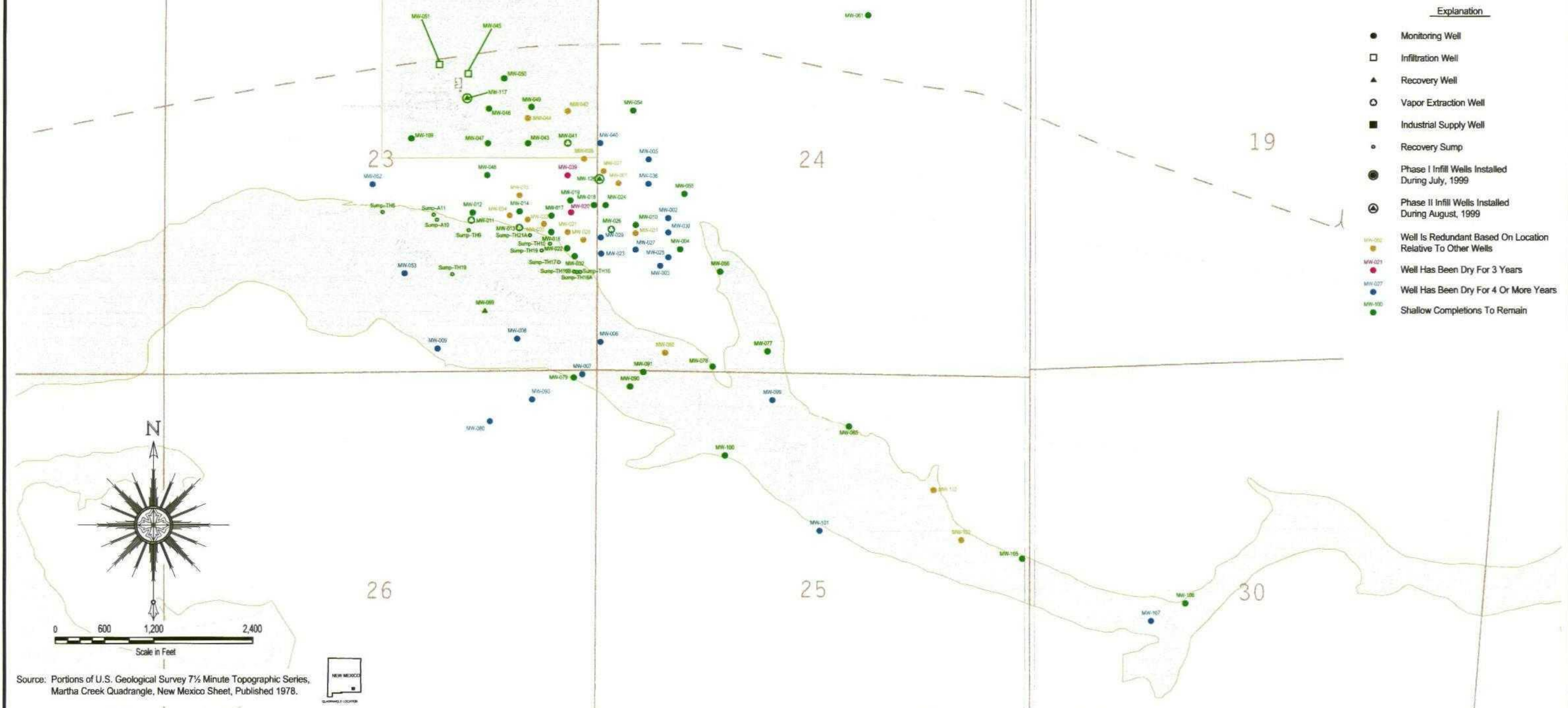
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Marathon Oil Company Indian Basin Remediation Project BTEX And Separate-Phase Condensate Distribution Lower Queen October, 2002 Eddy County, New Mexico				Task Manager J. Ornelas	Technical Review S. Tischer
				Project Number MT000778.0001	Figure 10

Figure 11 - Estimated Yearly Condensate Removal (1997 - 2002)
Marathon Oil Company
Indian Basin Remediation Project
Eddy County, New Mexico



T - 21 - S
R - 23 - E

T - 21 - S
R - 24 - E



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Marathon Oil Company Indian Basin Remediation Project Shallow Zone Well Abandonment Plan Eddy County, New Mexico				Task Manager J. Ornelas	Technical Review S. Tischer
				Project Number MT000778.0001	Figure 12

ARCADIS

Appendix A

Historical Fluid Level Data

Appendix A
Historic Fluid Level Data, May 1991 - October 2002
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Page 1 of 43

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
Shallow Zone Wells					
MW-1	12/01/91	3792.50	9.65	0	3782.82
MW-1	04/01/96	3792.50	D	--	--
MW-1	01/27/98	3792.50	14.90	0	3777.60
MW-1	06/16/98	3792.50	D	--	--
MW-1	04/26/00	3792.50	14.98	0	3777.52
MW-1	09/27/00	3792.50	D	--	--
MW-1	04/16/01	3792.50	14.80	--	3777.70
MW-1	10/29/01	3792.50	D	--	--
MW-1	04/15/02	3792.50	D	--	--
MW-1	10/14/02	3792.50	D	--	--
MW-2	01/28/98	3788.72	D	--	--
MW-2	06/16/98	3788.72	D	--	--
MW-2	01/16/96	3788.72	D	--	--
MW-2	04/26/00	3788.72	D	--	--
MW-2	09/27/00	3788.72	D	--	--
MW-2	04/16/01	3788.72	D	--	--
MW-2	10/29/01	3788.72	D	--	--
MW-2	04/15/02	3788.72	D	--	--
MW-2	10/14/02	3788.72	D	--	--
MW-3	04/19/96	3787.50	D	--	--
MW-3	07/16/96	3787.50	D	--	--
MW-3	10/13/96	3787.50	D	--	--
MW-3	01/28/98	3787.50	D	--	--
MW-3	06/16/98	3787.50	D	--	--
MW-3	04/26/00	3787.50	D	--	--
MW-3	09/27/00	3787.50	D	--	--
MW-3	04/16/01	3787.50	D	--	--
MW-3	10/29/01	3787.50	D	--	--
MW-3	04/15/02	3787.50	D	--	--
MW-3	10/14/02	3787.50	D	--	--
MW-4	04/15/92	3785.88	18.58	0	3767.30
MW-4	07/01/92	3785.88	17.74	0	3768.14
MW-4	10/01/92	3785.88	18.54	0	3767.34
MW-4	01/01/93	3785.88	18.57	0	3767.31
MW-4	04/01/93	3785.88	18.57	0	3767.31
MW-4	01/28/98	3785.88	D	--	--
MW-4	06/16/98	3785.88	D	--	--
MW-4	01/05/00	3785.88	18.78	0	3767.10
MW-4	04/26/00	3785.88	D	--	--
MW-4	09/27/00	3785.88	D	--	--
MW-4	04/16/01	3785.88	D	--	--
MW-4	10/29/01	3785.88	D	--	--
MW-4	04/15/02	3785.88	D	--	--
MW-4	10/14/02	3785.88	D	--	--
MW-5	01/16/96	3801.69	D	--	--
MW-5	04/19/96	3801.69	D	--	--
MW-5	07/15/96	3801.69	D	--	--
MW-5	10/13/96	3801.69	D	--	--
MW-5	01/27/98	3801.69	D	--	--
MW-5	06/16/98	3801.69	D	--	--
MW-5	04/26/00	3801.69	D	--	--
MW-5	09/27/00	3801.69	D	--	--
MW-5	04/16/01	3801.69	D	--	--
MW-5	10/29/01	3801.69	D	--	--
MW-5	04/15/02	3801.69	D	--	--
MW-5	10/14/02	3801.69	D	--	--
MW-6	01/16/98	3785.17	D	--	--
MW-6	01/27/98	3785.17	D	--	--
MW-6	06/15/98	3785.17	D	--	--
MW-6	04/26/00	3785.17	D	--	--
MW-6	09/27/00	3785.17	D	--	--
MW-6	04/16/01	3785.17	D	--	--
MW-6	10/29/01	3785.17	D	--	--
MW-6	04/15/02	3785.17	D	--	--
MW-6	10/14/02	3785.17	D	--	--
MW-7	01/16/96	3784.46	D	--	--
MW-7	04/17/96	3784.46	D	--	--
MW-7	07/15/96	3784.46	D	--	--
MW-7	10/13/96	3784.46	D	--	--
MW-7	01/27/98	3784.46	D	--	--
MW-7	06/15/98	3784.46	D	--	--
MW-7	04/26/00	3784.46	D	--	--
MW-7	09/27/00	3784.46	D	--	--
MW-7	04/16/01	3784.46	D	--	--
MW-7	10/29/01	3784.46	D	--	--
MW-7	04/15/02	3784.46	D	--	--
MW-7	10/14/02	3784.46	D	--	--

Appendix A
Historic Fluid Level Data, May 1991 - October 2002
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Page 2 of 43

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-8	01/16/96	3795.04	D	--	--
MW-8	04/17/96	3795.04	D	--	--
MW-8	10/13/96	3795.04	D	--	--
MW-8	01/27/98	3795.04	D	--	--
MW-8	06/15/98	3795.04	D	--	--
MW-8	04/26/00	3795.04	D	--	--
MW-8	09/27/00	3795.04	D	--	--
MW-8	04/16/01	3795.04	D	--	--
MW-8	10/29/01	3795.04	D	--	--
MW-8	04/15/02	3795.04	D	--	--
MW-8	10/14/02	3795.04	D	--	--
MW-9	01/16/96	3807.85	D	--	--
MW-9	04/17/96	3807.85	D	--	--
MW-9	07/15/96	3807.85	D	--	--
MW-9	10/13/96	3807.85	D	--	--
MW-9	01/27/98	3807.85	D	--	--
MW-9	06/15/98	3807.85	D	--	--
MW-9	04/26/00	3807.85	D	--	--
MW-9	09/27/00	3807.85	D	--	--
MW-9	04/16/01	3807.85	D	--	--
MW-9	10/29/01	3807.85	D	--	--
MW-9	04/15/02	3807.85	D	--	--
MW-9	10/14/02	3807.85	D	--	--
MW-10	12/01/91	3790.78	16.68	0	3774.10
MW-10	04/15/92	3790.78	16.70	0	3774.08
MW-10	07/01/92	3790.78	16.02	0	3774.76
MW-10	10/01/92	3790.78	16.97	0	3773.81
MW-10	01/01/93	3790.78	17.74	0	3773.04
MW-10	04/01/93	3790.78	18.31	0	3772.47
MW-10	01/01/94	3790.78	18.21	0	3772.57
MW-10	01/16/96	3790.78	D	--	--
MW-10	04/17/96	3790.78	D	--	--
MW-10	07/16/96	3790.78	D	--	--
MW-10	10/13/96	3790.78	17.00	0	3773.78
MW-10	02/04/97	3790.78	17.99	0	3772.79
MW-10	03/18/97	3790.78	17.88	0	3772.90
MW-10	04/29/97	3790.78	18.21	0	3772.57
MW-10	07/15/97	3790.78	18.20	0	3772.58
MW-10	10/14/97	3790.78	18.45	0	3772.33
MW-10	01/28/98	3790.78	18.20	0	3772.58
MW-10	04/27/98	3790.78	18.19	0	3772.59
MW-10	06/16/98	3790.78	D	--	--
MW-10	10/10/98	3790.78	18.96	0	3771.82
MW-10	01/27/99	3790.78	18.21	0	3772.57
MW-10	04/19/99	3790.78	18.20	0	3772.58
MW-10	01/05/00	3790.78	18.24	0	3772.54
MW-10	04/26/00	3790.78	18.20	0	3772.58
MW-10	09/27/00	3790.78	D	--	--
MW-10	04/16/01	3790.78	18.40	0	3772.38
MW-10	10/29/01	3790.78	D	--	--
MW-10	04/15/02	3790.78	D	--	--
MW-10	10/14/02	3790.78	D	--	--
MW-11	12/01/91	3806.96	22.08	0	3784.88
MW-11	04/15/92	3806.96	22.73	0	3784.23
MW-11	07/01/92	3806.96	18.00	0	3788.96
MW-11	10/01/92	3806.96	22.47	0	3784.49
MW-11	01/01/93	3806.96	24.03	0	3782.93
MW-11	04/01/93	3806.96	24.38	0	3782.58
MW-11	10/01/93	3806.96	24.43	0	3782.53
MW-11	01/01/94	3806.96	24.30	0	3782.66
MW-11	04/01/94	3806.96	24.38	0	3782.58
MW-11	07/01/94	3806.96	24.34	0	3782.62
MW-11	10/01/94	3806.96	22.23	0	3784.73
MW-11	04/01/95	3806.96	24.23	0	3782.73
MW-11	07/01/95	3806.96	23.80	0	3783.16
MW-11	10/01/95	3806.96	22.01	0	3784.95
MW-11	01/16/96	3806.96	23.91	0	3783.05
MW-11	04/19/96	3806.96	23.97	0	3782.99
MW-11	07/15/96	3806.96	20.05	0	3786.91
MW-11	10/13/96	3806.96	20.46	0	3786.50
MW-11	02/04/97	3806.96	23.22	0	3783.74
MW-11	04/28/97	3806.96	23.40	0	3783.56
MW-11	06/17/98	3806.96	24.20	0	3782.76
MW-11	04/19/99	3806.96	D	--	--
MW-11	01/05/00	3806.96	24.30	0	3782.66
MW-11	04/26/00	3806.96	24.31	0	3782.65
MW-11	09/27/00	3806.96	24.28	0	3782.68
MW-11	04/16/01	3806.96	23.95	0	3783.01
MW-11	10/29/01	3806.96	23.45	0	3783.51
MW-11	04/15/02	3806.96	24.28	0	3782.68
MW-11	10/14/02	3806.96	18.13	0	3788.83

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-12	01/27/98	3809.96	D	--	--
MW-12	06/16/98	3809.96	D	--	--
MW-12	04/26/00	3809.96	25.00	0	3784.96
MW-12	09/27/00	3809.96	D	--	--
MW-12	04/16/01	3809.96	25.00	0	3784.96
MW-12	10/29/01	3809.96	25.01	0	3784.95
MW-12	04/15/02	3809.96	24.98	0	3784.88
MW-12	10/14/02	3809.96	21.06	0	3788.80
MW-13	12/01/91	3801.58	18.14	0	3783.44
MW-13	04/15/92	3801.58	18.92	0	3782.66
MW-13	01/01/95	3801.58	19.76	0	3781.82
MW-13	04/01/95	3801.58	20.34	0	3781.24
MW-13	07/01/95	3801.58	20.36	0	3781.22
MW-13	10/01/95	3801.58	18.41	0	3783.17
MW-13	01/16/96	3801.58	19.83	0.08	3781.80
MW-13	04/19/96	3801.58	19.89	0.09	3781.75
MW-13	07/15/96	3801.58	17.15	0.08	3784.48
MW-13	10/13/96	3801.58	17.39	0	3784.19
MW-13	02/04/97	3801.58	19.15	0	3782.43
MW-13	03/18/97	3801.58	19.31	0	3782.27
MW-13	04/28/97	3801.58	19.34	0	3782.24
MW-13	06/17/98	3801.58	20.74	0	3780.84
MW-13	04/19/99	3801.58	21.52	0.27	3780.26
MW-13	01/05/00	3801.58	20.07	0	3781.51
MW-13	04/26/00	3801.58	20.64	0	3780.94
MW-13	09/27/00	3801.58	21.16	0	3780.42
MW-13	04/16/01	3801.58	19.96	0	3781.62
MW-13	10/29/01	3801.58	19.69	0	3781.89
MW-13	04/15/02	3801.58	20.62	0	3780.96
MW-13	10/14/02	3801.58	16.04	0	3785.54
MW-14	12/01/91	3803.61	9.66	0	3793.95
MW-14	10/01/93	3803.61	22.55	0	3781.06
MW-14	01/01/94	3803.61	22.78	0	3780.83
MW-14	01/27/98	3803.61	22.36	0	3781.25
MW-14	06/16/98	3803.61	22.88	0	3780.73
MW-14	04/19/99	3803.61	23.74	0.24	3780.05
MW-14	01/05/00	3803.61	22.22	0	3781.39
MW-14	04/26/00	3803.61	22.74	0.03	3780.89
MW-14	09/27/00	3803.61	23.40	0.09	3780.28
MW-14	04/16/01	3803.61	22.15	0.01	3781.47
MW-14	10/29/01	3803.61	21.98	0.08	3781.69
MW-14	04/15/02	3803.61	22.81	0	3780.80
MW-14	10/14/02	3803.61	18.17	0	3785.44
MW-15	12/01/91	3803.59	9.66	0	3793.93
MW-15	01/27/98	3803.59	19.28	0	3784.31
MW-15	06/16/98	3803.59	D	--	--
MW-15	01/05/00	3803.59	19.37	0	3784.22
MW-15	04/26/00	3803.59	19.30	0	3784.29
MW-15	09/27/00	3803.59	D	--	--
MW-15	04/16/01	3803.59	19.32	--	3784.27
MW-15	10/29/01	3803.59	19.36	--	3784.23
MW-15	04/15/02	3803.59	D	--	--
MW-15	10/14/02	3803.59	D	--	--
MW-16	12/01/91	3801.04	9.68	0	3791.36
MW-16	04/01/93	3801.04	22.32	0	3778.72
MW-16	07/01/93	3801.04	22.25	0	3778.79
MW-16	01/27/98	3801.04	22.37	0	3778.67
MW-16	06/16/98	3801.04	D	--	--
MW-16	01/05/00	3801.04	22.38	0	3778.66
MW-16	04/26/00	3801.04	22.37	0	3778.67
MW-16	09/27/00	3801.04	22.42	0	3778.62
MW-16	04/16/01	3801.04	22.41	0	3778.63
MW-16	10/29/01	3801.04	22.33	0	3778.71
MW-16	04/15/02	3801.04	22.41	0	3778.63
MW-16	10/14/02	3801.04	18.41	0	3782.63
MW-17	12/01/91	3799.55	9.68	0	3789.87
MW-17	04/01/93	3799.55	18.68	0	3780.87
MW-17	07/01/93	3799.55	19.13	0	3780.42
MW-17	10/01/93	3799.55	19.11	0	3780.44
MW-17	01/01/94	3799.55	19.27	0	3780.28
MW-17	01/27/98	3799.55	19.20	0	3780.35
MW-17	06/17/98	3799.55	D	--	--
MW-17	01/05/00	3799.55	19.10	0	3780.45
MW-17	04/26/00	3799.55	19.54	0	3780.01
MW-17	09/27/00	3799.55	D	--	--
MW-17	04/16/01	3799.55	18.14	0	3781.41
MW-17	10/29/01	3799.55	18.61	0	3780.94
MW-17	04/15/02	3799.55	19.42	0	3780.13
MW-17	10/14/02	3799.55	16.49	0	3783.06

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-18	12/01/91	3795.82	9.26	0	3786.56
MW-18	04/15/92	3795.82	15.25	0	3780.57
MW-18	07/01/92	3795.82	11.08	0	3784.74
MW-18	10/01/92	3795.82	15.89	0	3779.93
MW-18	01/01/93	3795.82	17.05	0	3778.77
MW-18	04/01/93	3795.82	17.13	0	3778.69
MW-18	01/27/98	3795.82	17.30	0	3778.52
MW-18	06/16/98	3795.82	D	--	--
MW-18	01/05/00	3795.82	D	--	--
MW-18	04/26/00	3795.82	D	--	--
MW-18	09/27/00	3795.82	D	--	--
MW-18	04/16/01	3795.82	D	--	--
MW-18	10/29/01	3795.82	D	--	--
MW-18	04/15/02	3795.82	D	--	--
MW-18	10/14/02	3795.82	D	--	--
MW-19	04/15/92	3797.21	16.50	0	3780.71
MW-19	07/01/92	3797.21	12.15	0	3785.06
MW-19	10/01/92	3797.21	17.16	0	3780.05
MW-19	01/01/93	3797.21	18.85	0	3778.36
MW-19	04/01/93	3797.21	18.93	0	3778.28
MW-19	01/16/96	3797.21	19.04	0	3778.17
MW-19	04/19/96	3797.21	19.06	0	3778.15
MW-19	07/16/96	3797.21	19.04	0	3778.17
MW-19	10/13/96	3797.21	16.09	0	3781.12
MW-19	02/04/97	3797.21	18.34	0	3778.87
MW-19	03/18/97	3797.21	18.50	0	3778.71
MW-19	04/28/97	3797.21	18.84	0	3778.37
MW-19	06/17/98	3797.21	18.88	0	3778.33
MW-19	04/19/99	3797.21	18.80	0	3778.41
MW-19	01/05/00	3797.21	18.75	0	3778.46
MW-19	04/26/00	3797.21	18.81	0	3778.40
MW-19	09/27/00	3797.21	18.74	0	3778.47
MW-19	04/16/01	3797.21	18.60	0	3778.61
MW-19	10/29/01	3797.21	18.76	0	3778.45
MW-19	04/15/02	3797.21	18.83	0	3778.38
MW-19	10/14/02	3797.21	16.26	0	3780.95
MW-20	12/01/91	3797.59	9.26	0	3788.33
MW-20	01/27/98	3797.59	D	--	--
MW-20	06/17/98	3797.59	D	--	--
MW-20	01/05/00	3797.59	16.08	0	3781.51
MW-20	04/26/00	3797.59	D	--	--
MW-20	09/27/00	3797.59	D	--	--
MW-20	04/16/01	3797.59	D	--	--
MW-20	10/29/01	3797.59	D	--	--
MW-20	04/15/02	3797.59	D	--	--
MW-20	10/14/02	3797.59	D	--	--
MW-21	12/01/91	3798.21	9.68	0	3788.53
MW-21	04/01/93	3798.21	22.63	0	3775.58
MW-21	07/01/93	3798.21	22.88	0	3775.33
MW-21	10/01/93	3798.21	23.13	0	3775.08
MW-21	01/27/98	3798.21	23.03	0	3775.18
MW-21	06/16/98	3798.21	D	--	--
MW-21	01/05/00	3798.21	22.89	0	3775.32
MW-21	04/26/00	3798.21	23.03	0	3775.18
MW-21	09/27/00	3798.21	23.04	0	3775.17
MW-21	04/16/01	3798.21	22.80	0	3775.41
MW-21	10/29/01	3798.21	22.31	0	3775.90
MW-21	04/15/02	3798.21	22.98	0	3775.23
MW-21	10/14/02	3798.21	16.02	0	3782.19
MW-22	12/01/91	3799.20	9.68	0	3789.52
MW-22	04/15/92	3799.20	17.16	0	3782.04
MW-22	07/01/92	3799.20	17.07	0	3782.13
MW-22	10/01/92	3799.20	17.29	0	3781.91
MW-22	01/01/93	3799.20	17.29	0	3781.91
MW-22	04/01/93	3799.20	17.29	0	3781.91
MW-22	01/27/98	3799.20	17.20	0	3782.00
MW-22	06/16/98	3799.20	D	--	--
MW-22	01/05/00	3799.20	17.19	0	3782.01
MW-22	04/26/00	3799.20	17.32	0	3781.88
MW-22	09/27/00	3799.20	17.37	0	3781.83
MW-22	04/16/01	3799.20	17.40	0	3781.80
MW-22	10/29/01	3799.20	D	--	--
MW-22	04/15/02	3799.20	D	--	--
MW-22	10/14/02	3799.20	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-23	01/28/98	3794.48	D	--	--
MW-23	06/16/98	3794.48	D	--	--
MW-23	04/26/00	3794.48	D	--	--
MW-23	09/27/00	3794.48	D	--	--
MW-23	04/16/01	3794.48	D	--	--
MW-23	10/29/01	3794.48	D	--	--
MW-23	04/15/02	3794.48	D	--	--
MW-23	10/14/02	3794.48	D	--	--
MW-24	12/01/91	3794.09	9.68	0	3784.41
MW-24	04/15/92	3794.09	12.90	0	3781.19
MW-24	07/01/92	3794.09	14.09	0	3780.00
MW-24	10/01/92	3794.09	12.92	0	3781.17
MW-24	01/16/96	3794.09	D	--	--
MW-24	04/19/96	3794.09	D	--	--
MW-24	07/16/96	3794.09	D	--	--
MW-24	10/13/96	3794.09	D	--	--
MW-24	01/27/98	3794.09	12.92	0	3781.17
MW-24	06/16/98	3794.09	D	--	--
MW-24	04/26/00	3794.09	12.95	0	3781.14
MW-24	09/27/00	3794.09	12.93	0	3781.16
MW-24	04/16/01	3794.09	12.97	0	3781.12
MW-24	10/29/01	3794.09	12.94	0	3781.15
MW-24	04/15/02	3794.09	12.94	0	3781.15
MW-24	10/14/02	3794.09	13.03	0	3781.06
MW-25	01/28/98	3786.97	D	--	--
MW-25	06/16/98	3786.97	D	--	--
MW-25	04/26/00	3786.97	D	--	--
MW-25	09/27/00	3786.97	D	--	--
MW-25	04/16/01	3786.97	D	--	--
MW-25	10/29/01	3786.97	D	--	--
MW-25	04/15/02	3786.97	D	--	--
MW-25	10/14/02	3786.97	D	--	--
MW-26	12/01/91	3793.01	9.68	0	3783.33
MW-26	07/01/92	3793.01	16.37	0	3776.64
MW-26	10/01/92	3793.01	19.66	0	3773.35
MW-26	01/01/93	3793.01	20.41	0	3772.60
MW-26	04/01/93	3793.01	20.72	0	3772.29
MW-26	07/01/93	3793.01	20.77	0	3772.24
MW-26	10/01/93	3793.01	20.78	0	3772.23
MW-26	01/01/94	3793.01	20.77	0	3772.24
MW-26	06/17/98	3793.01	D	--	--
MW-26	01/05/00	3793.01	20.77	0	3772.24
MW-26	04/26/00	3793.01	20.77	0	3772.24
MW-26	09/27/00	3793.01	20.80	0	3772.21
MW-26	04/16/01	3793.01	20.00	0	3773.01
MW-26	10/29/01	3793.01	21.06	0	3771.95
MW-26	04/15/02	3793.01	D	--	--
MW-26	10/14/02	3793.01	D	--	--
MW-27	01/28/98	3790.93	D	--	--
MW-27	06/16/98	3790.93	D	--	--
MW-27	04/26/00	3790.93	D	--	--
MW-27	09/27/00	3790.93	D	--	--
MW-27	04/16/01	3790.93	D	--	--
MW-27	10/29/01	3790.93	D	--	--
MW-27	04/15/02	3790.93	D	--	--
MW-27	10/14/02	3790.93	D	--	--
MW-28	12/01/91	3797.03	19.23	0	3777.80
MW-28	01/27/98	3797.03	18.48	0	3778.55
MW-28	06/16/98	3797.03	D	--	--
MW-28	01/05/00	3797.03	19.11	0	3777.92
MW-28	04/26/00	3797.03	19.09	0	3777.94
MW-28	09/27/00	3797.03	D	--	--
MW-28	04/16/01	3797.03	19.11	0	3777.92
MW-28	10/29/01	3797.03	D	--	--
MW-28	04/15/02	3797.03	D	--	--
MW-28	10/14/02	3797.03	D	--	--
MW-29	01/16/96	3794.06	D	--	--
MW-29	04/19/96	3794.06	D	--	--
MW-29	07/16/96	3794.06	D	--	--
MW-29	10/13/96	3794.06	D	--	--
MW-29	01/28/98	3794.06	D	--	--
MW-29	06/16/98	3794.06	D	--	--
MW-29	04/26/00	3794.06	D	--	--
MW-29	09/27/00	3794.06	D	--	--
MW-29	04/16/01	3794.06	D	--	--
MW-29	10/29/01	3794.06	D	--	--
MW-29	04/15/02	3794.06	D	--	--
MW-29	10/14/02	3794.06	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-30	12/01/91	3788.30	14.75	0	3773.55
MW-30	01/28/98	3788.30	D	--	--
MW-30	06/16/98	3788.30	D	--	--
MW-30	04/26/00	3788.30	D	--	--
MW-30	09/27/00	3788.30	D	--	--
MW-30	04/16/01	3788.30	D	--	--
MW-30	10/29/01	3788.30	D	--	--
MW-30	04/15/02	3788.30	D	--	--
MW-30	10/14/02	3788.30	D	--	--
MW-31	12/01/91	3791.15	18.85	0	3772.30
MW-31	04/15/92	3791.15	19.00	0	3772.15
MW-31	07/01/92	3791.15	18.50	0	3772.65
MW-31	10/01/92	3791.15	19.00	0	3772.15
MW-31	01/01/93	3791.15	19.44	0	3771.71
MW-31	04/01/93	3791.15	19.64	0	3771.51
MW-31	01/28/98	3791.15	19.03	0	3772.12
MW-31	06/16/98	3791.15	D	--	--
MW-31	01/05/00	3791.15	19.06	0	3772.09
MW-31	04/26/00	3791.15	19.03	0	3772.12
MW-31	09/27/00	3791.15	19.04	0	3772.11
MW-31	04/16/01	3791.15	19.04	0	3772.11
MW-31	10/29/01	3791.15	19.05	0	3772.10
MW-31	04/15/02	3791.15	18.98	0	3772.17
MW-31	10/14/02	3791.15	18.98	0	3772.17
MW-32	07/01/92	3797.47	15.35	0	3782.12
MW-32	01/16/96	3797.47	D	--	--
MW-32	04/19/96	3797.47	D	--	--
MW-32	07/15/96	3797.47	D	--	--
MW-32	10/13/96	3797.47	D	--	--
MW-32	01/27/98	3797.47	15.70	0	3781.77
MW-32	06/16/98	3797.47	D	--	--
MW-32	04/26/00	3797.47	15.65	0	3781.82
MW-32	09/27/00	3797.47	D	--	--
MW-32	04/16/01	3797.47	15.69	0	3781.78
MW-32	10/29/01	3797.47	D	--	--
MW-32	04/15/02	3797.47	D	--	--
MW-32	10/14/02	3797.47	D	--	--
MW-33	12/01/91	3802.48	19.02	0	3783.46
MW-33	01/01/93	3802.48	19.91	0	3782.57
MW-33	07/01/93	3802.48	19.91	0	3782.57
MW-33	01/27/98	3802.48	19.91	0	3782.57
MW-33	06/16/98	3802.48	19.97	0	3782.51
MW-33	01/05/00	3802.48	19.94	0	3782.54
MW-33	04/26/00	3802.48	19.92	0	3782.56
MW-33	09/27/00	3802.48	19.92	0	3782.56
MW-33	04/16/01	3802.48	19.92	0	3782.56
MW-33	10/29/01	3802.48	19.94	0	3782.54
MW-33	04/15/02	3802.48	19.98	0	3782.50
MW-33	10/15/02	3802.48	17.66	0	3784.82
MW-34	12/01/91	3806.00	19.72	0	3786.28
MW-34	01/27/98	3806.00	D	--	--
MW-34	06/16/98	3806.00	D	--	--
MW-34	01/05/00	3806.00	19.81	0	3786.19
MW-34	04/26/00	3806.00	19.77	0	3786.23
MW-34	09/27/00	3806.00	D	--	--
MW-34	04/16/01	3806.00	19.80	0	3786.20
MW-34	10/29/01	3806.00	19.85	0	3786.15
MW-34	04/15/02	3806.00	19.81	0	3786.19
MW-34	10/14/02	3806.00	19.69	0	3786.31
MW-35	12/01/91	3800.81	18.24	0	3782.57
MW-35	07/01/93	3800.81	19.77	0	3781.04
MW-35	10/01/93	3800.81	19.81	0	3781.00
MW-35	01/01/94	3800.81	20.09	0	3780.72
MW-35	01/27/98	3800.81	20.10	0	3780.71
MW-35	06/16/98	3800.81	20.57	0	3780.24
MW-35	01/05/00	3800.81	19.78	0	3781.03
MW-35	04/26/00	3800.81	20.23	0	3780.58
MW-35	09/27/00	3800.81	20.58	0	3780.23
MW-35	04/16/01	3800.81	19.75	0	3781.06
MW-35	10/29/01	3800.81	19.35	0	3781.46
MW-35	04/15/02	3800.81	20.25	0	3780.56
MW-35	10/14/02	3800.81	17.02	0	3783.79

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-36	01/27/98	3792.94	D	-	-
MW-36	06/16/98	3792.94	D	-	-
MW-36	01/05/00	3792.94	D	-	-
MW-36	04/26/00	3792.94	D	-	-
MW-36	09/27/00	3792.94	D	-	-
MW-36	04/16/01	3792.94	D	-	-
MW-36	10/29/01	3792.94	D	-	-
MW-36	04/15/02	3792.94	D	-	-
MW-36	10/15/02	3792.94	D	-	-
MW-37	12/01/91	3795.03	11.72	0	3783.31
MW-37	04/01/93	3795.03	19.96	0	3775.07
MW-37	07/01/93	3795.03	20.11	0	3774.92
MW-37	10/01/93	3795.03	20.19	0	3774.84
MW-37	01/01/94	3795.03	20.21	0	3774.82
MW-37	01/27/98	3795.03	19.37	0	3775.66
MW-37	06/16/98	3795.03	19.82	0	3775.21
MW-37	01/05/00	3795.03	17.58	0	3777.45
MW-37	04/26/00	3795.03	18.29	0	3776.74
MW-37	09/27/00	3795.03	19.25	0	3775.78
MW-37	04/16/01	3795.03	17.30	0	3777.73
MW-37	10/29/01	3795.03	18.72	0	3776.31
MW-37	04/15/02	3795.03	17.72	0	3777.31
MW-37	10/14/02	3795.03	16.89	0	3778.14
MW-38	12/01/91	3797.32	13.48	0	3783.84
MW-38	04/15/92	3797.32	16.54	0	3780.78
MW-38	07/01/92	3797.32	12.42	0	3784.90
MW-38	10/01/92	3797.32	17.66	0	3779.66
MW-38	01/01/93	3797.32	20.24	0	3777.08
MW-38	04/01/93	3797.32	20.42	0	3776.90
MW-38	07/01/93	3797.32	20.23	0	3777.09
MW-38	10/01/93	3797.32	20.30	0	3777.02
MW-38	01/16/96	3797.32	D	-	-
MW-38	04/19/96	3797.32	D	-	-
MW-38	07/15/96	3797.32	D	-	-
MW-38	10/13/96	3797.32	16.54	0	3780.78
MW-38	02/03/97	3797.32	19.96	0	3777.36
MW-38	04/28/97	3797.32	20.30	0	3777.02
MW-38	07/15/97	3797.32	20.38	0	3776.94
MW-38	10/13/97	3797.32	20.22	0	3777.10
MW-38	01/27/98	3797.32	20.18	0	3777.14
MW-38	04/27/98	3797.32	20.32	0	3777.00
MW-38	06/16/98	3797.32	D	-	-
MW-38	10/09/98	3797.32	20.41	0	3776.91
MW-38	01/27/99	3797.32	19.78	0	3777.54
MW-38	04/19/99	3797.32	20.01	0	3777.31
MW-38	01/05/00	3797.32	19.41	0	3777.91
MW-38	04/26/00	3797.32	19.29	0	3778.03
MW-38	09/27/00	3797.32	20.31	0	3777.01
MW-38	04/16/01	3797.32	19.33	0	3777.99
MW-38	10/29/01	3797.32	20.26	0	3777.06
MW-38	04/15/02	3797.32	19.75	0	3777.57
MW-38	10/14/02	3797.32	19.08	0	3778.24

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-39	12/01/91	3796.20	13.05	0	3783.15
MW-39	01/01/93	3796.20	17.15	0	3779.05
MW-39	04/01/93	3796.20	22.32	0	3773.88
MW-39	07/01/93	3796.20	17.78	0	3778.42
MW-39	10/01/93	3796.20	18.10	0	3778.10
MW-39	01/01/94	3796.20	18.72	0	3777.48
MW-39	04/01/94	3796.20	19.07	0	3777.13
MW-39	07/01/94	3796.20	19.29	0	3776.91
MW-39	10/01/94	3796.20	19.23	0	3776.97
MW-39	01/01/95	3796.20	19.57	0	3776.63
MW-39	04/01/95	3796.20	19.84	0	3776.36
MW-39	07/01/95	3796.20	19.84	0	3776.36
MW-39	10/01/95	3796.20	20.03	0	3776.17
MW-39	01/16/96	3796.20	20.29	0	3775.91
MW-39	04/19/96	3796.20	20.32	0	3775.88
MW-39	07/15/96	3796.20	20.30	0	3775.90
MW-39	10/13/96	3796.20	15.70	0	3780.50
MW-39	02/03/97	3796.20	17.11	0	3779.09
MW-39	04/28/97	3796.20	17.44	0	3778.76
MW-39	07/14/97	3796.20	17.41	0	3778.79
MW-39	10/13/97	3796.20	18.60	0	3777.60
MW-39	01/27/98	3796.20	19.20	0	3777.00
MW-39	04/27/98	3796.20	19.25	0	3776.95
MW-39	06/16/98	3796.20	19.41	0	3776.79
MW-39	10/09/98	3796.20	20.04	0	3776.16
MW-39	01/27/99	3796.20	20.04	0	3776.16
MW-39	04/19/99	3796.20	20.03	0	3776.17
MW-39	01/05/00	3796.20	D	--	--
MW-39	04/26/00	3796.20	D	--	--
MW-39	09/27/00	3796.20	D	--	--
MW-39	04/16/01	3796.20	D	--	--
MW-39	10/29/01	3796.20	D	--	--
MW-39	04/15/02	3796.20	D	--	--
MW-39	10/14/02	3796.20	D	--	--
MW-40	04/01/93	3803.12	18.68	0	3784.44
MW-40	01/27/98	3803.12	D	--	--
MW-40	06/16/98	3803.12	D	--	--
MW-40	04/26/00	3803.12	D	--	--
MW-40	09/27/00	3803.12	D	--	--
MW-40	04/16/01	3803.12	D	--	--
MW-40	10/29/01	3803.12	D	--	--
MW-40	04/15/02	3803.12	D	--	--
MW-40	10/14/02	3803.12	D	--	--
MW-41	12/01/91	3799.04	14.61	0	3784.43
MW-41	01/01/93	3799.04	19.18	0	3779.86
MW-41	07/01/93	3799.04	19.28	0	3779.76
MW-41	10/01/93	3799.04	19.74	0	3779.30
MW-41	01/01/94	3799.04	19.82	0	3779.22
MW-41	04/01/94	3799.04	21.19	0	3777.85
MW-41	07/01/94	3799.04	20.52	0	3778.52
MW-41	10/01/94	3799.04	19.60	0	3779.44
MW-41	01/01/95	3799.04	19.87	0	3779.17
MW-41	04/01/95	3799.04	19.82	0	3779.22
MW-41	07/01/95	3799.04	19.82	0	3779.22
MW-41	10/01/95	3799.04	20.58	0	3778.46
MW-41	01/16/96	3799.04	20.06	0	3778.98
MW-41	04/19/96	3799.04	20.10	0	3778.94
MW-41	07/15/96	3799.04	20.06	0	3778.98
MW-41	10/13/96	3799.04	19.02	0	3780.02
MW-41	02/03/97	3799.04	18.98	0	3780.06
MW-41	03/18/97	3799.04	19.09	0	3779.95
MW-41	04/28/97	3799.04	18.98	0	3780.06
MW-41	07/14/97	3799.04	18.85	0	3780.19
MW-41	04/27/98	3799.04	19.26	0	3779.78
MW-41	06/17/98	3799.04	19.37	0	3779.67
MW-41	10/09/98	3799.04	19.18	0	3779.86
MW-41	01/27/99	3799.04	18.72	0	3780.32
MW-41	04/19/99	3799.04	18.81	0	3780.23
MW-41	01/05/00	3799.04	18.61	0	3780.43
MW-41	04/26/00	3799.04	18.72	0	3780.32
MW-41	09/27/00	3799.04	18.84	0	3780.20
MW-41	04/16/01	3799.04	18.55	0	3780.49
MW-41	10/29/01	3799.04	18.60	0	3780.44
MW-41	04/15/02	3799.04	18.38	0	3780.66
MW-41	10/14/02	3799.04	18.96	0	3780.08

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MW-42	12/01/91	3804.73	19.98	0	3784.75
MW-42	07/01/93	3804.73	22.63	0	3782.10
MW-42	10/01/93	3804.73	22.89	0	3781.84
MW-42	01/01/94	3804.73	23.13	0	3781.60
MW-42	01/27/98	3804.73	21.94	0	3782.79
MW-42	06/16/98	3804.73	D	-	-
MW-42	01/05/00	3804.73	23.50	0	3781.23
MW-42	04/26/00	3804.73	D	-	-
MW-42	09/27/00	3804.73	D	-	-
MW-42	04/16/01	3804.73	D	-	-
MW-42	10/29/01	3804.73	D	-	-
MW-42	04/15/02	3804.73	D	-	-
MW-42	10/14/02	3804.73	D	-	-
MW-43	12/01/91	3802.05	17.38	0	3784.67
MW-43	07/01/93	3802.05	21.33	0	3780.72
MW-43	10/01/93	3802.05	21.18	0	3780.87
MW-43	01/01/94	3802.05	21.27	0	3780.78
MW-43	04/01/94	3802.05	22.38	0	3779.67
MW-43	07/01/94	3802.05	21.41	0	3780.64
MW-43	10/01/94	3802.05	21.41	0	3780.64
MW-43	01/01/95	3802.05	21.44	0	3780.61
MW-43	04/01/95	3802.05	21.53	0	3780.52
MW-43	07/01/95	3802.05	21.53	0	3780.52
MW-43	10/01/95	3802.05	21.80	0	3780.25
MW-43	01/16/96	3802.05	21.75	0	3780.30
MW-43	04/19/96	3802.05	21.70	0	3780.35
MW-43	07/15/96	3802.05	21.44	0	3780.61
MW-43	10/13/96	3802.05	20.13	0	3781.92
MW-43	02/03/97	3802.05	20.71	0	3781.34
MW-43	04/28/97	3802.05	20.49	0	3781.56
MW-43	07/14/97	3802.05	20.39	0	3781.66
MW-43	10/13/97	3802.05	20.78	0	3781.27
MW-43	01/27/98	3802.05	20.55	0	3781.50
MW-43	04/27/98	3802.05	20.72	0	3781.33
MW-43	06/16/98	3802.05	20.89	0	3781.16
MW-43	10/09/98	3802.05	21.16	0	3780.89
MW-43	01/27/99	3802.05	20.40	0	3781.65
MW-43	04/19/99	3802.05	20.55	0	3781.50
MW-43	01/05/00	3802.05	20.58	0	3781.47
MW-43	04/26/00	3802.05	20.65	0	3781.40
MW-43	09/27/00	3802.05	20.83	0	3781.22
MW-43	04/16/01	3802.05	20.55	0	3781.50
MW-43	10/29/01	3802.05	20.43	0	3781.62
MW-43	04/15/02	3802.05	20.51	0	3781.54
MW-43	10/14/02	3802.05	20.72	0	3781.33
MW-44	12/01/91	3804.14	17.85	0	3786.29
MW-44	04/15/92	3804.14	19.40	0	3784.74
MW-44	07/01/92	3804.14	17.27	0	3786.87
MW-44	10/01/92	3804.14	20.28	0	3783.86
MW-44	01/01/93	3804.14	21.20	0	3782.94
MW-44	04/01/93	3804.14	21.48	0	3782.66
MW-44	07/01/93	3804.14	21.63	0	3782.51
MW-44	10/01/93	3804.14	21.58	0	3782.56
MW-44	01/01/94	3804.14	21.68	0	3782.46
MW-44	04/01/94	3804.14	22.02	0	3782.12
MW-44	07/01/94	3804.14	22.13	0	3782.01
MW-44	10/01/94	3804.14	21.58	0	3782.56
MW-44	01/01/95	3804.14	21.88	0	3782.26
MW-44	04/01/95	3804.14	22.26	0	3781.88
MW-44	07/01/95	3804.14	22.26	0	3781.88
MW-44	10/01/95	3804.14	21.84	0	3782.30
MW-44	01/16/96	3804.14	21.86	0	3782.28
MW-44	04/19/96	3804.14	21.88	0	3782.26
MW-44	07/15/96	3804.14	21.75	0	3782.39
MW-44	10/13/96	3804.14	19.32	0	3784.82
MW-44	02/03/97	3804.14	20.79	0	3783.35
MW-44	04/28/97	3804.14	20.43	0	3783.71
MW-44	07/14/97	3804.14	20.31	0	3783.83
MW-44	10/13/97	3804.14	20.73	0	3783.41
MW-44	01/27/98	3804.14	20.66	0	3783.48
MW-44	04/27/98	3804.14	20.84	0	3783.30
MW-44	06/16/98	3804.14	21.04	0	3783.10
MW-44	10/09/98	3804.14	20.71	0	3783.43
MW-44	01/27/99	3804.14	20.01	0	3784.13
MW-44	04/19/99	3804.14	20.41	0	3783.73
MW-44	01/05/00	3804.14	19.96	0	3784.18
MW-44	04/26/00	3804.14	20.27	0	3783.87
MW-44	09/27/00	3804.14	20.39	0	3783.75
MW-44	04/16/01	3804.14	19.85	0	3784.29
MW-44	10/29/01	3804.14	19.78	0	3784.36
MW-44	04/15/02	3804.14	20.03	0	3784.11
MW-44	10/14/02	3804.14	20.43	0	3783.71

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-45	12/01/91	3808.68	13.91	0	3794.77
MW-45	07/01/93	3808.68	21.49	0	3787.19
MW-45	10/01/93	3808.68	21.47	0	3787.21
MW-45	01/01/94	3808.68	21.54	0	3787.14
MW-45	04/01/94	3808.68	22.64	0	3786.04
MW-45	07/01/94	3808.68	21.85	0	3786.83
MW-45	10/01/94	3808.68	21.52	0	3787.16
MW-45	01/01/95	3808.68	21.78	0	3786.90
MW-45	04/01/95	3808.68	22.13	0	3786.55
MW-45	07/01/95	3808.68	22.13	0	3786.55
MW-45	01/05/00	3808.68	18.88	0	3789.80
MW-45	04/26/00	3808.68	19.19	0	3789.49
MW-45	09/27/00	3808.68	19.19	0	3789.49
MW-45	04/16/01	3808.68	18.39	0	3790.29
MW-45	10/29/01	3808.68	18.53	0	3790.15
MW-45	04/15/02	3808.68	18.75	0	3789.93
MW-45	10/14/02	3808.68	18.39	0	3790.29
MW-46	10/01/93	3805.54	12.87	0	3786.67
MW-46	01/01/94	3805.54	19.42	0	3786.12
MW-46	04/01/94	3805.54	19.59	0	3785.95
MW-46	10/01/94	3805.54	19.20	0	3786.34
MW-46	04/01/95	3805.54	19.55	0	3785.99
MW-46	07/01/95	3805.54	19.55	0	3785.99
MW-46	01/16/96	3805.54	19.48	0	3786.06
MW-46	04/19/96	3805.54	19.52	0	3786.02
MW-46	07/15/96	3805.54	19.41	0	3786.13
MW-46	10/13/96	3805.54	15.73	0	3789.81
MW-46	02/04/97	3805.54	18.22	0	3787.32
MW-46	04/28/97	3805.54	16.93	0	3788.61
MW-46	07/14/97	3805.54	17.15	0	3788.39
MW-46	10/13/97	3805.54	18.01	0	3787.53
MW-46	01/27/98	3805.54	17.54	0	3788.00
MW-46	04/27/98	3805.54	18.34	0	3787.20
MW-46	06/16/98	3805.54	18.69	0	3786.85
MW-46	10/10/98	3805.54	17.82	0	3787.72
MW-46	01/27/99	3805.54	16.91	0	3788.63
MW-46	04/19/99	3805.54	17.44	0	3788.10
MW-46	01/05/00	3805.54	16.76	0	3788.78
MW-46	04/26/00	3805.54	17.17	0	3788.37
MW-46	09/27/00	3805.54	17.42	0	3788.12
MW-46	04/16/01	3805.54	16.68	0	3788.86
MW-46	10/29/01	3805.54	16.79	0	3788.75
MW-46	04/15/02	3805.54	17.49	0	3788.05
MW-46	10/14/02	3805.54	17.83	0	3787.71
MW-47	12/01/91	3805.09	18.49	0	3786.60
MW-47	07/01/93	3805.09	21.37	0	3783.72
MW-47	01/16/96	3805.09	D	--	--
MW-47	04/19/96	3805.09	D	--	--
MW-47	07/15/96	3805.09	D	--	--
MW-47	10/13/96	3805.09	19.66	0	3785.43
MW-47	02/04/97	3805.09	21.51	0	3783.58
MW-47	04/28/97	3805.09	21.46	0	3783.63
MW-47	07/14/97	3805.09	21.54	0	3783.55
MW-47	10/13/97	3805.09	21.48	0	3783.61
MW-47	01/27/98	3805.09	21.80	0	3783.29
MW-47	04/27/98	3805.09	21.50	0	3783.59
MW-47	06/16/98	3805.09	21.62	0	3783.47
MW-47	10/10/98	3805.09	21.54	0	3783.55
MW-47	01/27/99	3805.09	21.52	0	3783.57
MW-47	04/19/99	3805.09	21.49	0	3783.60
MW-47	01/05/00	3805.09	21.62	0	3783.47
MW-47	04/26/00	3805.09	21.59	0	3783.50
MW-47	09/27/00	3805.09	21.62	0	3783.47
MW-47	04/16/01	3805.09	21.63	0	3783.46
MW-47	10/29/01	3805.09	D	--	--
MW-47	04/15/02	3805.09	D	--	--
MW-47	10/14/02	3805.09	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-48	12/01/91	3806.18	18.05	0	3788.13
MW-48	04/15/92	3806.18	19.44	0	3786.74
MW-48	07/01/92	3806.18	17.25	0	3788.93
MW-48	10/01/92	3806.18	18.87	0	3787.31
MW-48	01/01/93	3806.18	19.58	0	3786.60
MW-48	01/16/96	3806.18	D	--	--
MW-48	04/19/96	3806.18	D	--	--
MW-48	07/15/96	3806.18	D	--	--
MW-48	10/13/96	3806.18	17.88	0	3788.30
MW-48	02/04/97	3806.18	19.60	0	3786.58
MW-48	04/28/97	3806.18	19.66	0	3786.52
MW-48	07/14/97	3806.18	19.66	0	3786.52
MW-48	10/13/97	3806.18	19.68	0	3786.50
MW-48	01/27/98	3806.18	19.71	0	3786.47
MW-48	04/27/98	3806.18	19.72	0	3786.46
MW-48	06/16/98	3806.18	19.75	0	3786.43
MW-48	10/09/98	3806.18	19.71	0	3786.47
MW-48	01/27/99	3806.18	19.74	0	3786.44
MW-48	04/19/99	3806.18	19.71	0	3786.47
MW-48	01/05/00	3806.18	19.77	0	3786.41
MW-48	04/26/00	3806.18	19.72	0	3786.46
MW-48	09/27/00	3806.18	D	--	--
MW-48	04/16/01	3806.18	19.78	0	3786.40
MW-48	10/29/01	3806.18	D	--	--
MW-48	04/15/02	3806.18	D	--	--
MW-48	10/14/02	3806.18	D	--	--
MW-49	12/01/91	3805.61	18.50	0	3789.01
MW-49	07/01/93	3805.61	21.98	0	3783.63
MW-49	10/01/93	3805.61	21.93	0	3783.68
MW-49	01/01/94	3805.61	22.27	0	3783.34
MW-49	04/01/94	3805.61	22.64	0	3782.97
MW-49	07/01/94	3805.61	22.73	0	3782.88
MW-49	10/01/94	3805.61	22.30	0	3783.31
MW-49	01/01/95	3805.61	22.56	0	3783.05
MW-49	04/01/95	3805.61	22.94	0	3782.67
MW-49	07/01/95	3805.61	22.94	0	3782.67
MW-49	10/01/95	3805.61	22.68	0	3782.93
MW-49	01/16/96	3805.61	22.55	0	3783.06
MW-49	04/19/96	3805.61	22.59	0	3783.02
MW-49	07/15/96	3805.61	22.76	0	3782.85
MW-49	10/13/96	3805.61	19.54	0	3786.07
MW-49	02/03/97	3805.61	20.66	0	3784.95
MW-49	03/18/97	3805.61	20.99	0	3784.62
MW-49	04/28/97	3805.61	20.70	0	3784.91
MW-49	07/14/97	3805.61	20.31	0	3785.30
MW-49	10/13/97	3805.61	21.01	0	3784.60
MW-49	01/27/98	3805.61	21.08	0	3784.53
MW-49	04/27/98	3805.61	21.34	0	3784.27
MW-49	06/16/98	3805.61	21.35	0	3784.26
MW-49	10/09/98	3805.61	22.52	0	3783.09
MW-49	01/27/99	3805.61	20.50	0	3785.11
MW-49	04/19/99	3805.61	20.81	0	3784.80
MW-49	01/05/00	3805.61	20.07	0	3785.54
MW-49	04/26/00	3805.61	20.30	0	3785.31
MW-49	09/27/00	3805.61	20.52	0	3785.09
MW-49	04/16/01	3805.61	20.03	0	3785.58
MW-49	10/29/01	3805.61	19.96	0	3785.65
MW-49	04/15/02	3805.61	19.76	0	3785.85
MW-49	10/14/02	3805.61	20.56	0	3785.05

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-50	12/01/91	3813.35	20.74	0	3792.61
MW-50	04/15/92	3813.35	22.83	0	3790.52
MW-50	07/01/92	3813.35	15.91	0	3797.44
MW-50	10/01/92	3813.35	23.77	0	3789.58
MW-50	01/01/93	3813.35	25.52	0	3787.83
MW-50	04/01/93	3813.35	26.16	0	3787.19
MW-50	07/01/93	3813.35	26.43	0	3786.92
MW-50	10/01/93	3813.35	26.43	0	3786.92
MW-50	01/01/94	3813.35	26.83	0	3786.52
MW-50	04/01/94	3813.35	27.04	0	3786.31
MW-50	07/01/94	3813.35	27.16	0	3786.19
MW-50	10/01/94	3813.35	26.87	0	3786.48
MW-50	01/01/95	3813.35	27.03	0	3786.32
MW-50	04/01/95	3813.35	27.37	0	3785.98
MW-50	07/01/95	3813.35	27.37	0	3785.98
MW-50	10/01/95	3813.35	26.85	0	3786.50
MW-50	01/16/96	3813.35	27.20	0	3786.15
MW-50	04/19/96	3813.35	27.22	0	3786.13
MW-50	07/15/96	3813.35	27.04	0	3786.31
MW-50	10/13/96	3813.35	25.89	0	3787.46
MW-50	02/03/97	3813.35	25.15	0	3788.20
MW-50	03/18/97	3813.35	25.18	0	3788.17
MW-50	04/28/97	3813.35	24.81	0	3788.54
MW-50	07/14/97	3813.35	24.56	0	3788.79
MW-50	10/13/97	3813.35	25.45	0	3787.90
MW-50	01/27/98	3813.35	25.39	0	3787.96
MW-50	04/27/98	3813.35	25.84	0	3787.51
MW-50	06/16/98	3813.35	26.05	0	3787.30
MW-50	10/09/98	3813.35	25.80	0	3787.55
MW-50	01/27/99	3813.35	24.78	0	3788.57
MW-50	04/19/99	3813.35	25.21	0	3788.14
MW-50	01/05/00	3813.35	24.39	0	3788.96
MW-50	04/26/00	3813.35	25.00	0	3788.35
MW-50	09/27/00	3813.35	25.06	0	3788.29
MW-50	04/16/01	3813.35	24.30	0	3789.05
MW-50	10/29/01	3813.35	24.42	0	3788.93
MW-50	04/15/02	3813.35	24.43	0	3788.92
MW-50	10/14/02	3813.35	24.76	0	3788.59
MW-51	12/01/91	3810.86	17.77	0	3793.09
MW-51	04/26/00	3810.86	NR	--	--
MW-51	09/27/00	3810.86	D	--	--
MW-51	04/16/01	3810.86	D	--	--
MW-51	10/29/01	3810.86	D	--	--
MW-51	04/15/02	3810.86	D	--	--
MW-51	10/14/02	3810.86	D	--	--
MW-52	07/01/92	3817.49	19.00	0	3798.49
MW-52	01/16/96	3817.49	D	--	--
MW-52	04/19/96	3817.49	D	--	--
MW-52	07/15/96	3817.49	D	--	--
MW-52	10/13/96	3817.49	20.97	0	3796.52
MW-52	02/04/97	3817.49	21.31	0	3796.18
MW-52	04/28/97	3817.49	D	--	--
MW-52	07/14/97	3817.49	D	--	--
MW-52	10/13/97	3817.49	D	--	--
MW-52	01/27/98	3817.49	D	--	--
MW-52	04/27/98	3817.49	D	--	--
MW-52	06/16/98	3817.49	D	--	--
MW-52	10/09/98	3817.49	21.37	0	3796.12
MW-52	01/27/99	3817.49	D	--	--
MW-52	04/19/99	3817.49	D	--	--
MW-52	04/26/00	3817.49	D	--	--
MW-52	09/27/00	3817.49	D	--	--
MW-52	04/16/01	3817.49	D	--	--
MW-52	10/29/01	3817.49	D	--	--
MW-52	04/15/02	3817.49	D	--	--
MW-52	10/14/02	3817.49	D	--	--
MW-53	01/16/96	3809.92	D	--	--
MW-53	04/19/96	3809.92	D	--	--
MW-53	07/15/96	3809.92	D	--	--
MW-53	10/13/96	3809.92	D	--	--
MW-53	01/27/98	3809.92	D	--	--
MW-53	06/16/98	3809.92	D	--	--
MW-53	04/26/00	3809.92	D	--	--
MW-53	09/27/00	3809.92	D	--	--
MW-53	04/16/01	3809.92	D	--	--
MW-53	10/29/01	3809.92	D	--	--
MW-53	04/15/02	3809.92	D	--	--
MW-53	10/14/02	3809.92	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-54	12/01/91	3823.86	43.80	0	3780.06
MW-54	04/15/92	3823.86	44.77	0	3779.09
MW-54	07/01/92	3823.86	44.16	0	3779.70
MW-54	10/01/92	3823.86	44.66	0	3779.20
MW-54	01/01/93	3823.86	45.54	0	3778.32
MW-54	04/01/93	3823.86	46.11	0	3777.75
MW-54	07/01/93	3823.86	46.61	0	3777.25
MW-54	10/01/93	3823.86	46.73	0	3777.13
MW-54	01/01/94	3823.86	46.34	0	3777.52
MW-54	04/01/94	3823.86	47.45	0	3776.41
MW-54	07/01/94	3823.86	47.12	0	3776.74
MW-54	10/01/94	3823.86	46.65	0	3777.21
MW-54	01/01/95	3823.86	46.59	0	3777.27
MW-54	04/01/95	3823.86	46.96	0	3776.90
MW-54	07/01/95	3823.86	46.96	0	3776.90
MW-54	10/01/95	3823.86	47.40	0	3776.46
MW-54	01/16/96	3823.86	46.79	0	3777.07
MW-54	04/17/96	3823.86	48.97	0	3774.89
MW-54	07/15/96	3823.86	48.74	0	3775.12
MW-54	10/13/96	3823.86	46.14	0	3777.72
MW-54	02/04/97	3823.86	46.06	0	3777.80
MW-54	04/28/97	3823.86	46.27	0	3777.59
MW-54	07/14/97	3823.86	46.42	0	3777.44
MW-54	10/14/97	3823.86	47.16	0	3776.70
MW-54	01/27/98	3823.86	47.27	0	3776.59
MW-54	04/27/98	3823.86	46.86	0	3777.00
MW-54	06/16/98	3823.86	47.31	0	3776.55
MW-54	10/10/98	3823.86	46.79	0	3777.07
MW-54	01/27/99	3823.86	46.19	0	3777.67
MW-54	04/19/99	3823.86	46.32	0	3777.54
MW-54	01/05/00	3823.86	45.55	0	3778.31
MW-54	04/26/00	3823.86	46.46	0	3777.40
MW-54	09/27/00	3823.86	46.31	0	3777.55
MW-54	04/16/01	3823.86	45.72	0	3778.14
MW-54	10/29/01	3823.86	45.87	0	3777.99
MW-54	04/15/02	3823.86	45.37	0	3778.49
MW-54	10/14/02	3823.86	45.92	0	3777.94
MW-55	12/01/91	3794.40	24.43	0	3769.97
MW-55	04/15/92	3794.40	24.77	0	3769.63
MW-55	07/01/92	3794.40	21.89	0	3772.51
MW-55	10/01/92	3794.40	24.47	0	3769.93
MW-55	01/01/93	3794.40	26.57	0	3767.83
MW-55	04/01/93	3794.40	28.70	0	3765.70
MW-55	07/01/93	3794.40	30.02	0	3764.38
MW-55	10/01/93	3794.40	30.76	0	3763.64
MW-55	01/01/94	3794.40	31.15	0	3763.25
MW-55	04/01/94	3794.40	32.30	0	3762.10
MW-55	07/01/94	3794.40	31.90	0	3762.50
MW-55	10/01/94	3794.40	28.61	0	3765.79
MW-55	01/01/95	3794.40	29.50	0	3764.90
MW-55	04/01/95	3794.40	30.65	0	3763.75
MW-55	07/01/95	3794.40	30.65	0	3763.75
MW-55	10/01/95	3794.40	32.20	0	3762.20
MW-55	01/16/96	3794.40	30.74	0	3763.66
MW-55	04/17/96	3794.40	33.03	0	3761.37
MW-55	07/16/96	3794.40	28.85	0	3765.55
MW-55	10/13/96	3794.40	28.02	0	3766.38
MW-55	02/04/97	3794.40	26.43	0	3767.97
MW-55	04/29/97	3794.40	26.91	0	3767.49
MW-55	07/15/97	3794.40	26.81	0	3767.59
MW-55	10/14/97	3794.40	27.21	0	3767.19
MW-55	01/28/98	3794.40	27.38	0	3767.02
MW-55	04/27/98	3794.40	27.57	0	3766.83
MW-55	06/16/98	3794.40	28.00	0	3766.40
MW-55	10/10/98	3794.40	28.36	0	3766.04
MW-55	01/27/99	3794.40	27.68	0	3766.72
MW-55	04/19/99	3794.40	27.89	0	3766.51
MW-55	01/05/00	3794.40	27.92	0	3766.48
MW-55	04/26/00	3794.40	27.96	0	3766.44
MW-55	09/27/00	3794.40	28.41	0	3765.99
MW-55	04/16/01	3794.40	27.92	0	3766.48
MW-55	10/29/01	3794.40	28.05	0	3766.35
MW-55	04/15/02	3794.40	27.83	0	3766.57
MW-55	10/14/02	3794.40	28.03	0	3766.37

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-56	12/01/91	3782.45	32.58	0	3749.87
MW-56	04/15/92	3782.45	9.26	0	3773.19
MW-56	07/01/92	3782.45	31.37	0	3751.08
MW-56	10/01/92	3782.45	34.68	0	3747.77
MW-56	01/01/93	3782.45	40.40	0	3742.05
MW-56	01/16/96	3782.45	D	-	-
MW-56	04/19/96	3782.45	D	-	-
MW-56	07/16/96	3782.45	D	-	-
MW-56	10/14/96	3782.45	34.34	0	3748.11
MW-56	02/04/97	3782.45	37.47	0	3744.98
MW-56	03/18/97	3782.45	40.26	0	3742.19
MW-56	04/29/97	3782.45	42.34	0	3740.11
MW-56	07/15/97	3782.45	43.73	0	3738.72
MW-56	10/14/97	3782.45	D	-	-
MW-56	01/28/98	3782.45	D	-	-
MW-56	04/27/98	3782.45	D	-	-
MW-56	06/16/98	3782.45	D	-	-
MW-56	10/10/98	3782.45	D	-	-
MW-56	01/27/99	3782.45	D	-	-
MW-56	04/19/99	3782.45	43.56	0	3738.89
MW-56	01/05/00	3782.45	41.79	0	3740.66
MW-56	04/26/00	3782.45	43.49	0	3738.96
MW-56	09/27/00	3782.45	D	-	-
MW-56	04/16/01	3782.45	41.70	0	3740.75
MW-56	10/29/01	3782.45	D	-	-
MW-56	04/15/02	3782.45	D	-	-
MW-56	10/14/02	3782.45	D	-	-
MW-61	01/27/99	3816.20	36.05	0	3780.15
MW-61	04/19/99	3816.20	36.88	0	3779.32
MW-61	01/05/00	3816.20	36.55	0	3779.65
MW-61	04/26/00	3816.20	37.15	0	3779.05
MW-61	09/27/00	3816.20	37.49	0	3778.71
MW-61	04/16/01	3816.20	37.26	0	3778.94
MW-61	10/29/01	3816.20	37.55	0	3778.65
MW-61	04/15/02	3816.20	37.19	0	3779.01
MW-61	10/14/02	3816.20	37.79	0	3778.41
MW-65	12/01/91	3763.31	55.90	0	3707.41
MW-65	07/01/93	3763.31	56.34	0	3706.97
MW-65	10/01/93	3763.31	56.81	0	3706.50
MW-65	01/01/94	3763.31	56.67	0	3706.64
MW-65	07/01/94	3763.31	56.70	0	3706.61
MW-65	10/01/94	3763.31	56.20	0	3707.11
MW-65	01/01/95	3763.31	56.58	0	3706.73
MW-65	04/01/95	3763.31	57.14	0	3706.17
MW-65	07/01/95	3763.31	57.14	0	3706.17
MW-65	10/01/95	3763.31	57.07	0	3706.24
MW-65	01/16/96	3763.31	57.25	0	3706.06
MW-65	04/17/96	3763.31	57.35	0	3705.96
MW-65	07/16/96	3763.31	56.01	0	3707.30
MW-65	10/14/96	3763.31	56.92	0	3706.39
MW-65	02/04/97	3763.31	56.12	0	3707.19
MW-65	04/28/97	3763.31	56.18	0	3707.13
MW-65	07/15/97	3763.31	56.44	0	3706.87
MW-65	10/14/97	3763.31	56.22	0	3707.09
MW-65	01/28/98	3763.31	56.29	0	3707.02
MW-65	04/27/98	3763.31	56.39	0	3706.92
MW-65	06/15/98	3763.31	57.22	0	3706.09
MW-65	01/27/99	3763.31	35.01	0	3728.30
MW-65	04/19/99	3763.31	56.69	0	3706.62
MW-65	01/05/99	3763.31	56.71	0	3706.60
MW-65	04/26/00	3763.31	56.55	0	3706.76
MW-65	09/27/00	3763.31	57.81	0	3705.50
MW-65	04/16/01	3763.31	56.22	0	3707.09
MW-65	10/29/01	3763.31	56.17	0	3707.14
MW-65	04/15/02	3763.31	56.47	0	3706.84
MW-65	10/14/02	3763.31	56.11	0	3707.20

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MW-69	2/01/91	3805.11	29.38	0	3775.73
MW-69	04/15/92	3805.11	31.63	0	3773.48
MW-69	07/01/92	3805.11	24.71	0	3780.40
MW-69	10/01/92	3805.11	31.37	0	3773.74
MW-69	01/01/93	3805.11	33.61	0	3771.50
MW-69	04/01/93	3805.11	39.58	0	3765.53
MW-69	07/01/93	3805.11	41.96	0	3763.15
MW-69	10/01/93	3805.11	41.26	0	3763.85
MW-69	10/01/95	3805.11	32.51	0	3772.60
MW-69	01/20/96	3805.11	37.54	4.19	3770.62
MW-69	04/17/96	3805.11	36.60	0.26	3768.69
MW-69	07/15/96	3805.11	31.26	0.36	3774.11
MW-69	02/03/97	3805.11	34.33	3.24	3773.14
MW-69	04/28/97	3805.11	32.74	0.02	3772.38
MW-69	07/14/97	3805.11	34.34	0.02	3770.78
MW-69	10/13/97	3805.11	35.55	0	3769.56
MW-69	01/27/98	3805.11	39.44	2.45	3767.45
MW-69	04/27/98	3805.11	39.08	0	3766.03
MW-69	06/15/98	3805.11	40.77	0.79	3764.91
MW-69	01/05/00	3805.11	35.75	0.02	3769.37
MW-69	04/26/00	3805.11	37.62	0.05	3767.53
MW-69	09/27/00	3805.11	41.99	2.71	3765.10
MW-69	04/16/01	3805.11	38.81	4.01	3769.23
MW-69	10/29/01	3805.11	38.42	5.45	3770.67
MW-69	04/15/02	3805.11	42.30	5.03	3766.48
MW-69	10/14/02	3805.11	28.92	0	3776.19
MW-77	01/01/95	3775.48	80.03	0	3695.45
MW-77	04/01/95	3775.48	80.04	0	3695.44
MW-77	07/01/95	3775.48	80.04	0	3695.44
MW-77	10/01/95	3775.48	79.70	0	3695.78
MW-77	01/16/96	3775.48	79.84	0	3695.64
MW-77	04/17/96	3775.48	78.95	0	3696.53
MW-77	07/16/96	3775.48	79.42	0	3696.06
MW-77	10/14/96	3775.48	80.02	0	3695.46
MW-77	02/04/97	3775.48	D	-	-
MW-77	04/29/97	3775.48	80.35	0	3695.13
MW-77	07/15/97	3775.48	80.31	0	3695.17
MW-77	10/14/97	3775.48	78.92	0	3696.56
MW-77	01/28/98	3775.48	77.00	0	3698.48
MW-77	04/27/98	3775.48	78.48	0	3697.00
MW-77	06/16/98	3775.48	75.30	0	3700.18
MW-77	10/10/98	3775.48	79.84	0	3695.64
MW-77	01/27/99	3775.48	76.41	0	3699.07
MW-77	04/19/99	3775.48	77.50	0	3697.98
MW-77	01/05/00	3775.48	79.36	0	3696.12
MW-77	04/26/00	3775.48	78.57	0	3696.91
MW-77	09/27/00	3775.48	78.86	0	3696.62
MW-77	04/16/01	3775.48	79.91	0	3695.57
MW-77	10/29/01	3775.48	79.72	0	3695.76
MW-77	04/15/02	3775.48	80.42	0	3695.06
MW-77	10/14/02	3775.48	57.95	0	3717.53
MW-78	01/01/95	3785.82	86.51	0	3699.31
MW-78	04/01/95	3785.82	86.32	0	3699.50
MW-78	07/01/95	3785.82	86.32	0	3699.50
MW-78	10/01/95	3785.82	86.19	0	3699.63
MW-78	01/16/96	3785.82	86.22	0	3699.60
MW-78	04/17/96	3785.82	86.29	0	3699.53
MW-78	07/16/96	3785.82	86.41	0	3699.41
MW-78	10/14/96	3785.82	59.39	0	3726.43
MW-78	02/04/97	3785.82	75.78	0	3710.04
MW-78	04/29/97	3785.82	74.53	0	3711.29
MW-78	07/15/97	3785.82	74.47	0	3711.35
MW-78	10/14/97	3785.82	82.08	0	3703.74
MW-78	01/28/98	3785.82	81.61	0	3704.21
MW-78	04/27/98	3785.82	82.33	0	3703.49
MW-78	06/16/98	3785.82	82.27	0	3703.55
MW-78	10/10/98	3785.82	82.85	0	3702.97
MW-78	01/27/99	3785.82	83.30	0.01	3702.53
MW-78	04/19/99	3785.82	83.42	0	3702.40
MW-78	01/05/00	3785.82	82.49	0	3703.33
MW-78	04/26/00	3785.82	83.41	0	3702.41
MW-78	09/27/00	3785.82	83.51	0	3702.31
MW-78	04/16/01	3785.82	81.79	0	3704.03
MW-78	10/29/01	3785.82	82.75	0	3703.07
MW-78	04/15/02	3785.82	82.89	0	3702.93
MW-78	10/14/02	3785.82	59.42	0	3726.40

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-79	01/01/95	3788.39	76.29	0	3712.10
MW-79	04/01/95	3788.39	77.32	0	3711.07
MW-79	07/01/95	3788.39	77.32	0	3711.07
MW-79	10/01/95	3788.39	79.57	0	3708.82
MW-79	01/16/96	3788.39	78.31	0	3710.08
MW-79	04/17/96	3788.39	78.36	0	3710.03
MW-79	07/15/96	3788.39	81.09	0	3707.30
MW-79	10/13/96	3788.39	80.08	0	3708.31
MW-79	02/03/97	3788.39	80.44	0	3707.95
MW-79	04/28/97	3788.39	75.65	0	3712.74
MW-79	07/14/97	3788.39	75.46	0	3712.93
MW-79	10/13/97	3788.39	78.70	0	3709.69
MW-79	01/27/98	3788.39	80.52	0	3707.87
MW-79	04/27/98	3788.39	81.14	0	3707.25
MW-79	06/15/98	3788.39	80.84	0	3707.55
MW-79	10/09/98	3788.39	81.13	0	3707.26
MW-79	01/27/99	3788.39	79.95	0	3708.44
MW-79	04/19/99	3788.39	73.09	0	3715.30
MW-79	01/05/00	3788.39	76.99	0	3711.40
MW-79	04/26/00	3788.39	75.95	0	3712.44
MW-79	09/27/00	3788.39	81.57	0	3706.82
MW-79	04/16/01	3788.39	81.58	0	3706.81
MW-79	10/29/01	3788.39	81.18	0	3707.21
MW-79	04/15/02	3788.39	80.88	0	3707.51
MW-79	10/14/02	3788.39	81.52	0	3706.87
MW-80	01/16/96	3821.64	D	--	--
MW-80	04/19/96	3821.64	D	--	--
MW-80	07/15/96	3821.64	D	--	--
MW-80	10/13/96	3821.64	D	--	--
MW-80	02/03/97	3821.64	D	--	--
MW-80	04/28/97	3821.64	D	--	--
MW-80	07/14/97	3821.64	D	--	--
MW-80	10/13/97	3821.64	D	--	--
MW-80	01/27/98	3821.64	D	--	--
MW-80	04/27/98	3821.64	D	--	--
MW-80	06/15/98	3821.64	D	--	--
MW-80	10/09/98	3821.64	D	--	--
MW-80	01/27/99	3821.64	D	--	--
MW-80	04/19/99	3821.64	D	--	--
MW-80	04/26/00	3821.64	D	--	--
MW-80	09/27/00	3821.64	D	--	--
MW-80	04/16/01	3821.64	D	--	--
MW-80	10/29/01	3821.64	D	--	--
MW-80	04/15/02	3821.64	D	--	--
MW-80	10/14/02	3821.64	D	--	--
MW-90	02/04/97	3781.73	43.24	0	3738.49
MW-90	04/28/97	3781.73	43.54	0	3738.19
MW-90	07/14/97	3781.73	43.42	0	3738.31
MW-90	10/13/97	3781.73	44.78	0	3736.95
MW-90	01/27/98	3781.73	43.26	0	3738.47
MW-90	04/27/98	3781.73	43.68	0	3738.05
MW-90	06/15/98	3781.73	44.26	0	3737.47
MW-90	10/09/98	3781.73	96.68	0	3685.05
MW-90	01/27/99	3781.73	46.40	0.01	3735.34
MW-90	04/19/99	3781.73	40.11	0	3741.62
MW-90	01/05/00	3781.73	44.81	0	3736.92
MW-90	04/26/00	3781.73	46.12	0	3735.61
MW-90	09/27/00	3781.73	43.82	0	3737.91
MW-90	04/16/01	3781.73	44.45	0	3737.28
MW-90	10/29/01	3781.73	43.62	0	3738.11
MW-90	04/15/02	3781.73	46.17	0	3735.56
MW-90	10/14/02	3781.73	38.73	0	3743.00
MW-91	02/04/97	3783.07	64.90	0	3718.17
MW-91	04/29/97	3783.07	64.96	0.01	3718.11
MW-91	07/15/97	3783.07	64.96	0.02	3718.12
MW-91	10/14/97	3783.07	68.75	0	3714.32
MW-91	01/28/98	3783.07	70.57	0	3712.50
MW-91	04/27/98	3783.07	69.38	0	3713.69
MW-91	06/16/98	3783.07	72.26	0	3710.81
MW-91	10/10/98	3783.07	72.41	0	3710.66
MW-91	01/27/99	3783.07	72.66	0	3710.41
MW-91	04/19/99	3783.07	65.39	0	3717.68
MW-91	01/05/00	3783.07	70.73	0	3712.34
MW-91	04/26/00	3783.07	70.46	0	3712.61
MW-91	09/27/00	3783.07	71.74	0	3711.33
MW-91	04/16/01	3783.07	65.85	0	3717.22
MW-91	10/29/01	3783.07	63.90	0	3719.17
MW-91	04/15/02	3783.07	69.98	0	3713.09
MW-91	10/14/02	3783.07	46.52	0	3736.55

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-92	02/04/97	3785.29	D	--	--
MW-92	04/29/97	3785.29	D	--	--
MW-92	07/15/97	3785.29	D	--	--
MW-92	10/14/97	3785.29	D	--	--
MW-92	01/28/98	3785.29	D	--	--
MW-92	04/27/98	3785.29	72.52	0	3712.77
MW-92	06/16/98	3785.29	72.45	0	3712.84
MW-92	10/10/98	3785.29	72.51	0	3712.78
MW-92	01/27/99	3785.29	72.43	0	3712.86
MW-92	04/19/99	3785.29	72.41	0	3712.88
MW-92	04/26/00	3785.29	72.39	0	3712.90
MW-92	09/27/00	3785.29	NR	--	--
MW-92	04/16/01	3785.29	72.40	0	3712.89
MW-92	10/29/01	3785.29	72.29	0	3713.00
MW-92	04/15/02	3785.29	72.23	0	3713.06
MW-92	10/14/02	3785.29	56.36	0	3728.93
MW-93	02/03/97	3817.50	D	--	--
MW-93	04/29/97	3817.50	D	--	--
MW-93	07/14/97	3817.50	D	--	--
MW-93	10/13/97	3817.50	D	--	--
MW-93	01/27/98	3817.50	D	--	--
MW-93	04/27/98	3817.50	D	--	--
MW-93	06/15/98	3817.50	D	--	--
MW-93	10/09/98	3817.50	D	--	--
MW-93	01/27/99	3817.50	D	--	--
MW-93	04/19/99	3817.50	D	--	--
MW-93	04/26/00	3817.50	D	--	--
MW-93	09/27/00	3817.50	D	--	--
MW-93	04/16/01	3817.50	D	--	--
MW-93	10/29/01	3817.50	D	--	--
MW-93	04/15/02	3817.50	D	--	--
MW-93	10/14/02	3817.50	D	--	--
MW-99	02/04/97	3770.05	D	--	--
MW-99	04/29/97	3770.05	D	--	--
MW-99	07/15/97	3770.05	D	--	--
MW-99	10/14/97	3770.05	D	--	--
MW-99	01/28/98	3770.05	D	--	--
MW-99	04/27/98	3770.05	D	--	--
MW-99	06/16/98	3770.05	D	--	--
MW-99	10/10/98	3770.05	D	--	--
MW-99	01/27/99	3770.05	D	--	--
MW-99	04/19/99	3770.05	D	--	--
MW-99	04/26/00	3770.05	D	--	--
MW-99	09/27/00	3770.05	D	--	--
MW-99	04/16/01	3770.05	D	--	--
MW-99	10/29/01	3770.05	D	--	--
MW-99	04/15/02	3770.05	D	--	--
MW-99	10/14/02	3770.05	D	--	--
MW-100	04/29/97	3773.31	D	--	--
MW-100	07/15/97	3773.31	D	--	--
MW-100	10/14/97	3773.31	D	--	--
MW-100	01/28/98	3773.31	D	--	--
MW-100	04/27/98	3773.31	D	--	--
MW-100	06/16/98	3773.31	D	--	--
MW-100	10/10/98	3773.31	D	--	--
MW-100	01/27/99	3773.31	D	--	--
MW-100	04/19/99	3773.31	D	--	--
MW-100	04/26/00	3773.31	D	--	--
MW-100	09/27/00	3773.31	72.61	0	3700.70
MW-100	04/16/01	3773.31	D	--	--
MW-100	10/29/01	3773.31	D	--	--
MW-100	04/15/02	3773.31	D	--	--
MW-100	10/14/02	3773.31	D	--	--
MW-101	02/04/97	3762.71	D	--	--
MW-101	04/29/97	3762.71	D	--	--
MW-101	07/15/97	3762.71	D	--	--
MW-101	10/14/97	3762.71	D	--	--
MW-101	01/28/98	3762.71	D	--	--
MW-101	04/27/98	3762.71	D	--	--
MW-101	06/16/98	3762.71	D	--	--
MW-101	10/10/98	3762.71	D	--	--
MW-101	01/27/99	3762.71	D	--	--
MW-101	04/19/99	3762.71	D	--	--
MW-101	04/26/00	3762.71	D	--	--
MW-101	09/27/00	3762.71	NR	--	--
MW-101	04/16/01	3762.71	D	--	--
MW-101	10/29/01	3762.71	D	--	--
MW-101	04/15/02	3762.71	D	--	--
MW-101	10/14/02	3762.71	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-102	02/04/97	3753.69	D		
MW-102	04/28/97	3753.69	D	--	--
MW-102	07/15/97	3753.69	D	--	--
MW-102	10/13/97	3753.69	D	--	--
MW-102	01/28/98	3753.69	82.60	0	3671.09
MW-102	04/27/98	3753.69	82.60	0	3671.09
MW-102	06/15/98	3753.69	D	--	--
MW-102	10/10/98	3753.69	D	--	--
MW-102	01/27/99	3753.69	82.62	0	3671.07
MW-102	04/19/99	3753.69	82.57	0	3671.12
MW-102	04/26/00	3753.69	82.56	0	3671.13
MW-102	09/27/00	3753.69	D	--	--
MW-102	04/16/01	3753.69	D	--	--
MW-102	10/29/01	3753.69	D	--	--
MW-102	04/15/02	3753.69	D	--	--
MW-102	10/14/02	3753.69	D	--	--
MW-103	02/04/97	3743.14	D		
MW-103	04/28/97	3743.14	D	--	--
MW-103	07/15/97	3743.14	D	--	--
MW-103	10/14/97	3743.14	72.30	0	3670.84
MW-103	01/28/98	3743.14	72.70	0	3670.44
MW-103	04/27/98	3743.14	72.78	0	3670.36
MW-103	06/16/98	3743.14	D	--	--
MW-103	10/10/98	3743.14	D	--	--
MW-103	01/27/99	3743.14	73.15	0	3669.99
MW-103	04/19/99	3743.14	73.16	0	3669.98
MW-103	04/26/00	3743.14	72.74	0	3670.40
MW-103	09/27/00	3743.14	NR	--	--
MW-103	04/16/01	3743.14	72.49	0	3670.65
MW-103	10/29/01	3743.14	72.04	0	3671.10
MW-103	04/15/02	3743.14	72.65	0	3670.49
MW-103	10/14/02	3743.14	71.89	0	3671.25
MW-105	02/04/97	3736.93	D		
MW-105	04/28/97	3736.93	D	--	--
MW-105	07/15/97	3736.93	D	--	--
MW-105	10/13/97	3736.93	D	--	--
MW-105	01/28/98	3736.93	82.93	0	3654.00
MW-105	04/27/98	3736.93	D	--	--
MW-105	06/15/98	3736.93	82.84	0	3654.09
MW-105	10/10/98	3736.93	82.33	0	3654.60
MW-105	01/27/99	3736.93	82.62	0	3654.31
MW-105	04/19/99	3736.93	82.00	0	3654.93
MW-105	01/05/00	3736.93	82.42	0	3654.51
MW-105	04/26/00	3736.93	82.22	0	3654.71
MW-105	09/27/00	3736.93	82.89	0	3654.04
MW-105	04/16/01	3736.93	82.33	0	3654.60
MW-105	10/29/01	3736.93	D	--	--
MW-105	04/15/02	3736.93	D	--	--
MW-105	10/14/02	3736.93	D	--	--
MW-106	02/04/97	3721.97	87.97	0	3634.00
MW-106	04/28/97	3721.97	87.59	0	3634.38
MW-106	07/15/97	3721.97	87.63	0	3634.34
MW-106	10/13/97	3721.97	88.75	0	3633.22
MW-106	01/28/98	3721.97	88.97	0	3633.00
MW-106	04/27/98	3721.97	89.36	0	3632.41
MW-106	06/15/98	3721.97	89.63	0	3632.34
MW-106	10/10/98	3721.97	89.61	0	3632.36
MW-106	01/27/99	3721.97	86.55	0	3635.42
MW-106	04/19/99	3721.97	89.58	0	3632.39
MW-106	01/05/00	3721.97	89.05	0	3632.92
MW-106	04/26/00	3721.97	89.31	0	3632.66
MW-106	09/27/00	3721.97	87.98	0	3633.99
MW-106	04/16/01	3721.97	88.81	0	3633.16
MW-106	10/29/01	3721.97	89.05	0	3632.92
MW-106	04/15/02	3721.97	89.05	0	3632.92
MW-106	10/14/02	3721.97	87.40	0	3634.57
MW-107	02/04/97	3726.27	D		
MW-107	04/28/97	3726.27	D	--	--
MW-107	07/15/97	3726.27	D	--	--
MW-107	10/13/97	3726.27	D	--	--
MW-107	01/28/98	3726.27	D	--	--
MW-107	04/27/98	3726.27	D	--	--
MW-107	06/15/98	3726.27	D	--	--
MW-107	10/10/98	3726.27	D	--	--
MW-107	01/27/99	3726.27	D	--	--
MW-107	04/19/99	3726.27	D	--	--
MW-107	04/26/00	3726.27	D	--	--
MW-107	09/27/00	3726.27	NR	--	--
MW-107	04/16/01	3726.27	D	--	--
MW-107	10/29/01	3726.27	D	--	--
MW-107	04/15/02	3726.27	D	--	--
MW-107	10/14/02	3726.27	D	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-109	05/17/98	3809.53	D	-	-
MW-109	10/10/98	3809.53	17.79	0	3791.74
MW-109	01/05/00	3809.53	17.42	0	3792.11
MW-109	04/26/00	3809.53	17.58	0	3791.95
MW-109	09/27/00	3809.53	17.81	0	3791.72
MW-109	04/16/01	3809.53	17.01	0	3792.52
MW-109	10/29/01	3809.53	17.59	0	3791.94
MW-109	04/15/02	3809.53	17.96	0	3791.57
MW-109	10/14/02	3809.53	15.87	0	3793.66
MW-126	01/05/00	3795.58	53.08	0	3742.50
MW-126	04/26/00	3795.58	54.03	0	3741.55
MW-126	09/27/00	3795.58	60.29	0	3735.29
MW-126	04/16/01	3795.58	54.25	0.52	3741.71
MW-126	10/29/01	3795.58	57.82	2.1	3739.29
MW-126	04/15/02	3795.58	56.95	2.23	3740.26
MW-126	10/14/02	3795.58	54.03	2.57	3743.43
STOCK WELL	01/01/94	3779.76	19.41	0	3760.35
SUMP-16A	12/01/91	3785.14	11.65	0	3773.49
SUMP-16A	04/15/92	3785.14	12.02	0	3773.12
SUMP-16A	07/01/92	3785.14	4.87	0	3780.27
SUMP-16A	10/01/92	3785.14	12.00	0	3773.14
SUMP-16A	01/01/93	3785.14	13.00	0	3772.14
SUMP-16A	04/01/93	3785.14	14.15	0	3770.99
SUMP-16A	10/01/94	3785.14	11.25	0	3773.89
SUMP-16A	01/01/95	3785.14	16.34	0	3768.80
SUMP-16A	04/01/95	3785.14	17.32	0	3767.82
SUMP-16A	07/01/95	3785.14	17.32	0	3767.82
SUMP-16A	10/01/95	3785.14	14.60	0	3770.54
SUMP-16A	01/16/96	3785.14	16.30	0	3768.84
SUMP-16A	04/19/96	3785.14	17.45	0	3767.69
SUMP-16A	07/15/96	3785.14	16.85	0	3768.29
SUMP-16A	10/13/96	3785.14	15.99	0	3769.15
SUMP-16A	04/26/00	3785.14	D	-	-
SUMP-16A	09/27/00	3785.14	NR	-	-
SUMP-16A	04/16/01	3785.14	13.70	0	3771.44
SUMP-16A	10/29/01	3785.14	13.87	0	3771.27
SUMP-16A	04/15/02	3785.14	D	-	-
SUMP-16A	10/14/02	3785.14	D	-	-
SUMP-A10	01/16/96	3800.99	D	-	-
SUMP-A10	04/19/96	3800.99	D	-	-
SUMP-A10	07/15/96	3800.99	D	-	-
SUMP-A10	10/13/96	3800.99	11.62	0	3789.37
SUMP-A10	04/26/00	3800.99	D	-	-
SUMP-A10	09/27/00	3800.99	NR	-	-
SUMP-A10	04/16/01	3800.99	D	-	-
SUMP-A10	10/29/01	3800.99	D	-	-
SUMP-A10	04/15/02	3800.99	D	-	-
SUMP-A10	10/14/02	3800.99	D	-	-

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
Lower Queen Wells					
MW-57	05/28/91	3787.70	160.25	0	3627.45
MW-57	06/01/91	3787.70	160.25	0	3627.45
MW-57	07/16/91	3787.70	160.29	0	3627.41
MW-57	08/21/91	3787.70	155.50	0	3632.20
MW-57	09/18/91	3787.70	154.29	0	3633.41
MW-57	10/22/91	3787.70	157.11	0	3630.59
MW-57	11/15/91	3787.70	157.50	0	3630.20
MW-57	03/01/92	3787.70	157.92	0	3629.78
MW-57	04/01/92	3787.70	157.59	0	3630.11
MW-57	05/01/92	3787.70	148.00	0	3639.70
MW-57	06/01/92	3787.70	151.21	0	3636.49
MW-57	07/01/92	3787.70	154.07	0	3633.63
MW-57	08/01/92	3787.70	155.24	0	3632.46
MW-57	09/01/92	3787.70	155.67	0	3632.03
MW-57	10/01/92	3787.70	156.01	0	3631.69
MW-57	11/01/92	3787.70	156.31	0	3631.39
MW-57	12/01/92	3787.70	156.55	0	3631.15
MW-57	01/01/93	3787.70	156.68	0	3631.02
MW-57	02/01/93	3787.70	156.79	0	3630.91
MW-57	03/01/93	3787.70	157.00	0	3630.70
MW-57	04/01/93	3787.70	156.95	0	3630.75
MW-57	05/01/93	3787.70	157.23	0	3630.47
MW-57	06/01/93	3787.70	157.13	0	3630.57
MW-57	07/01/93	3787.70	157.42	0	3630.28
MW-57	08/01/93	3787.70	157.28	0	3630.42
MW-57	09/01/93	3787.70	157.57	0	3630.13
MW-57	10/01/93	3787.70	157.65	0	3630.05
MW-57	11/01/93	3787.70	157.89	0	3629.81
MW-57	12/01/93	3787.70	157.96	0	3629.74
MW-57	01/01/94	3787.70	157.91	0	3629.79
MW-57	02/01/94	3787.70	158.78	0	3628.92
MW-57	03/01/94	3787.70	158.92	0	3628.78
MW-57	04/01/94	3787.70	158.96	0	3628.74
MW-57	05/01/94	3787.70	158.74	0	3628.96
MW-57	07/01/94	3787.70	158.49	0	3629.21
MW-57	08/01/94	3787.70	158.16	0	3629.54
MW-57	09/01/94	3787.70	158.14	0	3629.56
MW-57	10/01/94	3787.70	158.31	0	3629.39
MW-57	12/01/94	3787.70	159.51	0	3628.19
MW-57	01/01/95	3787.70	158.77	0	3628.93
MW-57	04/01/95	3787.70	158.96	0	3628.74
MW-57	07/01/95	3787.70	158.06	0	3629.64
MW-57	10/01/95	3787.70	159.23	0	3628.47
MW-57	01/16/96	3787.70	159.67	0	3628.03
MW-57	04/17/96	3787.70	161.95	0	3625.75
MW-57	07/16/96	3787.70	162.02	0	3625.68
MW-57	10/14/96	3787.70	158.83	0	3628.87
MW-57	02/04/97	3787.70	159.89	0	3627.81
MW-57	04/29/97	3787.70	160.23	0	3627.47
MW-57	07/15/97	3787.70	160.29	0	3627.41
MW-57	09/30/97	3787.70	161.30	0	3626.40
MW-57	10/09/97	3787.70	161.33	0	3626.37
MW-57	10/14/97	3787.70	161.13	0	3626.57
MW-57	10/29/97	3787.70	161.04	0.01	3626.66
MW-57	11/04/97	3787.70	161.23	0.01	3626.47
MW-57	11/12/97	3787.70	161.26	0.01	3626.44
MW-57	11/19/97	3787.70	161.34	0.01	3626.36
MW-57	11/24/97	3787.70	161.33	0	3626.37
MW-57	12/10/97	3787.70	161.30	0	3626.40
MW-57	01/28/98	3787.70	161.11	0	3626.59
MW-57	02/25/98	3787.70	161.44	0	3626.26
MW-57	04/27/98	3787.70	161.29	0	3626.41
MW-57	05/28/98	3787.70	161.67	0	3626.03
MW-57	06/16/98	3787.70	161.62	0	3626.08
MW-57	10/10/98	3787.70	162.11	0	3625.59
MW-57	01/27/99	3787.70	162.16	0	3625.54
MW-57	04/19/99	3787.70	162.33	0	3625.37
MW-57	01/05/00	3787.70	162.62	0	3625.08
MW-57	04/26/00	3787.70	162.70	0	3625.00
MW-57	09/27/00	3787.70	163.02	0	3624.68
MW-57	04/16/01	3787.70	163.15	0	3624.55
MW-57	10/29/01	3787.70	163.44	0	3624.26
MW-57	04/15/02	3787.70	163.52	0	3624.18
MW-57	10/14/02	3787.70	162.26	0	3625.44

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-58	07/16/91	3824.07	197.91	0	3626.16
MW-58	08/21/91	3824.07	193.76	0	3630.31
MW-58	09/18/91	3824.07	193.26	0	3630.81
MW-58	10/22/91	3824.07	194.45	0	3629.62
MW-58	11/15/91	3824.07	194.77	0	3629.30
MW-58	01/16/96	3824.07	D	-	-
MW-58	07/16/96	3824.07	D	-	-
MW-58	10/14/96	3824.07	196.01	0.01	3628.06
MW-58	02/04/97	3824.07	203.00	0	3621.07
MW-58	04/28/97	3824.07	204.14	0	3619.93
MW-58	07/15/97	3824.07	197.66	0	3626.41
MW-58	10/01/97	3824.07	199.20	0.3	3625.08
MW-58	10/09/97	3824.07	199.52	0.67	3625.03
MW-58	10/14/97	3824.07	196.10	0	3627.97
MW-58	01/28/98	3824.07	198.55	0	3625.52
MW-58	05/28/98	3824.07	205.14	0	3618.93
MW-58	10/11/98	3824.07	200.48	0	3623.59
MW-58	01/27/99	3824.07	D	-	-
MW-58	04/19/99	3824.07	217.17	0	3606.90
MW-58	01/05/00	3824.07	210.57	0	3613.50
MW-58	04/26/00	3824.07	223.51	0	3600.56
MW-58	09/27/00	3824.07	220.18	0	3603.89
MW-58	04/16/01	3824.07	114.83	0	3709.24
MW-58	10/29/01	3824.07	177.31	0	3644.41
MW-58	04/15/02	3824.07	201.92	0	3622.15
MW-58	10/14/02	3824.07	199.69	0	3624.38
MW-59	07/16/91	3819.59	191.98	0	3627.61
MW-59	08/21/91	3819.59	189.84	0	3629.75
MW-59	09/18/91	3819.59	189.38	0	3630.21
MW-59	10/22/91	3819.59	190.65	0	3628.94
MW-59	11/15/91	3819.59	190.00	0	3629.59
MW-59	01/16/96	3819.59	192.56	0.07	3627.08
MW-59	04/17/96	3819.59	193.37	1.37	3627.22
MW-59	07/16/96	3819.59	193.40	1.42	3627.22
MW-59	10/14/96	3819.59	192.43	1.22	3628.05
MW-59	02/04/97	3819.59	193.70	1.28	3626.82
MW-59	04/29/97	3819.59	194.09	1.14	3626.33
MW-59	07/15/97	3819.59	194.11	1.17	3626.33
MW-59	09/30/97	3819.59	195.30	1.2	3625.16
MW-59	10/09/97	3819.59	194.05	0	3625.54
MW-59	10/14/97	3819.59	195.81	1.99	3625.23
MW-59	01/28/98	3819.59	193.94	0	3625.65
MW-59	04/27/98	3819.59	194.15	0	3625.44
MW-59	05/28/98	3819.59	195.72	1.16	3624.71
MW-59	06/16/98	3819.59	195.59	1.19	3624.86
MW-59	10/10/98	3819.59	194.84	1.09	3625.54
MW-59	01/27/99	3819.59	195.95	0.89	3624.29
MW-59	04/19/99	3819.59	195.95	0.78	3624.21
MW-59	01/05/00	3819.59	195.39	0	3624.20
MW-59	04/26/00	3819.59	193.72	0	3625.87
MW-59	09/27/00	3819.59	196.28	0	3623.31
MW-59	04/16/01	3819.59	196.48	0	3623.11
MW-59	10/29/01	3819.59	196.58	0	3623.01
MW-59	04/15/02	3819.59	195.69	0	3623.90
MW-59	10/14/02	3819.59	195.40	0	3624.19

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-60	07/16/91	3815.28	188.22	0	3627.06
MW-60	08/21/91	3815.28	184.81	0	3630.47
MW-60	09/18/91	3815.28	184.32	0	3630.96
MW-60	10/22/91	3815.28	185.50	0	3629.78
MW-60	11/15/91	3815.28	185.43	0	3629.85
MW-60	03/01/92	3815.28	186.00	0	3629.28
MW-60	04/01/92	3815.28	185.79	0	3629.49
MW-60	05/01/92	3815.28	180.10	0	3635.18
MW-60	06/01/92	3815.28	181.67	0	3633.61
MW-60	07/01/92	3815.28	183.21	0	3632.07
MW-60	08/01/92	3815.28	183.61	0	3631.67
MW-60	09/01/92	3815.28	183.94	0	3631.34
MW-60	10/01/92	3815.28	184.18	0	3631.10
MW-60	11/01/92	3815.28	184.44	0	3630.84
MW-60	12/01/92	3815.28	184.67	0	3630.61
MW-60	01/01/93	3815.28	184.75	0	3630.53
MW-60	02/01/93	3815.28	184.86	0	3630.42
MW-60	03/01/93	3815.28	185.08	0	3630.20
MW-60	04/01/93	3815.28	185.02	0	3630.26
MW-60	05/01/93	3815.28	185.29	0	3629.99
MW-60	06/01/93	3815.28	185.23	0	3630.05
MW-60	07/01/93	3815.28	185.47	0	3629.81
MW-60	08/01/93	3815.28	185.41	0	3629.87
MW-60	09/01/93	3815.28	185.66	0	3629.62
MW-60	10/01/93	3815.28	185.70	0	3629.58
MW-60	11/01/93	3815.28	185.96	0	3629.32
MW-60	12/01/93	3815.28	185.98	0	3629.30
MW-60	01/01/94	3815.28	185.93	0	3629.35
MW-60	02/01/94	3815.28	186.79	0	3628.49
MW-60	03/01/94	3815.28	184.91	0	3630.37
MW-60	04/01/94	3815.28	186.91	0	3628.37
MW-60	05/01/94	3815.28	186.71	0	3628.57
MW-60	07/01/94	3815.28	186.54	0	3628.74
MW-60	08/01/94	3815.28	185.34	0	3629.94
MW-60	09/01/94	3815.28	186.24	0	3629.04
MW-60	10/01/94	3815.28	186.44	0	3628.84
MW-60	12/01/94	3815.28	187.54	0	3627.74
MW-60	01/01/95	3815.28	186.81	0	3628.47
MW-60	04/01/95	3815.28	187.01	0	3628.27
MW-60	07/01/95	3815.28	187.09	0	3628.19
MW-60	10/01/95	3815.28	187.29	0	3627.99
MW-60	01/19/96	3815.28	187.76	0	3627.52
MW-60	04/17/96	3815.28	187.83	0	3627.45
MW-60	07/16/96	3815.28	188.04	0	3627.24
MW-60	10/13/96	3815.28	187.89	0	3627.39
MW-60	02/04/97	3815.28	188.19	0	3627.09
MW-60	03/18/97	3815.28	188.40	0	3626.88
MW-60	04/28/97	3815.28	188.48	0	3626.80
MW-60	07/14/97	3815.28	188.74	0	3626.54
MW-60	10/01/97	3815.28	189.70	0	3625.58
MW-60	10/09/97	3815.28	189.65	0	3625.63
MW-60	10/13/97	3815.28	189.97	0	3625.31
MW-60	01/27/98	3815.28	189.37	0	3625.91
MW-60	04/27/98	3815.28	189.65	0	3625.63
MW-60	05/28/98	3815.28	190.32	0	3624.96
MW-60	06/15/98	3815.28	189.90	0	3625.38
MW-60	10/10/98	3815.28	190.04	0	3625.24
MW-60	01/27/99	3815.28	190.99	0	3624.29
MW-60	04/19/99	3815.28	190.92	0	3624.36
MW-60	01/05/00	3815.28	190.71	0	3624.57
MW-60	04/26/00	3815.28	190.88	0	3624.40
MW-60	09/27/00	3815.28	192.24	0	3623.04
MW-60	04/16/01	3815.28	191.16	0	3624.12
MW-60	10/29/01	3815.28	191.65	0	3623.63
MW-60	04/15/02	3815.28	191.62	0	3623.66
MW-60	10/14/02	3815.28	190.59	0	3624.69

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-61A	07/16/91	3815.97	189.06	0	3626.91
MW-61A	08/21/91	3815.97	186.85	0	3629.12
MW-61A	09/18/91	3815.97	186.92	0	3629.05
MW-61A	10/22/91	3815.97	187.99	0	3627.98
MW-61A	11/15/91	3815.97	187.00	0	3628.97
MW-61A	10/01/94	3815.97	187.26	0	3628.71
MW-61A	12/01/94	3815.97	188.24	0	3627.73
MW-61A	01/01/95	3815.97	187.57	0	3628.40
MW-61A	02/04/97	3815.97	187.98	0	3627.99
MW-61A	04/28/97	3815.97	188.14	0	3627.83
MW-61A	07/14/97	3815.97	191.60	0	3624.37
MW-61A	09/30/97	3815.97	191.10	0	3624.87
MW-61A	10/09/97	3815.97	192.16	0.01	3623.81
MW-61A	10/13/97	3815.97	190.78	0	3625.19
MW-61A	01/27/98	3815.97	192.27	0	3623.70
MW-61A	04/27/98	3815.97	192.64	0	3623.33
MW-61A	05/28/98	3815.97	192.00	0	3623.97
MW-61A	06/15/98	3815.97	193.73	0	3622.24
MW-61A	10/10/98	3815.97	193.22	0	3622.75
MW-61A	01/27/99	3815.97	193.37	0	3622.60
MW-61A	04/19/99	3815.97	202.48	0	3613.49
MW-61A	01/05/00	3815.97	193.51	0	3622.46
MW-61A	04/26/00	3815.97	192.33	0	3623.64
MW-61A	09/27/00	3815.97	192.75	0	3623.22
MW-61A	04/16/01	3815.97	192.52	0	3623.45
MW-61A	10/29/01	3815.97	192.80	0	3623.17
MW-61A	04/15/02	3815.97	193.02	0	3622.95
MW-61A	10/14/02	3815.97	192.02	0	3623.95
MW-62	09/18/91	3819.90	189.51	0	3630.39
MW-62	09/18/91	3819.90	189.11	0	3630.79
MW-62	10/22/91	3819.90	190.80	0	3629.10
MW-62	11/15/91	3819.90	189.60	0	3630.30
MW-62	01/16/96	3819.90	192.04	0.01	3627.86
MW-62	04/17/96	3819.90	192.39	0.01	3627.51
MW-62	07/16/96	3819.90	192.34	0	3627.56
MW-62	10/14/96	3819.90	191.45	0.01	3628.45
MW-62	02/04/97	3819.90	192.57	0	3627.33
MW-62	04/28/97	3819.90	192.89	0	3627.01
MW-62	07/15/97	3819.90	193.26	0	3626.64
MW-62	09/30/97	3819.90	194.20	0	3625.70
MW-62	10/09/97	3819.90	194.20	0	3625.70
MW-62	10/14/97	3819.90	193.80	0	3626.10
MW-62	10/29/97	3819.90	194.22	0.01	3625.68
MW-62	11/04/97	3819.90	194.18	0	3625.72
MW-62	11/12/97	3819.90	194.14	0.02	3625.77
MW-62	11/19/97	3819.90	194.30	0.01	3625.60
MW-62	11/24/97	3819.90	194.24	0.01	3625.66
MW-62	12/10/97	3819.90	194.33	0	3625.57
MW-62	01/28/98	3819.90	193.81	0	3626.09
MW-62	02/25/98	3819.90	194.32	0	3625.58
MW-62	04/27/98	3819.90	194.22	0	3625.68
MW-62	05/28/98	3819.90	194.76	0	3625.14
MW-62	06/16/98	3819.90	194.34	0	3625.56
MW-62	10/10/98	3819.90	194.77	0	3625.13
MW-62	01/27/99	3819.90	194.92	0	3624.98
MW-62	04/19/99	3819.90	195.03	0	3624.87
MW-62	01/05/00	3819.90	195.19	0	3624.71
MW-62	04/26/00	3819.90	195.41	0	3624.49
MW-62	09/27/00	3819.90	196.80	0	3623.10
MW-62	04/16/01	3819.90	195.66	0	3624.24
MW-62	10/29/01	3819.90	196.14	0	3623.76
MW-62	04/15/02	3819.90	196.16	0	3623.74
MW-62	10/14/02	3819.90	195.03	0	3624.87

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-63	08/22/91	3826.16	193.73	0	3632.43
MW-63	09/18/91	3826.16	190.65	0	3635.51
MW-63	10/22/91	3826.16	194.29	0	3631.87
MW-63	11/15/91	3826.16	195.34	0	3630.82
MW-63	03/01/92	3826.16	196.82	0	3629.34
MW-63	04/01/92	3826.16	197.02	0	3629.14
MW-63	05/01/92	3826.16	183.25	0	3642.91
MW-63	06/01/92	3826.16	187.21	0	3638.95
MW-63	07/01/92	3826.16	189.00	0	3637.16
MW-63	08/01/92	3826.16	192.73	0	3633.43
MW-63	09/01/92	3826.16	193.65	0	3632.51
MW-63	10/01/92	3826.16	194.24	0	3631.92
MW-63	11/01/92	3826.16	194.90	0	3631.26
MW-63	12/01/92	3826.16	195.32	0	3630.84
MW-63	01/01/93	3826.16	195.55	0	3630.61
MW-63	02/01/93	3826.16	195.84	0	3630.32
MW-63	03/01/93	3826.16	196.14	0	3630.02
MW-63	04/01/93	3826.16	195.99	0	3630.17
MW-63	05/01/93	3826.16	196.34	0	3629.82
MW-63	06/01/93	3826.16	196.43	0	3629.73
MW-63	07/01/93	3826.16	196.62	0	3629.54
MW-63	08/01/93	3826.16	196.69	0	3629.47
MW-63	09/01/93	3826.16	196.93	0	3629.23
MW-63	10/01/93	3826.16	196.89	0	3629.27
MW-63	11/01/93	3826.16	197.32	0	3628.84
MW-63	12/01/93	3826.16	197.43	0	3628.73
MW-63	01/01/94	3826.16	197.33	0	3628.83
MW-63	02/01/94	3826.16	198.42	0	3627.74
MW-63	03/01/94	3826.16	198.37	0	3627.79
MW-63	04/01/94	3826.16	197.47	0	3628.69
MW-63	05/01/94	3826.16	198.28	0	3627.88
MW-63	07/01/94	3826.16	197.98	0	3628.18
MW-63	08/01/94	3826.16	197.12	0	3629.04
MW-63	09/01/94	3826.16	197.33	0	3628.83
MW-63	10/01/94	3826.16	197.74	0	3628.42
MW-63	12/01/94	3826.16	199.00	0	3627.16
MW-63	01/01/95	3826.16	198.20	0	3627.96
MW-63	04/01/95	3826.16	198.46	0	3627.70
MW-63	07/01/95	3826.16	198.49	0	3627.67
MW-63	10/01/95	3826.16	198.57	0	3627.59
MW-63	01/16/96	3826.16	198.90	0	3627.26
MW-63	04/17/96	3826.16	199.23	0	3626.93
MW-63	07/16/96	3826.16	198.91	0	3627.25
MW-63	10/13/96	3826.16	194.89	0	3631.27
MW-63	02/04/97	3826.16	199.01	0	3627.15
MW-63	04/28/97	3826.16	199.46	0	3626.70
MW-63	07/14/97	3826.16	200.01	0	3626.15
MW-63	10/01/97	3826.16	200.80	0	3625.36
MW-63	10/09/97	3826.16	209.05	0	3617.11
MW-63	10/13/97	3826.16	200.88	0	3625.28
MW-63	01/27/98	3826.16	200.96	0	3625.20
MW-63	04/27/98	3826.16	201.28	0	3624.88
MW-63	05/28/98	3826.16	200.72	0	3625.44
MW-63	06/16/98	3826.16	201.56	0	3624.60
MW-63	10/09/98	3826.16	202.01	0	3624.15
MW-63	01/27/99	3826.16	202.44	0	3623.72
MW-63	04/19/99	3826.16	202.39	0	3623.77
MW-63	01/05/00	3826.16	202.45	0	3623.71
MW-63	04/26/00	3826.16	202.80	0	3623.36
MW-63	09/27/00	3826.16	202.88	0	3623.28
MW-63	04/16/01	3826.16	203.06	0	3623.10
MW-63	10/29/01	3826.16	203.03	0	3623.13
MW-63	04/15/02	3826.16	203.39	0	3622.77
MW-63	10/14/02	3826.16	198.14	0	3628.02

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-64	08/21/91	3798.57	167.43	0	3631.14
MW-64	09/18/91	3798.57	167.21	0	3631.36
MW-64	10/22/91	3798.57	168.66	0	3629.91
MW-64	11/15/91	3798.57	168.90	0	3629.67
MW-64	03/01/92	3798.57	169.20	0	3629.37
MW-64	04/01/92	3798.57	169.00	0	3629.57
MW-64	05/01/92	3798.57	161.58	0	3636.99
MW-64	06/01/92	3798.57	164.25	0	3634.32
MW-64	07/01/92	3798.57	166.36	0	3632.21
MW-64	08/01/92	3798.57	166.82	0	3631.75
MW-64	09/01/92	3798.57	167.17	0	3631.40
MW-64	10/01/92	3798.57	167.45	0	3631.12
MW-64	11/01/92	3798.57	167.63	0	3630.94
MW-64	12/01/92	3798.57	167.85	0	3630.72
MW-64	01/01/93	3798.57	167.99	0	3630.58
MW-64	02/01/93	3798.57	168.08	0	3630.49
MW-64	03/01/93	3798.57	168.26	0	3630.31
MW-64	04/01/93	3798.57	168.22	0	3630.35
MW-64	05/01/93	3798.57	168.52	0	3630.05
MW-64	06/01/93	3798.57	168.46	0	3630.11
MW-64	07/01/93	3798.57	168.70	0	3629.87
MW-64	08/01/93	3798.57	168.59	0	3629.98
MW-64	09/01/93	3798.57	168.83	0	3629.74
MW-64	10/01/93	3798.57	168.88	0	3629.69
MW-64	11/01/93	3798.57	169.09	0	3629.48
MW-64	12/01/93	3798.57	169.13	0	3629.44
MW-64	01/01/94	3798.57	169.12	0	3629.45
MW-64	02/01/94	3798.57	169.92	0	3628.65
MW-64	03/01/94	3798.57	170.05	0	3628.52
MW-64	04/01/94	3798.57	170.03	0	3628.54
MW-64	05/01/94	3798.57	169.89	0	3628.68
MW-64	07/01/94	3798.57	169.65	0	3628.92
MW-64	08/01/94	3798.57	168.39	0	3630.18
MW-64	09/01/94	3798.57	169.32	0	3629.25
MW-64	10/01/94	3798.57	169.56	0	3629.01
MW-64	12/01/94	3798.57	170.71	0	3627.86
MW-64	01/01/95	3798.57	169.94	0	3628.63
MW-64	04/01/95	3798.57	170.13	0	3628.44
MW-64	07/01/95	3798.57	170.24	0	3628.33
MW-64	10/01/95	3798.57	170.33	0	3628.24
MW-64	01/19/96	3798.57	170.87	0	3627.70
MW-64	04/17/96	3798.57	170.98	0	3627.59
MW-64	07/16/96	3798.57	171.27	0.33	3627.54
MW-64	10/13/96	3798.57	170.69	0.29	3628.09
MW-64	02/04/97	3798.57	171.53	0.38	3627.31
MW-64	03/18/97	3798.57	171.95	0.55	3627.02
MW-64	04/28/97	3798.57	171.93	0.55	3627.04
MW-64	07/15/97	3798.57	171.41	0.53	3627.54
MW-64	10/01/97	3798.57	173.70	1.4	3625.89
MW-64	10/09/97	3798.57	173.58	1.28	3625.92
MW-64	10/13/97	3798.57	173.33	1.29	3626.18
MW-64	10/21/97	3798.57	173.34	1.17	3626.08
MW-64	11/12/97	3798.57	176.15	0	3622.42
MW-64	11/19/97	3798.57	173.02	0	3625.55
MW-64	11/24/97	3798.57	174.56	0	3624.01
MW-64	12/10/97	3798.57	174.50	0	3624.07
MW-64	01/06/98	3798.57	174.50	0	3624.07
MW-64	01/15/98	3798.57	174.40	0	3624.17
MW-64	01/20/98	3798.57	174.56	0	3624.01
MW-64	01/28/98	3798.57	174.56	0	3624.01
MW-64	02/03/98	3798.57	173.16	0	3625.41
MW-64	02/25/98	3798.57	172.77	0	3625.80
MW-64	04/27/98	3798.57	172.74	0	3625.83
MW-64	05/28/98	3798.57	173.84	0	3624.73
MW-64	06/15/98	3798.57	173.03	0	3625.54
MW-64	10/10/98	3798.57	173.41	0	3625.16
MW-64	01/27/99	3798.57	173.54	0	3625.03
MW-64	04/19/99	3798.57	173.62	0	3624.95
MW-64	01/05/00	3798.57	173.82	0	3624.75
MW-64	04/26/00	3798.57	173.96	0	3624.61
MW-64	09/27/00	3798.57	174.37	0	3624.20
MW-64	04/16/01	3798.57	174.48	0	3624.09
MW-64	10/29/01	3798.57	174.79	0	3623.78
MW-64	04/15/02	3798.57	174.80	0	3623.77
MW-64	10/14/02	3798.57	173.94	0	3624.63

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-65A	08/21/91	3763.26	131.36	0	3631.90
MW-65A	09/18/91	3763.26	130.91	0	3632.35
MW-65A	10/22/91	3763.26	133.09	0	3630.17
MW-65A	11/15/91	3763.26	133.70	0	3629.56
MW-65A	01/16/96	3763.26	136.11	1.3	3628.09
MW-65A	06/15/98	3763.26	137.96	0.93	3625.97
MW-65A	01/05/00	3763.26	139.58	0.97	3624.39
MW-65A	04/26/00	3763.26	138.78	0	3624.48
MW-65A	09/27/00	3763.26	139.93	0	3623.33
MW-65A	04/16/01	3763.26	139.61	0	3623.65
MW-65A	10/29/01	3763.26	139.99	0	3623.27
MW-65A	04/15/02	3763.26	140.06	0.9	3623.86
MW-65A	10/14/02	3763.26	138.45	0	3624.81
MW-66	08/21/91	3828.98	196.77	0	3632.21
MW-66	09/18/91	3828.98	198.73	0	3630.25
MW-66	10/22/91	3828.98	199.70	0	3629.28
MW-66	11/15/91	3828.98	199.88	0	3629.10
MW-66	03/01/92	3828.98	200.37	0	3628.61
MW-66	04/01/92	3828.98	200.25	0	3628.73
MW-66	05/01/92	3828.98	195.25	0	3633.73
MW-66	06/01/92	3828.98	196.08	0	3632.90
MW-66	07/01/92	3828.98	197.35	0	3631.63
MW-66	08/01/92	3828.98	197.77	0	3631.21
MW-66	09/01/92	3828.98	198.17	0	3630.81
MW-66	10/01/92	3828.98	198.40	0	3630.58
MW-66	11/01/92	3828.98	198.76	0	3630.22
MW-66	12/01/92	3828.98	198.98	0	3630.00
MW-66	01/01/93	3828.98	199.10	0	3629.88
MW-66	02/01/93	3828.98	199.23	0	3629.75
MW-66	03/01/93	3828.98	199.49	0	3629.49
MW-66	04/01/93	3828.98	199.38	0	3629.60
MW-66	05/01/93	3828.98	199.63	0	3629.35
MW-66	06/01/93	3828.98	199.59	0	3629.39
MW-66	07/01/93	3828.98	199.82	0	3629.16
MW-66	08/01/93	3828.98	199.78	0	3629.20
MW-66	09/01/93	3828.98	200.01	0	3628.97
MW-66	10/01/93	3828.98	200.09	0	3628.89
MW-66	11/01/93	3828.98	200.35	0	3628.63
MW-66	12/01/93	3828.98	200.42	0	3628.56
MW-66	01/01/94	3828.98	200.33	0	3628.65
MW-66	02/01/94	3828.98	201.39	0	3627.59
MW-66	03/01/94	3828.98	201.44	0	3627.54
MW-66	04/01/94	3828.98	201.36	0	3627.62
MW-66	05/01/94	3828.98	201.26	0	3627.72
MW-66	07/01/94	3828.98	200.91	0	3628.07
MW-66	08/01/94	3828.98	199.86	0	3629.12
MW-66	09/01/94	3828.98	200.66	0	3628.32
MW-66	10/01/94	3828.98	200.83	0	3628.15
MW-66	12/01/94	3828.98	201.96	0	3627.02
MW-66	01/01/95	3828.98	201.04	0	3627.94
MW-66	04/01/95	3828.98	202.26	0	3626.72
MW-66	07/01/95	3828.98	201.59	0	3627.39
MW-66	10/01/95	3828.98	201.62	0	3627.36
MW-66	01/16/96	3828.98	200.89	0	3628.09
MW-66	04/17/96	3828.98	202.29	0	3626.69
MW-66	07/16/96	3828.98	202.45	0	3626.53
MW-66	10/13/96	3828.98	200.80	0	3628.18
MW-66	02/04/97	3828.98	202.60	0	3626.38
MW-66	04/28/97	3828.98	202.84	0	3626.14
MW-66	07/14/97	3828.98	202.72	0	3626.26
MW-66	09/30/97	3828.98	204.00	0	3624.98
MW-66	10/09/97	3828.98	204.20	0	3624.78
MW-66	10/13/97	3828.98	203.77	0	3625.21
MW-66	01/27/98	3828.98	203.79	0	3625.19
MW-66	04/27/98	3828.98	204.09	0	3624.89
MW-66	05/28/98	3828.98	204.18	0	3624.80
MW-66	06/15/98	3828.98	204.37	0	3624.61
MW-66	10/10/98	3828.98	204.86	0	3624.12
MW-66	01/27/99	3828.98	205.05	0	3623.93
MW-66	04/19/99	3828.98	205.10	0	3623.88
MW-66	01/05/99	3828.98	205.13	0	3623.85
MW-66	04/26/00	3828.98	205.41	0	3623.57
MW-66	09/27/00	3828.98	205.78	0	3623.20
MW-66	04/16/01	3828.98	205.59	0	3623.39
MW-66	10/29/01	3828.98	206.04	0	3622.94
MW-66	04/15/02	3828.98	205.98	0	3623.00
MW-66	10/14/02	3828.98	199.87	0	3629.11

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-67	09/18/91	3765.87	133.99	0	3631.88
MW-67	10/22/91	3765.87	135.74	0	3630.13
MW-67	11/15/91	3765.87	136.00	0	3629.87
MW-67	03/01/92	3765.87	136.35	0	3629.52
MW-67	04/01/92	3765.87	136.25	0	3629.62
MW-67	05/01/92	3765.87	127.66	0	3638.21
MW-67	06/01/92	3765.87	131.08	0	3634.79
MW-67	07/01/92	3765.87	133.24	0	3632.63
MW-67	08/01/92	3765.87	133.89	0	3631.98
MW-67	09/01/92	3765.87	134.24	0	3631.63
MW-67	10/01/92	3765.87	134.33	0	3631.54
MW-67	11/01/92	3765.87	134.76	0	3631.11
MW-67	12/01/92	3765.87	135.00	0	3630.87
MW-67	01/01/93	3765.87	135.10	0	3630.77
MW-67	02/01/93	3765.87	135.19	0	3630.68
MW-67	03/01/93	3765.87	135.39	0	3630.48
MW-67	04/01/93	3765.87	135.37	0	3630.50
MW-67	05/01/93	3765.87	135.63	0	3630.24
MW-67	06/01/93	3765.87	135.58	0	3630.29
MW-67	07/01/93	3765.87	135.81	0	3630.06
MW-67	08/01/93	3765.87	135.69	0	3630.18
MW-67	09/01/93	3765.87	135.99	0	3629.88
MW-67	10/01/93	3765.87	136.04	0	3629.83
MW-67	11/01/93	3765.87	136.26	0	3629.61
MW-67	12/01/93	3765.87	136.31	0	3629.56
MW-67	01/01/94	3765.87	136.25	0	3629.62
MW-67	02/01/94	3765.87	137.16	0	3628.71
MW-67	03/01/94	3765.87	137.22	0	3628.65
MW-67	04/01/94	3765.87	137.31	0	3628.56
MW-67	05/01/94	3765.87	137.14	0	3628.73
MW-67	07/01/94	3765.87	136.82	0	3629.05
MW-67	08/01/94	3765.87	135.55	0	3630.32
MW-67	09/01/94	3765.87	136.58	0	3629.29
MW-67	10/01/94	3765.87	136.71	0	3629.16
MW-67	12/01/94	3765.87	137.89	0	3627.98
MW-67	01/01/95	3765.87	137.09	0	3628.78
MW-67	04/01/95	3765.87	137.29	0	3628.58
MW-67	07/01/95	3765.87	137.40	0	3628.47
MW-67	10/01/95	3765.87	137.54	0	3628.33
MW-67	01/19/96	3765.87	138.02	0	3627.85
MW-67	04/17/96	3765.87	138.13	0	3627.74
MW-67	07/16/96	3765.87	138.14	0	3627.73
MW-67	10/14/96	3765.87	137.53	0	3628.34
MW-67	02/04/97	3765.87	138.37	0	3627.50
MW-67	04/28/97	3765.87	138.64	0	3627.23
MW-67	07/15/97	3765.87	138.95	0	3626.92
MW-67	10/01/97	3765.87	140.50	0.8	3625.95
MW-67	10/09/97	3765.87	144.05	4.35	3624.99
MW-67	10/13/97	3765.87	139.98	0.67	3626.37
MW-67	10/21/97	3765.87	140.55	0.75	3625.86
MW-67	10/29/97	3765.87	140.54	0.83	3625.93
MW-67	11/04/97	3765.87	140.43	0.75	3625.98
MW-67	11/12/97	3765.87	140.52	0.87	3625.98
MW-67	11/19/97	3765.87	140.55	0.77	3625.88
MW-67	11/24/97	3765.87	140.70	0.95	3625.86
MW-67	12/10/97	3765.87	140.57	0.85	3625.92
MW-67	01/06/98	3765.87	139.76	0	3626.11
MW-67	01/15/98	3765.87	139.75	0	3626.12
MW-67	01/20/98	3765.87	141.43	0.9	3625.09
MW-67	01/28/98	3765.87	140.14	0.77	3626.29
MW-67	02/03/98	3765.87	141.33	0.73	3625.07
MW-67	02/10/98	3765.87	141.32	0	3624.55
MW-67	02/17/98	3765.87	141.81	0.44	3624.38
MW-67	02/25/98	3765.87	141.12	0	3624.75
MW-67	04/27/98	3765.87	141.13	0.65	3625.21
MW-67	05/28/98	3765.87	141.43	0	3624.44
MW-67	06/15/98	3765.87	141.49	0	3624.38
MW-67	10/10/98	3765.87	140.50	0.05	3625.40
MW-67	04/19/99	3765.87	140.72	0	3625.15
MW-67	01/05/00	3765.87	140.77	0.47	3625.44
MW-67	04/26/00	3765.87	141.72	0	3624.15
MW-67	09/27/00	3765.87	141.51	0	3624.36
MW-67	04/16/01	3765.87	141.54	0	3624.33
MW-67	10/29/01	3765.87	141.49	0	3624.38
MW-67	04/15/02	3765.87	141.67	0	3624.20
MW-67	10/14/02	3765.87	140.89	0	3624.98

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-68	09/18/91	3797.83	166.68	0	3631.15
MW-68	10/22/91	3797.83	169.37	0	3628.46
MW-68	11/15/91	3797.83	167.30	0	3630.53
MW-68	10/14/97	3797.83	171.76	0	3626.07
MW-68	01/27/98	3797.83	173.22	1.99	3626.06
MW-68	06/17/98	3797.83	172.90	0.85	3625.55
MW-68	01/05/00	3797.83	173.17	0	3624.66
MW-68	04/26/00	3797.83	173.30	0.18	3624.66
MW-68	09/27/00	3797.83	173.72	0	3624.11
MW-68	04/16/01	3797.83	175.00	1.23	3623.73
MW-68	10/29/01	3797.83	174.42	0.56	3623.82
MW-68	04/15/02	3797.83	174.69	0.38	3623.42
MW-68	10/14/02	3797.83	172.68	0	3625.15
MW-70	09/18/91	3822.57	191.59	0	3630.98
MW-70	10/22/91	3822.57	191.68	0	3630.89
MW-70	11/15/91	3822.57	192.20	0	3630.37
MW-70	03/01/92	3822.57	192.74	0	3629.83
MW-70	04/01/92	3822.57	192.62	0	3629.95
MW-70	05/01/92	3822.57	189.97	0	3632.60
MW-70	06/01/92	3822.57	188.42	0	3634.15
MW-70	07/01/92	3822.57	188.87	0	3633.70
MW-70	08/01/92	3822.57	189.54	0	3633.03
MW-70	09/01/92	3822.57	190.02	0	3632.55
MW-70	10/01/92	3822.57	190.48	0	3632.09
MW-70	11/01/92	3822.57	190.86	0	3631.71
MW-70	12/01/92	3822.57	191.17	0	3631.40
MW-70	01/01/93	3822.57	191.39	0	3631.18
MW-70	02/01/93	3822.57	191.54	0	3631.03
MW-70	03/01/93	3822.57	191.77	0	3630.80
MW-70	04/01/93	3822.57	191.80	0	3630.77
MW-70	05/01/93	3822.57	192.09	0	3630.48
MW-70	06/01/93	3822.57	192.18	0	3630.39
MW-70	07/01/93	3822.57	192.32	0	3630.25
MW-70	08/01/93	3822.57	192.30	0	3630.27
MW-70	09/01/93	3822.57	192.53	0	3630.04
MW-70	10/01/93	3822.57	192.65	0	3629.92
MW-70	11/01/93	3822.57	192.91	0	3629.66
MW-70	12/01/93	3822.57	192.96	0	3629.61
MW-70	01/01/94	3822.57	192.99	0	3629.58
MW-70	02/01/94	3822.57	194.02	0	3628.55
MW-70	03/01/94	3822.57	194.00	0	3628.57
MW-70	04/01/94	3822.57	193.19	0	3629.38
MW-70	05/01/94	3822.57	193.86	0	3628.71
MW-70	07/01/94	3822.57	193.59	0	3628.98
MW-70	08/01/94	3822.57	193.09	0	3629.48
MW-70	09/01/94	3822.57	193.17	0	3629.40
MW-70	10/01/94	3822.57	193.38	0	3629.19
MW-70	12/01/94	3822.57	194.58	0	3627.99
MW-70	01/01/95	3822.57	192.83	0	3629.74
MW-70	04/01/95	3822.57	194.11	0	3628.46
MW-70	07/01/95	3822.57	194.19	0	3628.38
MW-70	10/01/95	3822.57	194.19	0	3628.38
MW-70	01/16/96	3822.57	194.68	0	3627.89
MW-70	04/17/96	3822.57	194.94	0	3627.63
MW-70	07/15/96	3822.57	194.70	0	3627.87
MW-70	10/13/96	3822.57	193.98	0	3628.59
MW-70	02/03/97	3822.57	194.47	0	3628.10
MW-70	04/28/97	3822.57	195.01	0	3627.56
MW-70	07/14/97	3822.57	195.44	0	3627.13
MW-70	10/01/97	3822.57	196.20	0	3626.37
MW-70	10/13/97	3822.57	196.05	0	3626.52
MW-70	10/29/97	3822.57	196.24	0.01	3626.33
MW-70	11/04/97	3822.57	196.35	0	3626.22
MW-70	11/12/97	3822.57	196.34	0	3626.23
MW-70	11/19/97	3822.57	196.36	0.01	3626.21
MW-70	11/24/97	3822.57	196.36	0	3626.21
MW-70	12/10/97	3822.57	196.47	0	3626.10
MW-70	01/27/98	3822.57	196.22	0	3626.35
MW-70	02/25/98	3822.57	196.45	0	3626.12
MW-70	04/27/98	3822.57	196.48	0	3626.09
MW-70	05/28/98	3822.57	196.91	0	3625.66
MW-70	06/15/98	3822.57	196.74	0	3625.83
MW-70	10/09/98	3822.57	197.27	0	3625.30
MW-70	01/27/99	3822.57	199.24	0	3623.33
MW-70	04/19/99	3822.57	197.40	0	3625.17
MW-70	01/05/00	3822.57	197.73	0	3624.84
MW-70	04/26/00	3822.57	197.71	0	3624.86
MW-70	09/27/00	3822.57	198.02	0	3624.55
MW-70	04/16/01	3822.57	198.34	0	3624.23
MW-70	10/29/01	3822.57	198.30	0	3624.27
MW-70	04/15/02	3822.57	198.85	0	3623.72
MW-70	10/14/02	3822.57	196.95	0	3625.62

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-71	10/01/93	3778.05	149.68	0	3628.17
MW-71	11/01/93	3778.05	149.90	0	3628.15
MW-71	12/01/93	3778.05	149.93	0	3628.12
MW-71	01/01/94	3778.05	149.92	0	3628.13
MW-71	02/01/94	3778.05	150.94	0	3627.11
MW-71	03/01/94	3778.05	150.90	0	3627.15
MW-71	04/01/94	3778.05	149.98	0	3628.07
MW-71	05/01/94	3778.05	150.64	0	3627.41
MW-71	07/01/94	3778.05	150.37	0	3627.68
MW-71	08/01/94	3778.05	149.35	0	3628.70
MW-71	09/01/94	3778.05	150.19	0	3627.86
MW-71	10/01/94	3778.05	150.41	0	3627.64
MW-71	12/01/94	3778.05	151.41	0	3626.64
MW-71	01/01/95	3778.05	150.65	0	3627.40
MW-71	04/01/95	3778.05	150.88	0	3627.17
MW-71	07/01/95	3778.05	150.84	0	3627.21
MW-71	10/01/95	3778.05	151.15	0	3626.90
MW-71	01/16/96	3778.05	151.36	0	3626.69
MW-71	04/17/96	3778.05	151.74	0	3626.31
MW-71	07/16/96	3778.05	151.69	0	3626.36
MW-71	10/13/96	3778.05	149.72	0	3628.33
MW-71	02/04/97	3778.05	152.39	0	3625.66
MW-71	04/28/97	3778.05	152.52	0	3625.53
MW-71	07/14/97	3778.05	152.86	0	3625.19
MW-71	10/01/97	3778.05	153.40	0	3624.65
MW-71	10/09/97	3778.05	153.41	0.01	3624.64
MW-71	10/13/97	3778.05	153.39	0	3624.66
MW-71	01/28/98	3778.05	153.47	0	3624.58
MW-71	04/27/98	3778.05	153.91	0	3624.14
MW-71	05/28/98	3778.05	153.86	0	3624.19
MW-71	06/15/98	3778.05	153.88	0	3624.17
MW-71	10/10/98	3778.05	154.34	0	3623.71
MW-71	01/27/99	3778.05	154.50	0	3623.55
MW-71	04/19/99	3778.05	154.56	0	3623.49
MW-71	01/05/00	3778.05	154.66	0	3623.39
MW-71	04/26/00	3778.05	155.04	0	3623.01
MW-71	09/27/00	3778.05	155.15	0	3622.90
MW-71	04/16/01	3778.05	155.01	0	3623.04
MW-71	10/29/01	3778.05	155.26	0	3622.79
MW-71	04/15/02	3778.05	155.50	0	3622.55
MW-71	10/14/02	3778.05	154.39	0	3623.66
MW-72	10/01/93	3819.32	190.55	0.5	3629.13
MW-72	11/01/93	3819.32	189.91	0	3629.41
MW-72	12/01/93	3819.32	196.73	3.72	3625.30
MW-72	01/16/96	3819.32	216.76	16.5	3614.60
MW-72	04/17/96	3819.32	214.60	16.35	3616.65
MW-72	07/16/96	3819.32	201.95	11.85	3626.02
MW-72	10/14/96	3819.32	211.05	5.84	3612.53
MW-72	02/04/97	3819.32	213.65	1.22	3606.56
MW-72	04/29/97	3819.32	197.65	2.72	3623.65
MW-72	07/15/97	3819.32	212.06	6.71	3612.15
MW-72	10/09/97	3819.32	228.35	0	3590.97
MW-72	10/14/97	3819.32	229.54	0	3589.78
MW-72	10/29/97	3819.32	229.55	0	3589.77
MW-72	11/04/97	3819.32	227.75	0	3591.57
MW-72	11/12/97	3819.32	227.83	0	3591.49
MW-72	11/19/97	3819.32	206.30	0.26	3613.20
MW-72	11/24/97	3819.32	227.73	0	3591.59
MW-72	12/10/97	3819.32	228.74	0	3590.58
MW-72	01/06/98	3819.32	228.54	0.02	3590.79
MW-72	01/15/98	3819.32	228.50	0	3590.82
MW-72	01/20/98	3819.32	228.92	0	3590.40
MW-72	02/03/98	3819.32	220.23	0	3599.09
MW-72	02/10/98	3819.32	224.93	0	3594.39
MW-72	02/17/98	3819.32	224.27	0	3595.05
MW-72	02/25/98	3819.32	224.67	0	3594.65
MW-72	04/27/98	3819.32	216.73	0	3602.59
MW-72	05/28/98	3819.32	229.14	0	3590.18
MW-72	06/16/98	3819.32	222.68	0	3596.64
MW-72	10/11/98	3819.32	196.22	0	3623.10
MW-72	01/27/99	3819.32	229.90	0.01	3589.43
MW-72	04/19/99	3819.32	229.80	0	3589.52
MW-72	01/05/00	3819.32	209.27	0	3610.05
MW-72	04/26/00	3819.32	196.20	0	3623.12
MW-72	09/27/00	3819.32	211.13	0	3608.19
MW-72	04/16/01	3819.32	211.42	0	3607.90
MW-72	10/29/01	3819.32	216.42	0	3602.90
MW-72	04/15/02	3819.32	197.90	0	3621.42
MW-72	10/14/02	3819.32	197.35	0.68	3622.47

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MW-73	12/01/94	3820.09	202.90	6.12	3621.85
MW-73	01/01/95	3820.09	195.75	1.68	3625.57
MW-73	04/01/95	3820.09	207.07	8.52	3619.23
MW-73	07/01/95	3820.09	204.48	6.72	3620.51
MW-73	10/01/95	3820.09	192.35	0	3627.74
MW-73	01/16/96	3820.09	192.66	0	3627.43
MW-73	04/17/96	3820.09	204.10	1.86	3617.34
MW-73	07/16/96	3820.09	193.91	1.61	3627.35
MW-73	10/14/96	3820.09	191.42	0.01	3628.67
MW-73	02/04/97	3820.09	193.00	0	3627.09
MW-73	04/29/97	3820.09	194.09	0.68	3626.49
MW-73	07/15/97	3820.09	193.70	0	3626.39
MW-73	09/30/97	3820.09	195.00	0.9	3625.74
MW-73	10/09/97	3820.09	194.92	0.72	3625.69
MW-73	10/14/97	3820.09	195.15	0	3624.94
MW-73	01/28/98	3820.09	194.50	0	3625.59
MW-73	04/27/98	3820.09	194.40	0	3625.69
MW-73	05/28/98	3820.09	194.66	0	3625.43
MW-73	06/16/98	3820.09	194.67	0	3625.42
MW-73	10/10/98	3820.09	194.47	0	3625.62
MW-73	01/27/99	3820.09	195.14	0	3624.95
MW-73	04/19/99	3820.09	195.80	0	3624.29
MW-73	01/05/00	3820.09	195.89	0	3624.20
MW-73	04/26/00	3820.09	195.79	0	3624.30
MW-73	09/27/00	3820.09	196.13	0	3623.96
MW-73	04/16/01	3820.09	196.15	0	3623.94
MW-73	10/29/01	3820.09	196.45	0	3623.64
MW-73	04/15/02	3820.09	196.24	0	3623.85
MW-73	10/14/02	3820.09	195.09	0	3625.00
MW-74	12/01/94	3820.82	192.31	0	3628.51
MW-74	01/01/95	3820.82	193.88	1.44	3627.99
MW-74	04/01/95	3820.82	189.31	0.48	3631.86
MW-74	07/01/95	3820.82	188.07	0	3632.75
MW-74	01/16/96	3820.82	188.65	0	3632.17
MW-74	04/17/96	3820.82	187.30	0	3633.52
MW-74	07/16/96	3820.82	186.52	0	3634.30
MW-74	10/14/96	3820.82	178.77	0	3642.05
MW-74	02/04/97	3820.82	182.50	0	3638.32
MW-74	04/29/97	3820.82	183.92	0	3636.90
MW-74	07/15/97	3820.82	183.74	0	3637.08
MW-74	09/30/97	3820.82	185.30	0	3635.52
MW-74	10/09/97	3820.82	185.25	0	3635.57
MW-74	10/14/97	3820.82	185.77	0	3635.05
MW-74	01/28/98	3820.82	184.15	0	3636.67
MW-74	04/27/98	3820.82	184.44	0	3636.38
MW-74	05/28/98	3820.82	134.12	0	3686.70
MW-74	06/16/98	3820.82	187.47	0	3633.35
MW-74	10/10/98	3820.82	189.19	0	3631.63
MW-74	01/27/99	3820.82	186.50	0	3634.32
MW-74	04/19/99	3820.82	133.90	0	3686.92
MW-74	01/05/00	3820.82	189.39	0	3631.43
MW-74	04/26/00	3820.82	196.45	0	3624.37
MW-74	09/27/00	3820.82	197.29	0	3623.53
MW-74	04/16/01	3820.82	197.57	0	3623.25
MW-74	10/29/01	3820.82	196.91	0	3623.91
MW-74	04/15/02	3820.82	197.27	0	3623.55
MW-74	10/14/02	3820.82	196.32	0.25	3624.68

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MW-75	12/01/94	3816.12	228.96	21.04	3603.98
MW-75	01/01/95	3816.12	209.93	12.72	3615.47
MW-75	04/01/95	3816.12	251.13	35.4	3590.83
MW-75	07/01/95	3816.12	295.32	59.52	3564.24
MW-75	01/18/96	3816.12	197.10	3.1	3621.28
MW-75	04/17/96	3816.12	189.17	0.04	3626.97
MW-75	07/16/96	3816.12	190.40	1.76	3627.00
MW-75	10/14/96	3816.12	190.01	1.79	3627.41
MW-75	02/04/97	3816.12	193.45	0	3622.67
MW-75	04/29/97	3816.12	200.64	3.34	3617.91
MW-75	07/15/97	3816.12	200.95	6.17	3619.67
MW-75	10/09/97	3816.12	200.87	4.59	3618.60
MW-75	10/14/97	3816.12	200.86	2.76	3617.27
MW-75	10/29/97	3816.12	200.62	0.54	3615.89
MW-75	11/04/97	3816.12	200.76	3.52	3617.92
MW-75	11/12/97	3816.12	196.10	0	3620.02
MW-75	11/19/97	3816.12	199.10	2.75	3619.02
MW-75	11/24/97	3816.12	200.42	5.57	3619.76
MW-75	12/10/97	3816.12	195.43	0	3620.69
MW-75	01/06/98	3816.12	214.82	0	3601.30
MW-75	01/15/98	3816.12	214.80	0	3601.32
MW-75	01/20/98	3816.12	200.95	0	3615.17
MW-75	02/03/98	3816.12	201.20	1.9	3616.30
MW-75	02/10/98	3816.12	205.10	4.5	3614.30
MW-75	02/17/98	3816.12	200.77	0.95	3616.04
MW-75	02/25/98	3816.12	203.15	2.15	3614.53
MW-75	04/27/98	3816.12	200.72	8.77	3621.80
MW-75	05/28/98	3816.12	201.72	2.7	3616.37
MW-75	06/16/98	3816.12	205.82	0	3610.30
MW-75	10/11/98	3816.12	192.53	3.8	3626.36
MW-75	01/27/99	3816.14	201.89	0.26	3614.44
MW-75	04/19/99	3816.14	207.70	0	3608.44
MW-75	01/05/00	3816.14	200.59	4.47	3618.81
MW-75	04/26/00	3816.12	194.98	0	3621.14
MW-75	09/27/00	3816.12	195.18	0	3620.94
MW-75	04/16/01	3816.12	204.02	0	3612.10
MW-75	10/29/01	3816.12	219.07	0	3597.05
MW-75	04/15/02	3816.12	195.82	0	3620.30
MW-75	10/14/02	3816.12	194.70	0	3621.42
MW-76	12/01/94	3796.01	167.36	0	3628.65
MW-76	01/01/95	3796.01	169.05	2.04	3628.45
MW-76	07/01/95	3796.01	180.14	6.84	3620.86
MW-76	10/01/95	3796.01	168.22	0.41	3628.09
MW-76	01/16/96	3796.01	168.85	0.95	3627.85
MW-76	04/17/96	3796.01	169.59	0.99	3627.14
MW-76	07/16/96	3796.01	167.04	0	3628.97
MW-76	10/14/96	3796.01	171.86	0	3624.15
MW-76	02/04/97	3796.01	169.32	0	3626.69
MW-76	04/29/97	3796.01	174.30	0	3621.71
MW-76	07/15/97	3796.01	175.10	0	3620.91
MW-76	09/30/97	3796.01	176.20	0	3619.81
MW-76	10/14/97	3796.01	173.57	0	3622.44
MW-76	01/28/98	3796.01	173.10	0	3622.91
MW-76	04/27/98	3796.01	175.25	0	3620.76
MW-76	05/28/98	3796.01	173.68	0	3622.33
MW-76	06/16/98	3796.01	175.25	0	3620.76
MW-76	01/27/99	3796.01	177.03	1	3619.71
MW-76	04/26/00	3796.01	NR	--	--
MW-76	09/27/00	3796.01	NR	--	--
MW-76	04/16/01	3796.01	NR	--	--
MW-76	10/29/01	3796.01	NR	--	--
MW-76	04/15/02	3796.01	NR	--	--
MW-76	10/14/02	3796.01	NR	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-81	10/01/95	3817.03	195.77	2.74	3623.05
MW-81	01/16/96	3817.03	199.04	4.29	3621.12
MW-81	04/17/96	3817.03	204.35	9.95	3619.94
MW-81	07/16/96	3817.03	204.26	9.37	3619.61
MW-81	10/13/96	3817.03	202.11	8.49	3621.11
MW-81	02/04/97	3817.03	197.25	2.11	3621.32
MW-81	04/28/97	3817.03	204.40	9.15	3619.30
MW-81	07/14/97	3817.03	196.19	1.45	3621.89
MW-81	10/09/97	3817.03	200.02	0.02	3617.02
MW-81	10/14/97	3817.03	200.96	0.06	3616.11
MW-81	10/29/97	3817.03	202.44	1.44	3615.64
MW-81	11/04/97	3817.03	200.92	0	3616.11
MW-81	11/12/97	3817.03	200.95	0.25	3616.26
MW-81	11/19/97	3817.03	200.94	0.01	3616.09
MW-81	11/24/97	3817.03	200.81	0	3616.22
MW-81	12/10/97	3817.03	200.85	0	3616.18
MW-81	01/06/98	3817.03	199.35	0	3617.68
MW-81	01/15/98	3817.03	199.30	0	3617.73
MW-81	01/20/98	3817.03	200.89	0.79	3616.71
MW-81	01/27/98	3817.03	200.14	0.89	3617.53
MW-81	02/03/98	3817.03	200.88	0.58	3616.57
MW-81	02/10/98	3817.03	206.74	1.64	3611.48
MW-81	02/17/98	3817.03	218.70	12.08	3607.14
MW-81	02/25/98	3817.03	217.41	11.41	3607.94
MW-81	04/27/98	3817.03	197.05	0	3619.98
MW-81	05/28/98	3817.03	192.28	0	3624.75
MW-81	06/15/98	3817.03	197.58	0	3619.45
MW-81	10/11/98	3817.03	193.23	0	3623.80
MW-81	01/27/99	3817.03	200.12	0	3616.91
MW-81	04/19/99	3817.03	200.84	0	3616.19
MW-81	01/05/00	3817.03	199.38	0	3617.65
MW-81	04/26/00	3817.03	201.35	0	3615.68
MW-81	09/27/00	3817.03	202.99	0	3614.04
MW-81	04/16/01	3817.03	201.94	0	3615.09
MW-81	10/29/01	3817.03	204.69	0	3609.04
MW-81	04/15/02	3817.03	193.94	0	3623.09
MW-81	10/14/02	3817.03	192.80	0	3624.23
MW-82	10/01/95	3825.07	196.65	0	3628.42
MW-82	01/18/96	3825.07	209.62	0	3615.45
MW-82	04/17/96	3825.07	209.12	0	3615.95
MW-82	07/16/96	3825.07	222.80	0	3602.27
MW-82	10/14/96	3825.07	196.33	0.02	3628.75
MW-82	02/04/97	3825.07	223.66	0	3601.41
MW-82	04/28/97	3825.07	249.21	0	3575.86
MW-82	07/15/97	3825.07	248.90	0	3576.17
MW-82	09/30/97	3825.07	249.20	0	3575.87
MW-82	10/09/97	3825.07	197.07	0	3628.00
MW-82	10/14/97	3825.07	229.01	0	3596.06
MW-82	10/29/97	3825.07	200.15	0	3624.92
MW-82	11/04/97	3825.07	209.26	0	3615.81
MW-82	11/12/97	3825.07	211.36	2.62	3615.62
MW-82	11/19/97	3825.07	213.86	5.28	3615.06
MW-82	11/24/97	3825.07	213.96	0	3611.11
MW-82	12/10/97	3825.07	212.95	0	3612.12
MW-82	02/25/98	3825.07	245.20	0	3579.87
MW-82	04/27/98	3825.07	235.62	0	3589.45
MW-82	05/28/98	3825.07	210.13	0	3614.94
MW-82	06/16/98	3825.07	249.20	0	3575.87
MW-82	10/11/98	3825.07	199.81	0	3625.26
MW-82	01/27/99	3825.07	250.24	0	3574.83
MW-82	04/19/99	3825.07	199.99	0	3625.08
MW-82	01/05/00	3825.07	199.67	0	3625.40
MW-82	04/26/00	3825.07	190.95	0	3634.12
MW-82	09/27/00	3825.07	202.05	1.63	3624.21
MW-82	04/16/01	3825.07	200.40	0	3624.67
MW-82	10/29/01	3825.07	201.71	0	3623.36
MW-82	04/15/02	3825.07	201.38	0	3623.69
MW-82	10/14/02	3825.07	201.15	1.68	3625.15

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-83	10/01/95	3794.12	169.47	1.67	3625.87
MW-83	01/18/96	3794.12	189.30	16.8	3617.08
MW-83	04/17/96	3794.12	179.40	0.2	3614.86
MW-83	07/16/96	3794.12	176.36	0.56	3618.16
MW-83	10/14/96	3794.12	176.25	0.18	3618.00
MW-83	02/04/97	3794.12	178.77	0	3615.35
MW-83	04/28/97	3794.12	179.41	0	3614.71
MW-83	07/15/97	3794.12	168.18	1.62	3627.12
MW-83	09/30/97	3794.12	202.70	0	3591.42
MW-83	10/09/97	3794.12	202.70	0	3591.42
MW-83	10/14/97	3794.12	200.25	0	3593.87
MW-83	10/21/97	3794.12	202.55	0	3591.57
MW-83	10/29/97	3794.12	200.20	0	3593.92
MW-83	11/04/97	3794.12	200.17	0	3593.95
MW-83	11/12/97	3794.12	200.20	0	3593.92
MW-83	11/19/97	3794.12	194.44	0.58	3600.10
MW-83	11/24/97	3794.12	193.52	0	3600.60
MW-83	12/10/97	3794.12	187.51	0	3606.61
MW-83	01/28/98	3794.12	170.53	0	3623.59
MW-83	02/25/98	3794.12	182.22	4.87	3615.45
MW-83	04/27/98	3794.12	188.78	0	3605.34
MW-83	05/28/98	3794.12	170.14	0	3623.98
MW-83	06/16/98	3794.12	184.32	9.51	3616.74
MW-83	10/11/98	3794.12	169.96	0	3624.16
MW-83	01/27/99	3794.12	189.10	0	3605.02
MW-83	04/19/99	3794.12	124.09	0	3670.03
MW-83	01/05/00	3794.12	191.08	0	3603.04
MW-83	04/26/00	3794.12	170.53	0	3623.59
MW-83	09/27/00	3794.12	196.19	0	3597.93
MW-83	04/16/01	3794.12	195.97	0	3598.15
MW-83	10/29/01	3794.12	179.35	0	3614.77
MW-83	04/15/02	3794.12	171.21	0	3622.91
MW-83	10/14/02	3794.12	NR	--	--
MW-84	02/16/98	3759.60	131.50	0.39	3628.36
MW-84	10/14/96	3759.60	131.79	1.05	3628.57
MW-84	02/04/97	3759.60	132.84	1.29	3627.70
MW-84	04/29/97	3759.60	133.64	1.79	3627.26
MW-84	07/15/97	3759.60	133.89	1.9	3627.09
MW-84	09/30/97	3759.60	134.90	2.3	3626.37
MW-84	10/14/97	3759.60	136.64	3.94	3625.83
MW-84	10/21/97	3759.60	137.06	4.32	3625.69
MW-84	10/29/97	3759.60	133.35	0.72	3626.77
MW-84	11/04/97	3759.60	133.72	0	3625.88
MW-84	11/12/97	3759.60	132.70	0.05	3626.93
MW-84	11/19/97	3759.60	136.38	3.66	3625.89
MW-84	11/24/97	3759.60	136.00	3.23	3625.95
MW-84	12/10/97	3759.60	134.60	1.65	3626.20
MW-84	01/06/98	3759.60	133.48	0.08	3626.17
MW-84	01/15/98	3759.60	133.30	0	3626.30
MW-84	01/20/98	3759.60	147.14	6.91	3617.50
MW-84	01/28/98	3759.60	133.96	0.46	3625.97
MW-84	02/03/98	3759.60	133.89	0.13	3625.80
MW-84	02/10/98	3759.60	133.70	0.01	3625.90
MW-84	02/17/98	3759.60	139.13	2.86	3622.55
MW-84	02/25/98	3759.60	134.69	0.23	3625.07
MW-84	04/27/98	3759.60	135.34	0.89	3624.90
MW-84	05/28/98	3759.60	134.40	0	3625.20
MW-84	06/16/98	3759.60	134.94	0.4	3624.95
MW-84	10/11/98	3759.60	134.10	0	3625.50
MW-84	01/27/99	3759.60	135.21	0	3624.39
MW-84	04/19/99	3759.60	136.05	0.15	3623.66
MW-84	01/05/00	3759.60	137.31	0	3622.29
MW-84	04/26/00	3759.60	137.18	0	3622.42
MW-84	09/27/00	3759.60	137.24	0	3622.36
MW-84	04/16/01	3759.60	139.05	2.04	3622.04
MW-84	10/29/01	3759.60	137.91	0	3621.69
MW-84	04/15/02	3759.60	137.79	0.42	3622.12
MW-84	10/14/02	3759.60	136.14	0	3623.46

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-85	07/16/96	3824.93	200.62	1.64	3624.96
MW-85	10/13/96	3824.93	201.10	4.86	3627.37
MW-85	02/04/97	3824.93	200.85	3.34	3626.51
MW-85	04/29/97	3824.93	199.89	1.19	3625.90
MW-85	07/14/97	3824.93	199.39	0	3625.54
MW-85	10/09/97	3824.93	200.15	0.15	3624.88
MW-85	10/14/97	3824.93	200.35	0	3624.58
MW-85	10/29/97	3824.93	199.31	0	3625.62
MW-85	11/04/97	3824.93	200.16	0.1	3624.84
MW-85	11/12/97	3824.93	200.00	0	3624.93
MW-85	11/19/97	3824.93	199.28	0.01	3625.65
MW-85	11/24/97	3824.93	200.07	0	3624.86
MW-85	12/10/97	3824.93	200.12	0	3624.81
MW-85	01/06/98	3824.93	201.37	0.6	3623.99
MW-85	01/15/98	3824.93	201.30	0.55	3624.03
MW-85	01/20/98	3824.93	207.80	4.23	3620.21
MW-85	01/27/98	3824.93	201.62	1.82	3624.63
MW-85	02/03/98	3824.93	201.68	0.79	3623.82
MW-85	02/10/98	3824.93	201.36	0.42	3623.87
MW-85	02/17/98	3824.93	201.78	0.73	3623.68
MW-85	02/25/98	3824.93	200.95	0.2	3624.12
MW-85	04/27/98	3824.93	200.91	0.57	3624.43
MW-85	05/28/98	3824.93	203.78	1.02	3621.89
MW-85	06/16/98	3824.93	201.29	0.55	3624.04
MW-85	10/11/98	3824.93	201.32	1.27	3624.53
MW-85	01/27/99	3824.93	203.01	0.49	3622.28
MW-85	04/19/99	3824.93	202.58	0	3622.35
MW-85	01/05/00	3824.93	200.79	0	3624.14
MW-85	04/26/00	3824.93	213.40	10.73	3619.36
MW-85	09/27/00	3824.93	208.62	5.31	3620.19
MW-85	04/16/01	3824.93	202.99	0	3621.94
MW-85	10/29/01	3824.93	205.15	0	3623.23
MW-85	04/15/02	3824.93	204.28	2.67	3622.60
MW-85	10/14/02	3824.93	202.96	2.58	3623.85
MW-86	10/14/96	3823.99	193.32	0	3630.67
MW-86	02/04/97	3823.99	190.99	0	3633.00
MW-86	04/28/97	3823.99	197.37	0	3626.62
MW-86	07/14/97	3823.99	199.78	0	3624.21
MW-86	09/30/97	3823.99	188.10	0	3635.89
MW-86	10/09/97	3823.99	198.76	0	3625.23
MW-86	10/14/97	3823.99	196.27	0	3627.72
MW-86	01/27/98	3823.99	205.50	0	3618.49
MW-86	04/27/98	3823.99	203.08	0	3620.91
MW-86	05/28/98	3823.99	199.71	0	3624.28
MW-86	06/16/98	3823.99	203.43	0	3620.56
MW-86	10/11/98	3823.99	198.11	0	3625.88
MW-86	01/27/99	3823.99	222.50	0	3601.49
MW-86	04/19/99	3823.99	201.13	0	3622.86
MW-86	01/05/00	3823.99	211.12	0	3612.87
MW-86	04/26/00	3823.99	212.45	0	3611.54
MW-86	09/27/00	3823.99	202.63	0	3621.36
MW-86	04/16/01	3823.99	222.65	0	3601.34
MW-86	10/29/01	3823.99	216.58	0	3607.41
MW-86	04/15/02	3823.99	201.78	0	3622.21
MW-86	10/14/02	3823.99	D	-	-
MW-87	08/01/96	3740.50	113.11	0	3627.39
MW-87	10/14/96	3740.50	112.19	0	3628.31
MW-87	02/04/97	3740.50	112.94	0	3627.56
MW-87	04/28/97	3740.50	113.21	0	3627.29
MW-87	07/14/97	3740.50	113.83	0	3626.67
MW-87	10/09/97	3740.50	114.20	0	3626.30
MW-87	10/13/97	3740.50	114.43	0	3626.07
MW-87	10/29/97	3740.50	113.95	0	3626.55
MW-87	11/04/97	3740.50	114.30	0	3626.20
MW-87	11/12/97	3740.50	114.22	0	3626.28
MW-87	11/19/97	3740.50	114.35	0	3626.15
MW-87	11/24/97	3740.50	114.25	0	3626.25
MW-87	12/10/97	3740.50	114.32	0	3626.18
MW-87	01/28/98	3740.50	114.07	0	3626.43
MW-87	02/25/98	3740.50	114.35	0	3626.15
MW-87	04/27/98	3740.50	114.52	0	3625.98
MW-87	05/28/98	3740.50	105.30	0	3635.20
MW-87	06/15/98	3740.50	114.52	0	3625.98
MW-87	10/10/98	3740.50	114.96	0	3625.54
MW-87	01/27/99	3740.50	115.08	0	3625.42
MW-87	04/19/99	3740.50	115.15	0	3625.35
MW-87	01/05/00	3740.50	115.32	0	3625.18
MW-87	04/26/00	3740.50	115.50	0	3625.00
MW-87	09/27/00	3740.50	115.82	0	3624.68
MW-87	04/16/01	3740.50	115.77	0	3624.73
MW-87	10/29/01	3740.50	116.25	0	3624.25
MW-87	04/15/02	3740.50	116.27	0	3624.23
MW-87	10/14/02	3740.50	115.32	0	3625.18

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MW-87A	08/01/96	3739.53	124.91	0	3614.62
MW-87A	10/14/96	3739.53	104.75	0	3634.78
MW-87A	02/04/97	3739.53	103.69	0	3635.84
MW-87A	04/28/97	3739.53	104.43	0	3635.10
MW-87A	07/14/97	3739.53	104.92	0	3634.61
MW-87A	10/13/97	3739.53	104.44	0	3635.09
MW-87A	01/28/98	3739.53	104.79	0	3634.74
MW-87A	04/27/98	3739.53	105.21	0	3634.32
MW-87A	05/28/98	3739.53	114.02	0	3625.51
MW-87A	06/15/98	3739.53	105.47	0	3634.06
MW-87A	10/10/98	3739.53	105.99	0	3633.54
MW-87A	01/27/99	3739.53	105.98	0	3633.55
MW-87A	04/19/99	3739.53	107.30	0	3632.23
MW-87A	01/05/00	3739.53	106.05	0	3633.48
MW-87A	04/26/00	3739.53	105.26	0	3634.27
MW-87A	09/27/00	3739.53	107.61	0	3631.92
MW-87A	04/16/01	3739.53	107.62	0	3631.91
MW-87A	10/29/01	3739.53	108.81	0	3630.72
MW-87A	04/15/02	3739.53	109.11	0	3630.42
MW-87A	10/14/02	3739.53	107.07	0	3632.46
MW-88	08/01/96	3789.70	143.59	0	3626.11
MW-88	10/13/96	3789.70	162.22	0	3627.48
MW-88	02/04/97	3789.70	163.38	0	3626.32
MW-88	04/28/97	3789.70	163.54	0	3626.16
MW-88	07/14/97	3789.70	163.84	0	3625.86
MW-88	10/01/97	3789.70	164.40	0	3625.30
MW-88	10/09/97	3789.70	164.38	0	3625.32
MW-88	10/13/97	3789.70	164.34	0	3625.36
MW-88	01/27/98	3789.70	164.41	0	3625.29
MW-88	04/27/98	3789.70	164.84	0	3624.86
MW-88	05/28/98	3789.70	164.00	0	3625.70
MW-88	06/15/98	3789.70	164.87	0	3624.83
MW-88	10/10/98	3789.70	165.38	0	3624.32
MW-88	01/27/99	3789.70	165.49	0	3624.21
MW-88	04/19/99	3789.70	165.54	0	3624.16
MW-88	01/05/00	3789.70	165.62	0	3624.08
MW-88	04/26/00	3789.70	165.87	0	3623.83
MW-88	09/27/00	3789.70	166.25	0	3623.45
MW-88	04/16/01	3789.70	166.21	0	3623.49
MW-88	10/29/01	3789.70	166.49	0	3623.21
MW-88	04/15/02	3789.70	166.53	0	3623.17
MW-88	10/14/02	3789.70	165.52	0	3624.18
MW-89	08/01/96	3827.68	201.41	0	3626.27
MW-89	10/14/96	3827.68	199.95	0	3627.73
MW-89	02/04/97	3827.68	201.39	0	3626.29
MW-89	04/28/97	3827.68	201.67	0	3626.01
MW-89	07/14/97	3827.68	201.94	0	3625.74
MW-89	10/01/97	3827.68	202.80	0	3624.88
MW-89	10/09/97	3827.68	202.70	0	3624.98
MW-89	10/13/97	3827.68	202.70	0	3624.98
MW-89	01/27/98	3827.68	202.82	0	3624.86
MW-89	04/27/98	3827.68	203.04	0	3624.64
MW-89	05/28/98	3827.68	203.19	0	3624.49
MW-89	06/15/98	3827.68	203.27	0	3624.41
MW-89	10/10/98	3827.68	203.83	0	3623.85
MW-89	01/27/99	3827.68	204.12	0	3623.56
MW-89	04/19/99	3827.68	204.12	0	3623.56
MW-89	01/05/00	3827.68	204.47	0	3623.21
MW-89	04/26/00	3827.68	204.43	0	3623.25
MW-89	09/27/00	3827.68	204.70	0	3622.98
MW-89	04/16/01	3827.68	204.55	0	3623.13
MW-89	10/29/01	3827.68	204.88	0	3622.80
MW-89	04/15/02	3827.68	204.81	0	3622.87
MW-89	10/14/02	3827.68	203.53	0	3624.15

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-94	07/15/96	3821.48	194.15	0	3627.33
MW-94	10/13/96	3821.48	196.21	0	3625.27
MW-94	02/04/97	3821.48	197.60	0	3623.88
MW-94	07/14/97	3821.48	198.65	0	3622.83
MW-94	09/30/97	3821.48	199.70	0	3621.78
MW-94	10/09/97	3821.48	196.04	0	3625.44
MW-94	10/14/97	3821.48	195.95	0	3625.53
MW-94	01/27/98	3821.48	195.89	0	3625.59
MW-94	04/27/98	3821.48	196.20	0	3625.28
MW-94	05/28/98	3821.48	196.35	0	3625.13
MW-94	06/16/98	3821.48	196.42	0	3625.06
MW-94	10/10/98	3821.48	196.91	0	3624.57
MW-94	01/27/99	3821.48	197.28	0	3624.20
MW-94	04/19/99	3821.48	197.18	0	3624.30
MW-94	01/05/00	3821.48	197.37	0	3624.11
MW-94	04/26/00	3821.48	197.46	0	3624.02
MW-94	09/27/00	3821.48	197.85	0	3623.63
MW-94	04/16/01	3821.48	197.75	0	3623.73
MW-94	10/29/01	3821.48	198.02	0	3623.46
MW-94	04/15/02	3821.48	198.17	0	3623.31
MW-94	10/14/02	3821.48	196.67	0	3624.81
MW-95	04/29/97	3746.26	118.48	0	3627.78
MW-95	07/15/97	3746.26	118.59	0	3627.67
MW-95	10/14/97	3746.26	119.30	0	3626.96
MW-95	10/29/97	3746.26	119.31	0	3626.95
MW-95	11/04/97	3746.26	119.35	0	3626.91
MW-95	11/12/97	3746.26	119.30	0	3626.96
MW-95	11/19/97	3746.26	119.41	0	3626.85
MW-95	11/24/97	3746.26	119.45	0	3626.81
MW-95	12/10/97	3746.26	119.42	0	3626.84
MW-95	01/28/98	3746.26	119.49	0	3626.77
MW-95	02/25/98	3746.26	119.62	0	3626.64
MW-95	04/27/98	3746.26	119.78	0	3626.48
MW-95	05/28/98	3746.26	119.90	0	3626.36
MW-95	06/16/98	3746.26	119.97	0	3626.29
MW-95	10/10/98	3746.26	120.46	0	3625.80
MW-95	01/27/99	3746.26	120.59	0	3625.67
MW-95	04/19/99	3746.26	120.72	0	3625.54
MW-95	01/05/00	3746.26	120.81	0	3625.45
MW-95	04/26/00	3746.26	120.93	0	3625.33
MW-95	09/27/00	3746.26	NR	-	-
MW-95	04/16/01	3746.26	121.38	0	3624.88
MW-95	10/29/01	3746.26	121.66	0	3624.60
MW-95	04/15/02	3746.26	121.91	0	3624.35
MW-95	10/14/02	3746.26	120.04	0	3626.22
MW-96	04/29/97	3739.80	112.60	0	3627.20
MW-96	07/15/97	3739.80	112.57	0	3627.23
MW-96	10/01/97	3739.80	113.40	0	3626.40
MW-96	10/09/97	3739.80	113.34	0	3626.46
MW-96	10/13/97	3739.80	113.38	0	3626.42
MW-96	10/29/97	3739.80	113.38	0	3626.42
MW-96	11/04/97	3739.80	113.35	0	3626.45
MW-96	11/12/97	3739.80	113.31	0	3626.49
MW-96	11/19/97	3739.80	113.45	0	3626.35
MW-96	11/24/97	3739.80	113.58	0	3626.22
MW-96	12/10/97	3739.80	113.47	0	3626.33
MW-96	01/28/98	3739.80	113.46	0	3626.34
MW-96	02/25/98	3739.80	113.48	0	3626.32
MW-96	04/27/98	3739.80	113.74	0	3626.06
MW-96	05/28/98	3739.80	113.88	0	3625.92
MW-96	06/15/98	3739.80	113.92	0	3625.88
MW-96	10/10/98	3739.80	114.37	0	3625.43
MW-96	01/27/99	3739.80	114.48	0	3625.32
MW-96	04/19/99	3739.80	114.56	0	3625.24
MW-96	01/05/00	3739.80	114.74	0	3625.06
MW-96	04/26/00	3739.80	114.91	0	3624.89
MW-96	09/27/00	3739.80	115.29	0	3624.51
MW-96	04/16/01	3739.80	115.33	0	3624.47
MW-96	10/29/01	3739.80	115.67	0	3624.13
MW-96	04/15/02	3739.80	115.78	0	3624.02
MW-96	10/14/02	3739.80	114.85	0	3624.95

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MW-97	04/29/97	3750.16	122.89	0	3627.34
MW-97	07/15/97	3750.16	122.91	0	3627.25
MW-97	10/01/97	3750.16	123.80	0	3626.36
MW-97	10/09/97	3750.16	123.75	0	3626.41
MW-97	10/13/97	3750.16	123.61	0	3626.55
MW-97	10/29/97	3750.16	123.62	0	3626.54
MW-97	11/04/97	3750.16	123.74	0	3626.42
MW-97	11/12/97	3750.16	123.70	0	3626.46
MW-97	11/19/97	3750.16	123.85	0	3626.31
MW-97	11/24/97	3750.16	123.80	0	3626.36
MW-97	12/10/97	3750.16	123.90	0	3626.26
MW-97	01/28/98	3750.16	123.71	0	3626.45
MW-97	02/25/98	3750.16	123.89	0	3626.27
MW-97	04/27/98	3750.16	123.99	0	3626.17
MW-97	05/28/98	3750.16	124.12	0	3626.04
MW-97	06/15/98	3750.16	124.17	0	3625.99
MW-97	10/10/98	3750.16	124.63	0	3625.53
MW-97	01/27/99	3750.16	124.73	0	3625.43
MW-97	04/19/99	3750.16	124.83	0	3625.33
MW-97	01/05/00	3750.16	125.01	0	3625.15
MW-97	04/26/00	3750.16	125.19	0	3624.97
MW-97	09/27/00	3750.16	125.61	0	3624.55
MW-97	04/16/01	3750.16	125.60	0	3624.56
MW-97	10/29/01	3750.16	125.89	0	3624.27
MW-97	04/15/02	3750.16	126.04	0	3624.12
MW-97	10/14/02	3750.16	125.09	0	3625.07
MW-98	04/29/97	3770.15	142.42	0	3627.73
MW-98	07/15/97	3770.15	142.51	0	3627.64
MW-98	10/14/97	3770.15	143.55	0.29	3626.81
MW-98	10/29/97	3770.15	143.43	0.23	3626.88
MW-98	11/04/97	3770.15	143.50	0.25	3626.83
MW-98	11/12/97	3770.15	143.35	0.17	3626.92
MW-98	11/19/97	3770.15	143.48	0.22	3626.83
MW-98	11/24/97	3770.15	143.54	0.26	3626.79
MW-98	12/10/97	3770.15	143.52	0.12	3626.71
MW-98	01/28/98	3770.15	143.53	0.22	3626.78
MW-98	02/25/98	3770.15	143.77	0.19	3626.51
MW-98	04/27/98	3770.15	143.73	0.15	3626.52
MW-98	05/28/98	3770.15	143.80	0	3626.35
MW-98	06/16/98	3770.15	143.87	0.05	3626.31
MW-98	10/10/98	3770.15	144.32	0.08	3625.88
MW-98	01/27/99	3770.15	144.39	0	3625.76
MW-98	04/19/99	3770.15	148.78	0	3621.37
MW-98	01/05/00	3770.15	143.88	0	3626.27
MW-98	04/26/00	3770.15	144.04	0	3626.11
MW-98	09/27/00	3770.15	NR	-	-
MW-98	04/16/01	3770.15	144.55	0	3625.60
MW-98	10/29/01	3770.15	144.79	0	3625.36
MW-98	04/15/02	3770.15	144.98	0	3625.17
MW-98	10/14/02	3770.15	143.64	0	3626.51
MW-104	07/15/97	3793.64	168.72	0	3624.92
MW-104	10/13/97	3793.64	167.22	0	3626.42
MW-104	10/29/97	3793.64	167.25	0	3626.39
MW-104	11/04/97	3793.64	167.30	0	3626.34
MW-104	11/12/97	3793.64	167.20	0	3626.44
MW-104	11/19/97	3793.64	167.30	0	3626.34
MW-104	11/24/97	3793.64	167.30	0	3626.34
MW-104	12/10/97	3793.64	167.28	0	3626.36
MW-104	01/28/98	3793.64	167.33	0	3626.31
MW-104	02/25/98	3793.64	167.34	0	3626.30
MW-104	04/27/98	3793.64	167.59	0	3626.05
MW-104	05/28/98	3793.64	167.75	0	3625.89
MW-104	06/15/98	3793.64	167.81	0	3625.83
MW-104	10/10/98	3793.64	168.27	0	3625.37
MW-104	01/27/99	3793.64	168.69	0.29	3625.16
MW-104	04/19/99	3793.64	173.11	0.39	3620.81
MW-104	01/05/00	3793.64	168.57	0.15	3625.18
MW-104	04/26/00	3793.64	168.97	0.26	3624.86
MW-104	09/27/00	3793.64	169.30	0.14	3624.44
MW-104	04/16/01	3793.64	169.28	0	3624.36
MW-104	10/29/01	3793.64	169.52	0	3624.12
MW-104	04/15/02	3793.64	169.60	0	3624.04
MW-104	10/14/02	3793.64	169.74	0	3623.90

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-108	01/15/97	3747.13	119.97	0	3627.16
MW-108	10/13/97	3747.13	120.47	0	3626.66
MW-108	10/29/97	3747.13	120.45	0	3626.68
MW-108	11/04/97	3747.13	120.42	0	3626.71
MW-108	11/12/97	3747.13	124.40	0	3622.73
MW-108	11/19/97	3747.13	120.55	0	3626.58
MW-108	11/24/97	3747.13	120.54	0	3626.59
MW-108	12/10/97	3747.13	120.55	0	3626.58
MW-108	01/28/98	3747.13	120.58	0	3626.55
MW-108	02/25/98	3747.13	120.57	0	3626.56
MW-108	04/27/98	3747.13	120.85	0	3626.28
MW-108	05/28/98	3747.13	120.72	0	3626.41
MW-108	06/15/98	3747.13	121.03	0	3626.10
MW-108	10/10/98	3747.13	121.50	0	3625.63
MW-108	01/27/99	3747.13	120.59	0	3626.54
MW-108	04/19/99	3747.13	121.72	0	3625.41
MW-108	01/05/00	3747.13	121.89	0	3625.24
MW-108	04/26/00	3747.13	122.08	0	3625.05
MW-108	09/27/00	3747.13	122.49	0	3624.64
MW-108	04/16/01	3747.13	122.52	0	3624.61
MW-108	10/29/01	3747.13	122.84	0	3624.29
MW-108	04/15/02	3747.13	122.47	0	3624.66
MW-108	10/14/02	3747.13	121.93	0	3625.20
MW-110	06/17/98	3812.61	187.42	1.3	3626.13
MW-110	10/09/98	3812.61	188.34	0	3624.27
MW-110	01/27/99	3812.61	192.59	0.02	3620.03
MW-110	04/19/99	3812.61	189.31	0	3623.30
MW-110	01/05/00	3812.61	191.89	0	3620.72
MW-110	04/26/00	3812.61	191.62	0	3620.99
MW-110	09/27/00	3812.61	192.19	0	3620.42
MW-110	04/16/01	3812.61	196.25	0	3616.36
MW-110	10/29/01	3812.61	192.38	0	3620.23
MW-110	04/15/02	3812.61	190.51	0.02	3622.11
MW-110	10/14/02	3812.61	188.38	0	3624.23
MW-111	06/19/99	3824.44	200.24	0	3624.20
MW-111	10/10/98	3824.44	200.89	0	3623.55
MW-111	01/27/99	3824.44	201.24	0	3623.20
MW-111	04/19/99	3824.44	201.26	0	3623.18
MW-111	01/05/00	3824.44	201.21	0	3623.23
MW-111	04/26/00	3824.44	201.48	0	3622.96
MW-111	09/27/00	3824.44	201.66	0	3622.78
MW-111	04/16/01	3824.44	201.74	0	3622.70
MW-111	10/29/01	3824.44	201.64	0	3622.80
MW-111	04/15/02	3824.44	201.83	0	3622.61
MW-111	10/14/02	3824.44	200.52	0	3623.92
MW-112	01/05/00	3780.11	154.96	0	3625.13
MW-112	04/26/00	3780.11	NR	--	--
MW-112	09/27/00	3780.11	155.39	0	3624.72
MW-112	04/16/01	3780.11	156.30	0	3623.81
MW-112	10/29/01	3780.11	156.68	0	3623.43
MW-112	04/15/02	3780.11	156.71	0	3623.40
MW-112	10/14/02	3780.11	154.97	0	3625.14
MW-113	01/05/00	3772.67	147.43	0	3625.24
MW-113	04/26/00	3772.67	148.28	0.88	3625.03
MW-113	09/27/00	3772.67	147.72	0	3624.95
MW-113	04/16/01	3772.67	148.11	0.13	3624.65
MW-113	10/29/01	3772.67	148.95	0.2	3623.87
MW-113	04/15/02	3772.67	148.72	0.14	3624.05
MW-113	10/14/02	3772.67	147.33	0	3625.34
MW-114	01/05/00	3805.32	181.31	0	3624.01
MW-114	04/26/00	3805.32	81.48	0	3723.84
MW-114	09/27/00	3805.32	181.69	0	3623.63
MW-114	04/16/01	3805.32	181.95	0	3623.37
MW-114	10/29/01	3805.32	182.05	0	3623.27
MW-114	04/15/02	3805.32	182.31	0	3623.01
MW-114	10/14/02	3805.32	180.12	0	3625.20
MW-115	01/05/00	3804.69	181.19	0	3623.50
MW-115	04/26/00	3804.69	181.11	0	3623.58
MW-115	09/27/00	3804.69	181.50	0	3623.19
MW-115	04/16/01	3804.69	181.31	0	3623.38
MW-115	10/29/01	3804.69	181.60	0	3623.09
MW-115	04/15/02	3804.69	182.45	0	3622.24
MW-115	10/14/02	3804.69	178.64	0	3626.05
MW-116	04/26/00	3792.11	157.45	0	3624.66
MW-116	09/27/00	3792.11	168.18	0	3623.93
MW-116	04/16/01	3792.11	168.23	0	3623.88
MW-116	10/29/01	3792.11	168.48	0	3623.63
MW-116	04/15/02	3792.11	168.75	0	3623.36
MW-116	10/14/02	3792.11	167.25	0	3624.86

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MW-117A	01/05/00	3808.24	182.80	0	3625.44
MW-117A	04/26/00	3808.24	185.28	0	3622.96
MW-117A	09/27/00	3808.24	165.91	0	3642.33
MW-117A	04/16/01	3808.24	185.90	0	3622.34
MW-117A	10/29/01	3808.24	185.88	0	3622.36
MW-117A	04/15/02	3808.24	186.35	0	3621.89
MW-117A	10/14/02	3808.24	184.32	0	3623.92
MW-118	01/05/00	3762.88	138.21	0	3624.67
MW-118	04/26/00	3762.88	138.50	0	3624.38
MW-118	09/27/00	3762.88	138.85	0	3624.03
MW-118	04/16/01	3762.88	138.98	0	3623.90
MW-118	10/29/01	3762.88	129.35	0	3633.53
MW-118	04/15/02	3762.88	139.35	0	3623.53
MW-118	10/14/02	3762.88	138.14	0	3624.74
MW-119	01/05/00	3824.74	201.21	0	3623.53
MW-119	04/26/00	3824.74	201.30	0	3623.44
MW-119	09/27/00	3824.74	201.35	0	3623.39
MW-119	04/16/01	3824.74	201.45	0	3623.29
MW-119	10/29/01	3824.74	202.67	0	3622.07
MW-119	04/15/02	3824.74	201.71	0	3623.03
MW-119	10/14/02	3824.74	200.38	0	3624.36
MW-120	01/05/00	3820.65	196.21	0.17	3625.69
MW-120	04/26/00	3820.65	196.32	0.01	3624.34
MW-120	09/27/00	3820.65	196.28	0	3624.37
MW-120	04/16/01	3820.65	197.43	0.83	3623.83
MW-120	10/29/01	3820.65	197.32	0.12	3623.42
MW-120	04/15/02	3820.65	197.14	0	3623.51
MW-120	10/14/02	3820.65	196.28	0	3624.37
MW-121	01/05/00	3820.88	195.12	0	3625.76
MW-121	04/26/00	3820.88	195.40	0	3625.48
MW-121	09/27/00	3820.88	197.55	0.79	3623.91
MW-121	04/16/01	3820.88	197.85	0.65	3623.50
MW-121	10/29/01	3820.88	197.60	0.05	3623.32
MW-121	04/15/02	3820.88	197.68	0	3623.20
MW-121	10/14/02	3820.88	196.37	0	3624.51
MW-122	01/05/00	3822.79	197.01	0	3625.78
MW-122	04/26/00	3822.79	199.17	0	3623.62
MW-122	09/27/00	3822.79	199.50	0	3623.29
MW-122	04/16/01	3822.79	199.64	0	3623.15
MW-122	10/29/01	3822.79	199.87	0	3622.92
MW-122	04/15/02	3822.79	199.52	0	3623.27
MW-122	10/14/02	3822.79	198.22	0	3624.57
MW-123	01/05/00	3768.77	142.88	0.61	3626.34
MW-123	04/26/00	3768.77	143.98	0.13	3624.88
MW-123	09/27/00	3768.77	144.15	0	3624.62
MW-123	04/16/01	3768.77	144.32	0	3624.45
MW-123	10/29/01	3768.77	144.88	0.23	3624.06
MW-123	04/15/02	3768.77	144.82	0.51	3624.32
MW-123	10/14/02	3768.77	143.70	0.08	3625.13
MW-124	01/05/00	3777.83	151.95	0	3625.88
MW-124	04/26/00	3777.83	152.92	0	3624.91
MW-124	09/27/00	3777.83	153.71	0	3624.12
MW-124	04/16/01	3777.83	153.95	0.67	3624.37
MW-124	10/29/01	3777.83	153.67	0.06	3624.20
MW-124	04/15/02	3777.83	154.23	0.38	3623.88
MW-124	10/14/02	3777.83	152.75	0.12	3625.17
MW-125	01/05/00	3790.61	166.64	1.27	3622.90
MW-125	04/26/00	3790.61	166.07	0	3624.54
MW-125	09/27/00	3790.61	156.53	0.01	3634.09
MW-125	04/16/01	3790.61	166.60	0	3624.01
MW-125	10/29/01	3790.61	166.91	0	3623.70
MW-125	04/15/02	3790.61	167.22	0	3623.39
MW-125	10/14/02	3790.61	166.78	1.14	3624.66
MW-127	01/05/00	3825.17	202.12	0	3623.05
MW-127	04/26/00	3825.17	202.34	0.46	3623.17
MW-127	09/27/00	3825.17	202.00	0	3623.17
MW-127	04/16/01	3825.17	202.70	0.07	3622.52
MW-127	10/29/01	3825.17	202.51	0.03	3622.68
MW-127	04/15/02	3825.17	202.74	0	3622.43
MW-127	10/14/02	3825.17	200.92	0	3624.25

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-128	01/05/00	3786.08	160.91	0	3625.17
MW-128	04/26/00	3786.08	161.25	0	3624.83
MW-128	09/27/00	3786.08	162.88	0	3623.20
MW-128	04/16/01	3786.08	161.87	0	3624.21
MW-128	10/29/01	3786.08	162.31	0	3623.77
MW-128	04/15/02	3786.08	162.41	0	3623.67
MW-128	10/14/02	3786.08	161.09	0	3624.99
MW-129	01/05/00	3800.82	175.46	0.85	3625.95
MW-129	04/26/00	3800.82	176.90	0	3623.92
MW-129	09/27/00	3800.82	176.48	0	3624.34
MW-129	04/16/01	3800.82	178.40	0.7	3622.93
MW-129	10/29/01	3800.82	178.65	0.99	3622.89
MW-129	04/15/02	3800.82	180.80	0.06	3620.06
MW-129	10/14/02	3800.82	175.98	0	3624.84
MW-130	01/05/00	3775.54	149.65	0.60	3626.33
MW-130	04/26/00	3775.54	151.03	0.52	3624.89
MW-130	09/27/00	3775.54	150.93	0.08	3624.67
MW-130	04/16/01	3775.54	151.24	0.14	3624.40
MW-130	10/29/01	3775.54	151.58	0.19	3624.10
MW-130	04/15/02	3775.54	151.64	0.03	3623.92
MW-130	10/14/02	3775.54	150.44	0.09	3625.17
MW-131	01/05/00	3784.23	158.32	0	3625.91
MW-131	04/26/00	3784.23	158.71	0	3625.52
MW-131	09/27/00	3784.23	159.71	0	3624.52
MW-131	04/16/01	3784.23	160.20	0	3624.03
MW-131	10/29/01	3784.23	160.38	0	3623.85
MW-131	04/15/02	3784.23	160.71	0	3623.52
MW-131	10/14/02	3784.23	159.22	0	3625.01
IW-1	07/18/96	3808.55	185.32	2.91	3625.35
IW-1	10/13/96	3808.55	181.83	2.81	3628.77
IW-1	02/03/97	3808.55	185.60	5.38	3626.87
IW-1	04/28/97	3808.55	183.12	1.53	3626.54
IW-1	07/14/97	3808.55	182.27	0.38	3626.55
IW-1	10/13/97	3808.55	181.80	0.16	3626.86
IW-1	11/04/97	3808.55	52.65	0	3755.90
IW-1	11/12/97	3808.55	55.85	0	3752.70
IW-1	11/19/97	3808.55	41.80	0	3766.75
IW-1	11/24/97	3808.55	70.90	0	3737.65
IW-1	12/10/97	3808.55	4.00	0	3804.55
IW-1	04/27/98	3808.55	82.27	0	3726.28
IW-1	05/28/98	3808.55	11.26	0	3797.29
IW-1	06/15/98	3808.55	181.05	0	3627.50
IW-1	10/09/98	3808.55	61.46	0	3747.09
IW-1	01/05/00	3808.55	18.15	0	3790.40
IW-1	04/26/00	3808.55	19.22	0	3789.33
IW-1	09/27/00	3808.55	NR	--	--
IW-1	04/16/01	3808.55	NR	--	--
IW-1	10/29/01	3808.55	NR	--	--
IW-1	04/15/02	3808.55	184.20	0	3624.35
IW-1	10/14/02	3808.55	182.79	0	3625.76
IW-2	08/01/96	3835.86	207.22	0	3628.64
IW-2	10/13/96	3835.86	205.52	0	3630.34
IW-2	02/03/97	3835.86	52.92	0	3782.94
IW-2	04/28/97	3835.86	28.89	0	3806.97
IW-2	07/14/97	3835.86	133.89	0	3701.97
IW-2	10/13/97	3835.86	29.61	0	3806.25
IW-2	11/04/97	3835.86	208.50	0	3627.36
IW-2	11/12/97	3835.86	208.70	0	3627.16
IW-2	11/19/97	3835.86	208.78	0	3627.08
IW-2	11/24/97	3835.86	208.95	0	3626.91
IW-2	12/10/97	3835.86	175.58	0	3660.28
IW-2	01/27/98	3835.86	121.00	0	3714.86
IW-2	02/25/98	3835.86	24.64	0	3811.22
IW-2	04/26/00	3835.86	NR	--	--
IW-2	09/27/00	3835.86	NR	--	--
IW-2	04/16/01	3835.86	NR	--	--
IW-2	10/29/01	3835.86	NR	--	--
IW-2	04/15/02	3835.86	NR	--	--
IW-2	10/14/02	3835.86	NR	--	--
SW-1	02/04/97	3808.19	17	0	3610.19
SW-1	05/28/98	3808.19	198.00	0	3610.19
SW-1	06/17/98	3808.19	198.05	0	3610.14
SW-1	04/26/00	3808.19	NR	--	--
SW-1	09/27/00	3808.19	NR	--	--
SW-1	04/16/01	3808.19	NR	--	--
SW-1	10/29/01	3808.19	NR	--	--
SW-1	04/15/02	3808.19	NR	--	--
SW-1	10/14/02	3808.19	NR	--	--

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
SW-2	08/21/91	3808.79	180.53	0	3628.26
SW-2	09/18/91	3808.79	180.53	0	3628.26
SW-2	10/22/91	3808.79	179.74	0	3629.05
SW-2	11/15/91	3808.79	179.44	0	3629.35
SW-2	03/01/92	3808.79	180.12	0	3628.67
SW-2	04/01/92	3808.79	180.00	0	3628.79
SW-2	05/01/92	3808.79	176.52	0	3632.27
SW-2	06/01/92	3808.79	176.06	0	3632.73
SW-2	07/01/92	3808.79	176.06	0	3632.73
SW-2	08/01/92	3808.79	176.99	0	3631.80
SW-2	09/01/92	3808.79	177.57	0	3631.22
SW-2	10/01/92	3808.79	178.02	0	3630.77
SW-2	11/01/92	3808.79	178.31	0	3630.48
SW-2	12/01/92	3808.79	179.06	0	3629.73
SW-2	01/01/93	3808.79	178.88	0	3629.91
SW-2	02/01/93	3808.79	179.08	0	3629.71
SW-2	03/01/93	3808.79	179.31	0	3629.48
SW-2	04/01/93	3808.79	179.04	0	3629.75
SW-2	05/01/93	3808.79	179.22	0	3629.57
SW-2	06/01/93	3808.79	179.39	0	3629.40
SW-2	07/01/93	3808.79	179.76	0	3629.03
SW-2	08/01/93	3808.79	179.76	0	3629.03
SW-2	09/01/93	3808.79	179.86	0	3628.93
SW-2	10/01/93	3808.79	179.63	0	3629.16
SW-2	11/01/93	3808.79	180.39	0	3628.40
SW-2	12/01/93	3808.79	179.62	0	3629.17
SW-2	01/01/94	3808.79	180.41	0	3628.38
SW-2	02/01/94	3808.79	181.55	0	3627.24
SW-2	03/01/94	3808.79	180.10	0	3628.69
SW-2	04/01/94	3808.79	180.58	0	3628.21
SW-2	05/01/94	3808.79	181.13	0	3627.66
SW-2	07/01/94	3808.79	181.00	0	3627.79
SW-2	08/01/94	3808.79	180.61	0	3628.18
SW-2	09/01/94	3808.79	180.52	0	3628.27
SW-2	10/01/94	3808.79	181.56	0	3627.23
SW-2	12/01/94	3808.79	184.89	0	3623.90
SW-2	01/01/95	3808.79	181.26	0	3627.53
SW-2	04/01/95	3808.79	181.50	0	3627.29
SW-2	07/01/95	3808.79	181.62	0	3627.17
SW-2	10/01/95	3808.79	181.70	0	3627.09
SW-2	01/16/96	3808.79	182.21	0	3626.58
SW-2	04/17/96	3808.79	182.25	0	3626.54
SW-2	07/15/96	3808.79	182.24	0	3626.55
SW-2	10/01/96	3808.79	180.89	0	3627.90
SW-2	01/01/97	3808.79	182.21	0	3626.58
SW-2	02/04/97	3808.79	182.31	0	3626.48
SW-2	04/28/97	3808.79	182.80	0	3625.99
SW-2	07/15/97	3808.79	183.04	0	3625.75
SW-2	10/14/97	3808.79	183.89	0	3624.90
SW-2	01/27/98	3808.79	183.74	0	3625.05
SW-2	04/27/98	3808.79	185.05	0	3623.74
SW-2	05/28/98	3808.79	185.13	0	3623.66
SW-2	06/17/98	3808.79	185.15	0	3623.64
SW-2	10/09/98	3808.79	185.65	0	3623.14
SW-2	01/27/99	3808.79	185.94	0	3622.85
SW-2	04/19/99	3808.79	185.62	0	3623.17
SW-2	04/26/00	3808.79	NR	--	--
SW-2	09/27/00	3808.79	NR	--	--
SW-2	04/16/01	3808.79	186.59	0	3622.20
SW-2	10/29/01	3808.79	186.28	0	3622.51
SW-2	04/15/02	3808.79	186.52	0	3622.27
SW-2	10/14/02	3808.79	185.13	0	3623.66
SW-3	07/15/96	3842.29	215.52	0	3626.77
SW-3	10/01/96	3842.29	213.51	0	3628.78
SW-3	02/03/97	3842.29	215.63	0	3626.66
SW-3	04/28/97	3842.29	216.14	0	3626.15
SW-3	07/14/97	3842.29	216.74	0	3625.55
SW-3	10/14/97	3842.29	217.51	0	3624.78
SW-3	01/27/98	3842.29	217.54	0	3624.75
SW-3	04/27/98	3842.29	217.80	0	3624.49
SW-3	05/28/98	3842.29	217.98	0	3624.31
SW-3	06/15/98	3842.29	218.50	0	3623.79
SW-3	10/09/98	3842.29	218.58	0	3623.71
SW-3	01/27/99	3842.29	D	--	--
SW-3	04/19/99	3842.29	219.03	0	3623.26
SW-3	01/05/00	3842.29	218.96	0	3623.33
SW-3	04/26/00	3842.29	219.20	0	3623.09
SW-3	09/27/00	3842.29	219.45	0	3622.84
SW-3	04/16/01	3842.29	219.73	0	3622.56
SW-3	10/29/01	3842.29	219.97	0	3622.32
SW-3	04/15/02	3842.29	220.03	0	3622.26
SW-3	10/14/02	3842.29	217.90	0	3624.39

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Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
VE-1	06/15/98	--	204.78	0	--
VE-1	01/05/00	--	205.54	0	--
VE-1	04/26/00	3829.73	205.80	0	3623.93
VE-1	09/27/00	3829.73	206.05	0	3623.68
VE-1	04/16/01	3829.73	206.05	0	3623.68
VE-1	10/29/01	3829.73	206.43	0	3623.30
VE-1	04/15/02	3829.73	206.42	0	3623.31
VE-1	10/14/02	3829.73	205.28	0	3624.45
VE-2	06/15/98	--	200.67	0	--
VE-2	01/05/00	--	201.48	0	--
VE-2	04/26/00	3825.93	201.71	0	3624.22
VE-2	09/27/00	3825.93	202.10	0	3623.83
VE-2	04/16/01	3825.93	201.87	0	3624.06
VE-2	10/29/01	3825.93	202.43	0	3623.50
VE-2	04/15/02	3825.93	202.35	0	3623.58
VE-2	10/14/02	3825.93	201.32	0	3624.61
VE-3	06/15/98	--	191.32	0	--
VE-3	01/05/00	--	192.13	0	--
VE-3	04/26/00	3816.75	192.32	0	3624.43
VE-3	09/27/00	3816.75	192.78	0	3623.97
VE-3	04/16/01	3816.75	192.63	0	3624.12
VE-3	10/29/01	3816.75	192.94	0	3623.81
VE-3	04/15/02	3816.75	193.02	0	3623.73
VE-3	10/14/02	3816.75	192.05	0	3624.70
VE-4	06/15/98	--	179.89	0	--
VE-4	01/05/00	--	D	--	--
VE-4	04/26/00	3805.45	D	--	--
VE-4	09/27/00	3805.45	D	--	--
VE-4	04/16/01	3805.45	D	--	--
VE-4	10/29/01	3805.45	D	--	--
VE-4	04/15/02	3805.45	D	--	--
VE-4	10/14/02	3805.45	D	--	--
VE-5	06/15/98	--	164.48	0	--
VE-5	04/26/00	3790.10	165.51	0	3624.59
VE-5	09/27/00	3790.10	165.98	0	3624.12
VE-5	04/16/01	3790.10	165.83	0	3624.27
VE-5	10/29/01	3790.10	165.91	0	3624.19
VE-5	04/15/02	3790.10	D	--	--
VE-5	10/14/02	3790.10	D	--	--
VE-16	10/29/97	3750.96	124.27	0	3626.69
VE-16	11/04/97	3750.96	124.35	0	3626.61
VE-16	11/12/97	3750.96	124.22	0	3626.74
VE-16	11/19/97	3750.96	124.33	0	3626.63
VE-16	11/24/97	3750.96	124.33	0	3626.63
VE-16	12/10/97	3750.96	124.30	0	3626.66
VE-16	02/25/98	3750.96	124.38	0	3626.58
VE-16	06/15/98	3750.96	124.81	0	3626.15
VE-16	01/05/00	3750.96	125.69	0	3625.27
VE-16	04/26/00	3750.96	125.92	0	3625.04
VE-16	09/27/00	3750.96	126.19	0	3624.77
VE-16	04/16/01	3750.96	126.37	0	3624.59
VE-16	10/29/01	3750.96	126.59	0	3624.37
VE-16	04/15/02	3750.96	126.13	0	3624.83
VE-16	10/14/02	3750.96	125.64	0	3625.32
VE-17	10/29/97	3756.73	118.48	0	3638.25
VE-17	11/04/97	3756.73	117.00	0	3639.73
VE-17	11/12/97	3756.73	117.93	0	3638.80
VE-17	11/19/97	3756.73	118.13	0	3638.60
VE-17	11/24/97	3756.73	118.32	0	3638.41
VE-17	12/10/97	3756.73	118.24	0	3638.49
VE-17	02/25/98	3756.73	119.27	0	3637.46
VE-17	06/15/98	3756.73	117.27	0	3639.46
VE-17	01/05/00	3756.73	120.11	0	3636.62
VE-17	04/26/00	3756.73	120.84	0	3635.89
VE-17	09/27/00	3756.73	120.46	0	3636.27
VE-17	04/16/01	3756.73	119.54	0	3637.19
VE-17	10/29/01	3756.73	119.54	0	3637.19
VE-17	04/15/02	3756.73	119.08	0	3637.65
VE-17	10/14/02	3756.73	116.69	0	3640.04
VE-18	06/15/98	3756.82	131.71	0	3625.11
VE-18	01/05/00	3756.82	131.56	0	3625.26
VE-18	04/26/00	3756.82	131.77	0	3625.05
VE-18	09/27/00	3756.82	132.09	0	3624.73
VE-18	04/16/01	3756.82	132.25	0	3624.57
VE-18	10/29/01	3756.82	132.51	0	3624.31
VE-18	04/15/02	3756.82	132.65	0	3624.17
VE-18	10/14/02	3756.82	131.53	0	3625.29

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VE-19	10/29/97	3761.18	136.05	2.05	3626.65
VE-19	11/04/97	3761.18	136.41	2.45	3626.55
VE-19	11/19/97	3761.18	140.88	2.88	3622.40
VE-19	11/24/97	3761.18	140.33	1.39	3621.86
VE-19	12/10/97	3761.18	138.56	0	3622.62
VE-19	01/06/98	3761.18	139.67	2.56	3623.37
VE-19	01/15/98	3761.18	140.90	3.4	3622.76
VE-19	01/20/98	3761.18	140.16	0.48	3621.37
VE-19	02/03/98	3761.18	136.63	0.01	3624.55
VE-19	02/10/98	3761.18	138.66	1.11	3623.33
VE-19	02/17/98	3761.18	139.83	1.89	3622.72
VE-19	02/25/98	3761.18	139.80	1.95	3622.80
VE-19	05/28/98	3761.18	133.78	0	3627.40
VE-19	06/16/98	3761.18	136.97	0	3624.21
VE-19	01/05/00	3761.18	136.37	0.46	3625.15
VE-19	04/26/00	3761.18	NR	-	-
VE-19	09/27/00	3761.18	136.93	0	3624.25
VE-19	04/16/01	3761.18	137.02	0	3624.16
VE-19	10/29/01	3761.18	137.30	0	3623.88
VE-19	04/15/02	3761.18	137.58	0.39	3623.88
VE-19	10/14/02	3761.18	135.98	0.11	3625.28
VE-20	06/16/98	3768.41	142.46	0	3626.15
VE-20	01/05/00	3768.41	143.31	0	3625.10
VE-20	04/26/00	3768.41	143.33	0	3625.08
VE-20	09/27/00	3768.41	143.68	0	3624.73
VE-20	04/16/01	3768.41	143.64	0	3624.77
VE-20	10/29/01	3768.41	144.15	0	3624.26
VE-20	04/15/02	3768.41	144.25	0	3624.16
VE-20	10/14/02	3768.41	142.97	0	3625.44

ARCADIS

Appendix B

Historical Analytical Data



ARCADIS

Historical BTEX Analytical Data



Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
BIEBBLE	05/28/91	--	--	--	<10
BIEBBLE	07/01/91	<5	--	--	--
BIEBBLE	07/19/91	--	<5	<5	--
BIEBBLE	04/01/92	<1	<1	<1	<1
BIEBBLE	07/01/92	<1	<1	<1	<1
BIEBBLE	10/01/92	<1	<1	<1	<1
BIEBBLE	01/01/93	<1	<1	<1	<1
BIEBBLE	04/15/93	<1	<1	<1	<1
BIEBBLE	07/15/93	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/14/93	<0.5	<0.5	<0.5	<0.5
BIEBBLE	01/13/94	<0.5	<0.5	<0.5	<0.5
BIEBBLE	04/05/94	<0.5	<0.5	<0.5	<0.5
BIEBBLE	07/21/94	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/06/94	<0.5	<0.5	<0.5	<0.5
BIEBBLE	01/11/95	<0.5	<0.5	<0.5	<0.5
BIEBBLE	04/07/95	<0.5	<0.5	<0.5	<0.5
BIEBBLE	07/21/95	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/12/95	<0.5	<0.5	<0.5	<0.5
BIEBBLE	01/19/96	<0.5	<0.5	<0.5	<0.5
BIEBBLE	04/17/96	<0.5	<0.5	<0.5	<0.5
BIEBBLE	07/01/96	<0.5	<0.5	<0.5	<0.5
BIEBBLE	10/01/96	<0.5	<0.5	<0.5	0.5
BIEBBLE	02/10/97	<0.5	<0.5	<0.5	<0.5
IW-2	08/01/96	<0.5	<0.5	<0.5	<0.5
LYMAN	05/28/91	--	--	--	<10
LYMAN	07/01/91	<5	--	--	--
LYMAN	07/19/91	--	<5	<5	--
LYMAN	04/01/92	<1	<1	<1	<1
LYMAN	07/01/92	<1	<1	<1	<1
LYMAN	10/01/92	<1	<1	<1	<1
LYMAN	01/01/93	<1	<1	<1	<1
LYMAN	04/15/93	<1	<1	<1	<1
LYMAN	05/12/93	<1	<1	<1	<1
LYMAN	06/28/93	<0.5	<0.5	<0.5	<0.5
LYMAN	07/15/93	<0.5	<0.5	<0.5	<0.5
LYMAN	08/03/93	<0.5	<0.5	<0.5	<0.5
LYMAN	09/21/93	<0.5	<0.5	<0.5	<0.5
LYMAN	10/14/93	<0.5	<0.5	<0.5	<0.5
LYMAN	11/10/93	<0.5	<0.5	<0.5	<0.5
LYMAN	12/06/93	<0.5	<0.5	<0.5	<0.5
LYMAN	01/12/94	<0.5	<0.5	<0.5	<0.5
LYMAN	02/09/94	<0.5	<0.5	<0.5	<0.5
LYMAN	03/16/94	<0.5	<0.5	<0.5	<0.5
LYMAN	04/05/94	<0.5	<0.5	<0.5	<0.5
LYMAN	05/19/94	<0.5	<0.5	<0.5	<0.5
LYMAN	06/23/94	<0.5	<0.5	<0.5	<0.5
LYMAN	07/21/94	<0.5	<0.5	<0.5	<0.5
LYMAN	08/24/94	<0.5	<0.5	<0.5	<0.5
LYMAN	09/20/94	<0.5	<0.5	<0.5	0.8
LYMAN	10/06/94	<0.5	<0.5	<0.5	<0.5
LYMAN	11/30/94	<0.5	<0.5	<0.5	<0.5

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
LYMAN	12/16/94	<0.5	<0.5	<0.5	<0.5
LYMAN	01/11/95	<0.5	<0.5	<0.5	<0.5
LYMAN	03/09/95	<0.5	<0.5	<0.5	<0.5
LYMAN	04/07/95	<0.5	<0.5	<0.5	<0.5
LYMAN	05/18/95	<0.5	<0.5	<0.5	<0.5
LYMAN	07/21/95	<0.5	<0.5	<0.5	<0.5
LYMAN	10/12/95	<0.5	<0.5	<0.5	1.6
LYMAN	12/27/95	<0.5	<0.5	<0.5	<0.5
LYMAN	01/19/96	<0.5	<0.5	<0.5	<0.5
LYMAN	03/18/96	<0.5	<0.5	<0.5	<0.5
LYMAN	04/18/96	<0.5	<0.5	<0.5	<0.5
LYMAN	07/01/96	<0.5	<0.5	<0.5	<0.5
LYMAN	10/01/96	<0.5	<0.5	<0.5	<0.5
LYMAN	02/10/97	<0.5	<0.5	<0.5	<0.5
LYMAN	01/14/98	<0.5	<0.5	<0.5	<0.5
LYMAN	04/30/98	<0.5	<0.5	<0.5	<0.5
LYMAN	06/29/98	<1	<1	<1	<1
LYMAN	12/18/00	<5	<5	<5	<10
MW-1	05/01/91	500	—	—	—
MW-1	05/28/91	—	<500	1000	<500
MW-1	09/01/91	250	—	—	—
MW-1	12/01/91	200	200	300	100
MW-10	05/01/91	5500	—	—	—
MW-10	05/28/91	—	7000	500	4500
MW-10	09/01/91	2300	—	—	—
MW-10	12/01/91	2300	<100	200	2500
MW-10	04/01/92	1840	106	<3	2415
MW-10	07/01/92	1842	101	482	2183
MW-10	10/01/92	2100	144	436	759
MW-10	01/01/94	ND	—	ND	ND
MW-10	02/11/97	<0.5	<0.5	<0.5	<0.5
MW-11	09/01/91	3000	—	—	—
MW-11	12/01/91	3800	5800	500	5200
MW-11	04/01/92	3573	2979	484	6714
MW-11	07/01/92	2199	2440	463	3693
MW-11	10/01/92	2755	1896	<3	5196
MW-11	01/01/93	2746	1821	475	4280
MW-11	10/05/94	1800	<50	450	3500
MW-11	07/21/95	95	<0.5	4.4	250
MW-11	01/20/96	1000	32	190	2800
MW-11	04/19/96	650	38	84	2800
MW-11	07/01/96	500	46	370	2300
MW-11	10/01/96	270	15	230	1600
MW-11	02/07/97	270	20	81	1400
MW-12	09/01/91	3800	—	—	—
MW-13	09/01/91	3100	—	—	—
MW-13	12/01/91	3000	750	500	3300
MW-13	04/01/92	3501	142	<3	7137
MW-13	07/01/92	2708	136	597	2247
MW-13	10/01/96	1100	520	1200	2800
MW-13	02/07/97	1300	130	690	1000

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-13	07/01/98	800	<10	640	170
MW-14	09/01/91	5100	—	—	—
MW-14	06/22/98	820	<10	840	<10
MW-14	04/18/02	116	9	<5	<5
MW-14	10/16/02	23	<5	5	<5
MW-15	09/01/91	5100	—	—	—
MW-16	09/01/91	1700	—	—	—
MW-16	04/15/93	514	53	39	2134
MW-17	09/01/91	2000	—	—	—
MW-17	04/15/93	1500	58	230	2900
MW-18	09/01/91	4300	—	—	—
MW-18	04/01/92	2900	82	750	1200
MW-18	07/01/92	2700	22	600	55
MW-18	10/01/92	3300	115	870	187
MW-19	07/01/91	4900	—	—	—
MW-19	07/19/91	—	1000	1300	—
MW-19	07/30/91	—	—	—	2500
MW-19	09/01/91	4700	—	—	—
MW-19	04/01/92	3240	347	807	326
MW-19	07/01/92	3000	40	800	41
MW-19	10/01/92	2756	73	758	166
MW-19	04/15/93	3926	130	16	82
MW-19	10/01/96	140	5.9	5.2	17
MW-19	02/07/97	360	980	1100	5600
MW-20	09/01/91	110	—	—	—
MW-21	05/01/91	9	—	—	—
MW-21	05/28/91	—	9	<1	3
MW-21	09/01/91	1000	—	—	—
MW-21	12/01/91	1100	<50	<50	1000
MW-21	04/15/93	114	19	38	38
MW-22	09/01/91	4	—	—	—
MW-24	09/01/91	3400	—	—	—
MW-24	07/01/92	4353	27	55	708
MW-26	09/01/91	3100	—	—	—
MW-26	12/01/91	3000	<100	400	3700
MW-26	07/01/92	2000	48	390	1400
MW-26	10/01/92	1860	59	567	1774
MW-26	01/01/93	1708	82	399	1083
MW-26	04/15/93	861	62	600	2014
MW-28	09/01/91	2200	—	—	—
MW-31	09/01/91	<1	—	—	—
MW-31	07/01/92	332	36	11	54
MW-31	10/01/92	9	32	10	18
MW-32	09/01/91	200	—	—	—
MW-33	09/01/91	6300	—	—	—
MW-34	09/01/91	2500	—	—	—
MW-35	09/01/91	5700	—	—	—
MW-37	06/01/91	<25	—	—	—
MW-37	06/22/91	—	<25	<25	<25
MW-37	09/01/91	150	—	—	—
MW-37	07/14/93	27	7	<3	<3

Notes:

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Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-38	05/01/91	500	—	—	—
MW-38	05/28/91	—	<250	250	<250
MW-38	06/01/91	<10	—	—	—
MW-38	06/22/91	—	<10	<10	<10
MW-38	09/01/91	15	—	—	—
MW-38	12/01/91	15	<1	15	<1
MW-38	04/01/92	67	17	55	7
MW-38	07/01/92	37	34	25	56
MW-38	10/01/92	166	18	242	24
MW-38	10/01/96	0.6	<0.5	<0.5	0.7
MW-38	02/07/97	0.7	<0.5	<0.5	0.7
MW-39	05/01/91	<1	—	—	—
MW-39	05/28/91	—	<1	11	38
MW-39	06/01/91	<1	—	—	—
MW-39	06/22/91	—	<1	<1	<1
MW-39	09/01/91	880	—	—	—
MW-39	01/01/93	14	6	<5	<5
MW-39	04/15/93	28	15	4	11
MW-39	07/15/93	24	3	<3	3
MW-39	10/14/93	19	23	<3	10
MW-39	01/13/94	<2.5	<2.5	8.4	70
MW-39	04/07/94	<0.5	<0.5	4	38
MW-39	07/20/94	<0.5	<0.5	5.9	78
MW-39	01/10/95	<5	7.1	250	80
MW-39	10/01/96	20	<0.5	<0.5	<0.5
MW-39	02/07/97	<0.5	<0.5	<0.5	<0.5
MW-39	07/18/97	<0.5	<0.5	<0.5	<0.5
MW-39	04/30/98	<0.5	<0.5	<0.5	<0.5
MW-39	07/01/98	<1	<1	<1	<1
MW-39	Not Sampled - Dry				
MW-41	07/01/91	300	—	—	—
MW-41	07/19/91	—	<50	350	—
MW-41	07/30/91	—	—	—	<50
MW-41	09/01/91	200	—	—	—
MW-41	12/01/91	170	30	400	<10
MW-41	07/15/93	12	<5	22	<5
MW-41	10/14/93	8.9	<0.5	17	<0.5
MW-41	01/13/94	5.3	<5	27	140
MW-41	04/06/94	0.6	<0.5	3.8	7.4
MW-41	07/20/94	1.4	31	4.9	<0.5
MW-41	10/06/94	3.2	44	0.7	90
MW-41	01/11/95	13	<5	42	23
MW-41	04/06/95	4.8	<0.5	19	33
MW-41	07/21/95	<0.5	<0.5	1.1	6.3
MW-41	10/12/95	1.8	8	2.6	18
MW-41	01/20/96	<5	10	<5	14
MW-41	04/19/96	1.7	9.8	5.5	6.7
MW-41	07/01/96	<0.5	6.1	3.6	1.7
MW-41	10/01/96	8.1	2.4	5.8	5.5
MW-41	02/07/97	82	6.2	7.2	9.1
MW-41	07/18/97	280	6.9	6.9	23

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-41	04/30/98	<0.5	7.1	4.5	21
MW-41	06/28/98	41	<1	<1	<1
MW-41	04/20/99	150	<5	<5	<10
MW-42	09/01/91	<1	--	--	--
MW-42	12/01/91	<1	<1	<1	<1
MW-43	06/01/91	<10	--	--	--
MW-43	06/22/91	--	<10	15	10
MW-43	09/01/91	320	--	--	--
MW-43	07/15/93	25	17	<3	3
MW-43	10/14/93	10	11	<3	<3
MW-43	01/13/94	<0.5	<0.5	<0.5	<0.5
MW-43	04/06/94	<0.5	<0.5	1.2	14
MW-43	07/20/94	<0.5	<0.5	1.5	7.1
MW-43	10/06/94	0.8	<0.5	2.3	17
MW-43	01/11/95	3	<0.5	5.5	15
MW-43	04/06/95	0.6	<0.5	2.8	14
MW-43	07/21/95	3	4	5.8	5.9
MW-43	10/12/95	1.2	2.4	3.8	5.5
MW-43	01/20/96	1.4	3.1	6.6	5.3
MW-43	04/19/96	4.4	4.3	1.3	5.3
MW-43	07/01/96	8.2	5.7	4.4	7
MW-43	10/01/96	230	2.1	4.3	3.6
MW-43	02/07/97	64	8.1	18	28
MW-43	07/18/97	110	<1	4.1	<1
MW-43	04/30/98	29	5.8	2.8	26
MW-43	06/22/98	7.3	<1	<1	<1
MW-43	04/20/99	12	<5	<5	<10
MW-43	12/08/99	<5	11	6.2	46
MW-43	04/28/00	4.1	<1	3.6	<1
MW-43	10/02/00	<5	7.4	5.1	41
MW-43	04/19/01	<5	<5	<5	<10
MW-43	10/31/01	<5	6	<5	<10
MW-43	04/17/02	<5	<5	<5	<5
MW-43	10/16/02	<5	8	<5	<5
MW-44	06/01/91	75	--	--	--
MW-44	06/22/91	--	<25	220	<25
MW-44	09/01/91	59	--	--	--
MW-44	04/01/92	6	22	24	2
MW-44	07/01/92	97	25	102	96
MW-44	10/01/92	12	34	96	24
MW-44	01/01/93	14	18	65	<1
MW-44	04/15/93	7	15	18	14
MW-44	07/15/93	6	16	<3	18
MW-44	10/14/93	3.6	<0.5	19	5.6
MW-44	01/13/94	12	<5	7.2	14
MW-44	04/06/94	22	<2.5	3.3	11
MW-44	07/20/94	36	<5	12	14
MW-44	10/05/94	130	<25	120	77
MW-44	01/11/95	63	<5	140	26
MW-44	04/06/95	19	2	71	16
MW-44	07/21/95	5.8	<0.5	16	5.6

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-44	10/12/95	120	<50	240	260
MW-44	01/20/96	51	14	130	15
MW-44	04/19/96	26	11	74	6.3
MW-44	07/01/96	83	99	280	310
MW-44	10/01/96	33	2.7	20	2.6
MW-44	02/07/97	270	26	53	48
MW-44	07/18/97	750	<10	45	<10
MW-44	04/30/98	520	22	17	44
MW-44	06/22/98	440	<5	9.2	<5
MW-44	04/20/99	91	<5	16	<10
MW-45	06/01/91	<1	--	--	--
MW-45	06/22/91	--	<1	<1	<1
MW-45	09/01/91	<1	--	--	--
MW-45	12/01/91	<1	<1	<1	<1
MW-45	07/15/93	<3	6	7	4
MW-45	10/14/93	<3	3	<3	3
MW-45	01/13/94	<0.5	<0.5	<0.5	<0.5
MW-45	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-45	07/20/94	<0.5	<0.5	<0.5	<0.5
MW-46	06/01/91	3200	--	--	--
MW-46	06/22/91	--	<50	900	<50
MW-46	07/01/91	300	--	--	--
MW-46	07/19/91	--	<50	250	--
MW-46	07/30/91	--	--	--	250
MW-46	09/01/91	140	--	--	--
MW-46	10/01/96	900	33	440	59
MW-46	02/11/97	3300	550	1000	1400
MW-46	05/29/97	5000	1200	230	<100
MW-46	07/18/97	6100	1900	270	130
MW-46	04/30/98	1600	41	140	290
MW-46	07/01/98	1700	<5	97	120
MW-46	04/20/99	210	<5	11	20
MW-46	12/08/99	50	43	34	129
MW-46	04/28/00	17	<1	<1	<1
MW-46	10/02/00	12	39	19	128
MW-46	04/19/01	<5	<5	<5	<10
MW-46	10/31/01	<100	<100	<100	<200
MW-46	04/17/02	<5	<5	<5	<5
MW-46	10/16/02	14	<5	<5	<5
MW-47	06/01/91	600	--	--	--
MW-47	06/22/91	--	<100	2000	2700
MW-47	09/01/91	2600	--	--	--
MW-47	12/01/91	2200	<50	<50	<50
MW-47	10/01/96	1500	59	200	250
MW-48	09/01/91	<1	--	--	--
MW-48	12/01/91	<1	5	10	<1
MW-48	07/01/92	47	18	6	18
MW-48	10/01/96	<0.5	<0.5	<0.5	1
MW-49	06/01/91	60	--	--	--
MW-49	06/22/91	--	<10	60	40
MW-49	09/01/91	35	--	--	--

Notes:

Concentrations listed in micrograms per liter (ug/L)

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-49	07/15/93	210	27	42	30
MW-49	10/14/93	68	26	9	20
MW-49	01/13/94	13	<5	15	110
MW-49	04/06/94	82	<0.5	11	10
MW-49	07/20/94	150	<5	32	27
MW-49	10/05/94	78	49	40	300
MW-49	01/11/95	220	<5	46	97
MW-49	04/06/95	120	<0.5	24	26
MW-49	07/21/95	17	<0.5	3.5	3.4
MW-49	10/12/95	240	<50	59	130
MW-49	01/20/96	160	130	120	570
MW-49	04/19/96	87	23	18	32
MW-49	07/01/96	370	220	190	630
MW-49	10/01/96	95	16	36	12
MW-49	02/07/97	79	66	45	160
MW-49	07/18/97	130	<1	35	9.8
MW-49	04/30/98	130	39	41	69
MW-49	07/01/98	78	<1	15	<1
MW-49	04/20/99	81	<5	32	<10
MW-49	12/08/99	32	68	58	380
MW-49	04/27/00	24	<1	12	<1
MW-49	10/02/00	35	38	18	107
MW-49	04/17/01	21	36	16	117
MW-49	10/31/01	21	<5	<5	<10
MW-49	04/17/02	19	<5	<5	<5
MW-49	10/16/02	31	<5	<5	<5
MW-50	06/01/91	<1	—	—	—
MW-50	06/22/91	—	<1	<1	<1
MW-50	09/01/91	<1	—	—	—
MW-50	12/01/91	<1	<1	<1	<1
MW-50	04/01/92	7	18	<3	17
MW-50	07/01/92	4	167	7	11
MW-50	10/01/92	8	10	3	2
MW-50	01/01/93	8	5	<3	5
MW-50	04/15/93	<1	<1	<1	<1
MW-50	07/15/93	<3	12	10	4
MW-50	10/14/93	9	16	<3	<3
MW-50	01/13/94	<0.5	<0.5	<0.5	<0.5
MW-50	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-50	07/20/94	<0.5	<0.5	<0.5	<0.5
MW-50	10/05/94	<0.5	<0.5	<0.5	<0.5
MW-50	01/11/95	<0.5	<0.5	<0.5	<0.5
MW-50	04/06/95	<0.5	<0.5	<0.5	<0.5
MW-50	07/21/95	<0.5	<0.5	<0.5	<0.5
MW-50	10/12/95	<0.5	<0.5	<0.5	<0.5
MW-50	01/20/96	<0.5	<0.5	<0.5	<0.5
MW-50	04/19/96	<0.5	<0.5	<0.5	<0.5
MW-50	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-50	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-50	02/07/97	<0.5	<0.5	<0.5	<0.5
MW-50	07/18/97	<1	<1	<1	<1

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-50	04/30/98	<0.5	<0.5	<0.5	<0.5
MW-50	06/28/98	<1	<1	<1	<1
MW-50	04/20/99	<5	<5	<5	<10
MW-50	12/08/99	<5	<5	<5	<10
MW-50	05/02/00	<1	<1	<1	<1
MW-50	10/02/00	<5	<5	<5	<10
MW-50	04/17/01	<5	<5	<5	<15
MW-50	10/31/01	<5	<5	<5	<10
MW-50	04/17/02	<5	<5	<5	<5
MW-50	10/16/02	<5	<5	<5	<5
MW-51	09/01/91	800	--	--	--
MW-51	12/01/91	<1	<1	<1	<1
MW-52	09/01/91	<1	--	--	--
MW-52	07/01/92	5	31	4	5
MW-53	09/01/91	<1	--	--	--
MW-54	09/01/91	<1	--	--	--
MW-54	12/01/91	<1	<1	<1	<1
MW-54	04/01/92	10	10	<3	14
MW-54	07/01/92	8	44	23	195
MW-54	10/01/92	62	7	195	630
MW-54	01/01/93	14	4	15	113
MW-54	04/14/93	10	<3	<3	8
MW-54	07/14/93	<3	<3	<3	3
MW-54	10/14/93	17	35	16	24
MW-54	01/12/94	8.6	<0.5	7.4	<0.5
MW-54	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-54	07/20/94	15	1.2	8.5	8.7
MW-54	10/05/94	19	0.6	29	6.3
MW-54	01/10/95	<0.5	<0.5	<0.5	<0.5
MW-54	04/06/95	<0.5	<0.5	<0.5	<0.5
MW-54	07/21/95	<0.5	<0.5	<0.5	<0.5
MW-54	10/11/95	0.7	<0.5	1.7	3
MW-54	01/20/96	<0.5	<0.5	<0.5	<0.5
MW-54	04/18/96	<0.5	<0.5	<0.5	<0.5
MW-54	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-54	10/01/96	0.9	<0.5	0.6	<0.5
MW-54	02/10/97	<0.5	<0.5	<0.5	<0.5
MW-54	07/16/97	0.9	3.2	2.1	17
MW-54	04/29/98	<0.5	<0.5	<0.5	<0.5
MW-54	06/25/98	<1	<1	<1	<1
MW-54	04/22/99	<5	<5	<5	<10
MW-54	01/06/00	<5	<5	<5	<10
MW-54	05/02/00	<1	<1	<1	<1
MW-54	10/03/00	<5	<5	<5	<10
MW-54	04/23/01	<5	<5	<5	<15
MW-54	11/01/01	<5	<5	<5	<10
MW-54	04/18/02	<5	<5	<5	<5
MW-54	10/21/02	<5	<5	<5	<5
MW-55	06/01/91	<50	--	--	--
MW-55	06/22/91	--	<50	<50	100
MW-55	09/01/91	940	--	--	--

Notes:

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Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-55	12/01/91	400	25	<25	25
MW-55	04/01/92	297	24	15	34
MW-55	07/01/92	483	36	64	66
MW-55	10/01/92	215	56	92	26
MW-55	01/01/93	390	68	90	32
MW-55	04/14/93	412	20	89	18
MW-55	07/14/93	625	21	8	50
MW-55	10/14/93	581	27	102	18
MW-55	01/12/94	290	<2.5	89	<2.5
MW-55	04/08/94	370	<2.5	33	<2.5
MW-55	07/20/94	360	5.5	16	120
MW-55	10/05/94	910	<5	480	<5
MW-55	01/11/95	650	<5	400	41
MW-55	04/11/95	420	<2.5	260	21
MW-55	07/20/95	350	<5	270	22
MW-55	10/11/95	100	6.1	70	15
MW-55	01/19/96	650	15	430	29
MW-55	04/18/96	370	13	310	22
MW-55	07/01/96	800	35	520	99
MW-55	10/01/96	520	32	460	84
MW-55	02/10/97	410	20	230	64
MW-55	07/16/97	140	11	110	9.2
MW-55	04/29/98	110	12	31	7.7
MW-55	06/25/98	180	<1	31	<1
MW-55	04/22/99	100	<5	13	<10
MW-55	12/09/99	90	19	15	<10
MW-55	05/02/00	68	<1	14	5.5
MW-55	10/04/00	43	10	14	<10
MW-55	04/24/01	50	<5	12	<5
MW-55	11/01/01	32	<5	10	<10
MW-55	04/24/02	43	12	<5	16
MW-55	10/17/02	40	<5	8	<5
MW-56	06/01/91	2100	--	--	--
MW-56	06/22/91	--	<50	2900	<50
MW-56	07/01/91	2000	--	--	--
MW-56	07/19/91	--	500	1000	--
MW-56	07/30/91	--	--	--	1000
MW-56	09/01/91	2200	--	--	--
MW-56	12/01/91	1000	2000	3000	6000
MW-56	07/01/92	1114	64	962	49
MW-56	10/01/92	1026	47	<3	839
MW-56	01/01/93	1128	40	10	804
MW-56	10/01/96	1000	23	94	92
MW-56	02/11/97	370	12	51	51
MW-57	05/28/91	--	--	--	<0.2
MW-57	06/01/91	<1	--	--	--
MW-57	06/22/91	--	1	<1	<1
MW-57	07/01/91	<1	--	--	--
MW-57	07/19/91	--	0.2	0.4	--
MW-57	09/01/91	1600	--	--	--
MW-57	12/01/91	350	<10	<10	<10

Notes:

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Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-57	04/01/92	127	29	<3	16
MW-57	07/01/92	948	422	112	876
MW-57	10/01/92	15	33	<3	78
MW-57	01/01/93	21	40	165	19
MW-57	04/14/93	8	21	15	16
MW-57	07/14/93	6	8	<3	<3
MW-57	10/13/93	<0.5	1.6	<0.5	1.2
MW-57	01/12/94	<0.5	<0.5	<0.5	<0.5
MW-57	04/07/94	<0.5	<0.5	<0.5	<0.5
MW-57	07/19/94	0.7	<0.5	<0.5	1.8
MW-57	10/05/94	1.1	<0.5	<0.5	4
MW-57	01/11/95	4.3	<0.5	<0.5	1.3
MW-57	04/08/95	<0.5	<0.5	<0.5	<0.5
MW-57	07/20/95	<0.5	0.8	<0.5	<0.5
MW-57	10/11/95	64	1.7	0.7	5
MW-57	01/19/96	16	1.5	1	4.2
MW-57	04/18/96	<0.5	0.9	<0.5	<0.5
MW-57	07/01/96	2.8	1	<0.5	1.4
MW-57	10/01/96	54	2.8	3.4	13
MW-57	02/10/97	<0.5	0.9	<0.5	<0.5
MW-57	07/15/97	<0.5	<0.5	<0.5	<0.5
MW-57	04/29/98	<0.5	<0.5	<0.5	0.9
MW-57	06/24/98	<1	<1	<1	<1
MW-57	04/20/99	<5	<5	<5	<10
MW-57	05/04/00	<1	<1	3.4	8.8
MW-57	10/04/00	10	<5	<5	<10
MW-57	04/24/01	<5	<5	<5	<5
MW-57	04/22/02	<5	<5	<5	<5
MW-58	09/01/91	40	—	—	—
MW-58	12/01/91	90	40	20	80
MW-58	04/01/92	203	32	56	68
MW-58	07/01/92	178	58	32	44
MW-58	10/01/92	190	49	26	57
MW-58	01/01/93	192	30	23	39
MW-58	04/13/93	55	16	31	9
MW-58	07/13/93	25	42	14	13
MW-58	10/13/93	50	21	212	555
MW-58	04/05/94	<2.5	<2.5	7.4	27
MW-58	07/19/94	2	29	4.5	27
MW-58	10/06/94	6.7	<5	15	39
MW-58	04/08/95	2.2	<0.5	2.1	6.8
MW-58	10/01/96	110	320	940	10000
MW-58	01/30/98	350	23	42	96
MW-58	06/22/98	22	<1	28	35
MW-59	09/01/91	540	—	—	—
MW-59	12/01/91	420	40	240	420
MW-59	04/01/92	42	12	20	20
MW-59	07/01/92	268	45	110	232
MW-59	10/01/92	99	37	44	46
MW-59	01/01/93	26	<3	55	10
MW-59	04/13/93	10	14	12	5

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Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-59	10/13/93	10	13	89	433
MW-59	04/05/94	<2.5	<2.5	3.3	25
MW-59	07/19/94	13	69	0.5	73
MW-59	10/06/94	4.1	3.7	23	37
MW-59	06/24/98	<5	<5	79	42
MW-59	05/04/00	29	<1	130	405
MW-59	10/05/00	<100	<100	490	520
MW-59	04/19/01	<5	<5	<5	<10
MW-59	04/23/02	<5	<5	<5	<5
MW-60	05/28/91	--	--	--	<0.2
MW-60	07/01/91	<0.2	--	--	--
MW-60	07/19/91	--	<0.2	0.4	--
MW-60	09/01/91	33	--	--	--
MW-60	12/01/91	<1	<1	<1	<1
MW-60	04/01/92	5	9	<3	4
MW-60	07/01/92	17	1	<1	1
MW-60	10/01/92	32	109	36	57
MW-60	01/01/93	138	4	260	6
MW-60	04/14/93	17	16	<3	12
MW-60	07/14/93	<0.5	<0.5	<0.5	<0.5
MW-60	10/13/93	<0.5	1	0.5	1
MW-60	01/12/94	<0.5	<0.5	<0.5	<0.5
MW-60	04/07/94	<0.5	<0.5	<0.5	<0.5
MW-60	07/19/94	<0.5	1.3	<0.5	3.5
MW-60	10/05/94	<0.5	0.6	0.6	4.9
MW-60	01/10/95	<0.5	<0.5	<0.5	0.6
MW-60	04/07/95	<0.5	<0.5	<0.5	<0.5
MW-60	07/19/95	<0.5	4.9	<0.5	<0.5
MW-60	10/11/95	<0.5	<0.5	<0.5	<0.5
MW-60	01/19/96	<0.5	<0.5	<0.5	<0.5
MW-60	04/18/96	<0.5	<0.5	<0.5	<0.5
MW-60	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-60	10/01/96	2.5	0.9	<0.5	<0.5
MW-60	02/09/97	<0.5	<0.5	0.5	0.8
MW-60	05/06/97	<0.5	<0.5	<0.5	<0.5
MW-60	07/15/97	<0.5	<0.5	<0.5	<0.5
MW-60	10/16/97	<0.5	<0.5	<0.5	<0.5
MW-60	01/30/98	<0.5	<0.5	<0.5	<0.5
MW-60	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-60	07/01/98	<1	<1	<1	<1
MW-60	10/12/98	<0.5	<0.5	<0.5	<0.5
MW-60	02/01/99	<0.5	<0.5	<0.5	<0.5
MW-60	04/20/99	<5	<5	<5	<10
MW-60	12/13/99	<5	<5	<5	<10
MW-60	05/01/00	<1	<1	<1	<1
MW-60	10/04/00	<5	<5	<5	<10
MW-60	04/19/01	<5	<5	<5	<10
MW-60	11/01/01	<5	<5	<5	<10
MW-60	04/23/02	<5	<5	<5	<5
MW-60	10/17/02	<5	<5	<5	<5
MW-61	09/01/91	<1	--	--	--

Notes:

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Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-61	12/01/91	--	<1	<1	<1
MW-61	01/13/94	1.4	1	1.7	1.1
MW-61	04/07/94	<0.5	<0.5	0.5	<0.5
MW-61	07/20/94	3.2	<0.5	<0.5	0.8
MW-61	10/04/94	<5	23	14	160
MW-61	01/11/95	<0.5	0.7	2.5	0.8
MW-61	04/11/95	7	<0.5	7.8	35
MW-61	07/21/95	<0.5	<0.5	<0.5	<0.5
MW-61	10/10/95	<0.5	<0.5	<0.5	<0.5
MW-61	01/20/96	<0.5	<0.5	<0.5	<0.5
MW-61	04/18/96	<0.5	<0.5	<0.5	<0.5
MW-61	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-61	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-61	02/10/97	<0.5	<0.5	<0.5	<0.5
MW-61	07/17/97	<0.5	<0.5	<0.5	<0.5
MW-61	04/29/98	<0.5	<0.5	<0.5	<0.5
MW-61	06/28/98	<1	<1	<1	<1
MW-61	04/20/99	100	<5	13	<10
MW-61	04/20/99	100	<5	13	<10
MW-61	05/03/00	<1	<1	<1	<1
MW-61	10/02/00	<5	<5	<5	<10
MW-61	04/23/01	<5	<5	<5	<10
MW-61	10/31/01	<5	<5	<5	<10
MW-61	04/19/02	<5	<5	<5	<5
MW-61	10/16/02	<5	<5	<5	<5
MW-61A	05/28/91	--	--	--	0.5
MW-61A	07/01/91	2	--	--	--
MW-61A	07/19/91	--	1.5	0.4	--
MW-61A	09/01/91	190	--	--	--
MW-61A	12/01/91	10	10	5	75
MW-61A	04/01/92	6	7	<3	13
MW-61A	07/01/92	60	<10	3	8
MW-61A	10/01/92	470	17	<3	2351
MW-61A	01/01/93	585	82	397	2368
MW-61A	04/13/93	2821	173	817	3993
MW-61A	04/05/94	<0.5	<0.5	0.5	3.8
MW-61A	07/19/94	<0.5	<0.5	<0.5	2.5
MW-61A	10/04/94	4.8	4.5	3.7	37
MW-61A	01/10/95	16	<5	30	220
MW-61A	01/20/96	<0.5	<0.5	<0.5	0.8
MW-61A	04/19/96	<0.5	<0.5	<0.5	<0.5
MW-61A	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-61A	10/01/96	1.7	1.7	1.3	9.4
MW-61A	02/06/97	42	3.4	8.4	46
MW-61A	05/07/97	330	59	<25	850
MW-61A	06/27/97	22	11	-5.4	26
MW-61A	07/15/97	16	<10	10	93
MW-61A	10/15/97	35	13	22	95
MW-61A	01/29/98	15	16	26	130
MW-61A	04/29/98	7.1	9.5	24	93
MW-61A	06/28/98	1.5	<1	7.9	20

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-61A	10/11/98	4.5	22	15	61
MW-61A	02/01/99	<0.5	<0.5	12	54
MW-61A	04/20/99	<5	<5	15	40
MW-61A	12/16/99	<5	6.3	<5	26.7
MW-61A	05/03/00	<1	<1	<1	1.5
MW-61A	10/02/00	<5	<5	<5	<10
MW-61A	04/18/01	<5	<5	<5	<15
MW-61A	10/31/01	<5	<5	<5	<10
MW-61A	04/19/02	<5	<5	<5	<5
MW-61A	10/16/02	<5	<5	<5	<5
MW-62	09/01/91	2200	—	—	—
MW-62	12/01/91	1400	<200	400	2400
MW-62	04/01/92	263	48	170	298
MW-62	07/01/92	357	13	184	301
MW-62	10/01/92	212	19	416	1692
MW-62	01/01/93	78	18	—	207
MW-62	04/13/93	33	15	16	24
MW-62	07/14/93	98	12	70	204
MW-62	10/13/93	19	20	20	32
MW-62	01/11/94	4.1	<2.5	13	44
MW-62	04/05/94	<2.5	<2.5	4.4	26
MW-62	07/19/94	4.3	32	7.5	26
MW-62	10/06/94	13	13	11	39
MW-62	04/08/95	7.5	30	12	30
MW-62	07/18/97	20	19	58	210
MW-62	06/26/98	<10	<10	41	56
MW-62	04/21/99	<5	<5	18	20
MW-62	05/03/00	4.5	1.5	3.3	16.7
MW-62	10/05/00	14	<5	6	35
MW-62	04/20/01	<5	8.3	<5	24
MW-62	04/22/02	<5	<5	<5	<5
MW-63	09/01/91	<1	—	—	—
MW-63	12/01/91	<1	<1	<1	<1
MW-63	04/01/92	5	6	<3	8
MW-63	07/01/92	12	28	3	20
MW-63	10/01/92	4	7	17	33
MW-63	01/01/93	12	4	<3	13
MW-63	04/13/93	<1	<1	<1	<1
MW-63	07/13/93	4	<3	<3	<3
MW-63	10/12/93	14	48	11	39
MW-63	01/11/94	<0.5	0.7	<0.5	0.7
MW-63	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-63	07/18/94	1	9.6	1.4	13
MW-63	10/04/94	<0.5	2.6	1	8
MW-63	01/09/95	<0.5	<0.5	<0.5	<0.5
MW-63	04/07/95	<0.5	<0.5	<0.5	<0.5
MW-63	07/18/95	<0.5	1	<0.5	<0.5
MW-63	10/10/95	<0.5	<0.5	<0.5	<0.5
MW-63	01/18/96	<0.5	<0.5	<0.5	<0.5
MW-63	04/17/96	<0.5	<0.5	<0.5	<0.5
MW-63	07/01/96	<0.5	<0.5	<0.5	<0.5

Notes:

Concentrations listed in micrograms per liter (ug/L)

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-63	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-63	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-63	07/15/97	<0.5	<0.5	<0.5	<0.5
MW-63	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-63	06/25/98	<1	<1	<1	<1
MW-63	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-63	04/22/99	<5	<5	<5	<10
MW-63	04/27/00	<1	<1	<1	<1
MW-63	10/03/00	<5	<5	<5	<10
MW-63	04/24/01	<5	<5	<5	<15
MW-63	04/18/02	<5	<5	<5	<5
MW-64	09/01/91	150	—	—	—
MW-64	12/01/91	130	<10	40	160
MW-64	04/01/92	245	32	82	331
MW-64	07/01/92	115	19	10	40
MW-64	10/01/92	37	61	<3	96
MW-64	01/01/93	6	2	1	4
MW-64	04/13/93	5	11	5	9
MW-64	07/13/93	2	<0.5	<0.5	<0.5
MW-64	10/13/93	18	12	3	71
MW-64	11/10/93	<4	<4	<4	<4
MW-64	01/12/94	1.7	<0.5	<0.5	0.9
MW-64	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-64	07/19/94	<0.5	0.5	<0.5	3.6
MW-64	10/05/94	<0.5	0.5	0.6	5.6
MW-64	01/10/95	12	<0.5	5.1	13
MW-64	04/07/95	18	<0.5	18	41
MW-64	07/19/95	17	1.1	9.8	23
MW-64	10/11/95	25	1.7	13	32
MW-64	01/19/96	14	2.2	9.3	23
MW-64	04/18/96	10	2	4.3	7.9
MW-64	07/16/97	84	<25	130	310
MW-64	06/23/98	<1	<1	<1	<1
MW-64	04/21/99	<5	<5	<5	<10
MW-64	12/13/99	<5	<5	<5	<10
MW-64	05/03/00	<1	<1	<1	<1
MW-64	10/04/00	<5	<5	<5	<10
MW-64	04/20/01	<5	<5	<5	<10
MW-64	11/05/01	<5	<5	<5	<10
MW-64	04/22/02	<5	<5	<5	<5
MW-64	10/17/02	<5	<5	<5	<5
MW-65	09/01/91	<1	—	—	—
MW-65	12/01/91	—	<1	<1	<1
MW-65	07/15/93	<3	6	<3	3
MW-65	10/05/94	<0.5	<0.5	<0.5	<0.5
MW-65	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-65	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-65	02/11/97	<0.5	<0.5	<0.5	<0.5
MW-65	05/07/97	<0.5	<0.5	<0.5	<0.5
MW-65	04/30/98	<0.5	<0.5	<0.5	<0.5
MW-65	12/09/99	<5	<5	<5	<10

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-65	10/02/00	<5	<5	<5	<10
MW-65	04/20/01	<5	<5	<5	<10
MW-65	11/01/01	<5	<5	<5	<10
MW-65	10/16/02	<5	<5	<5	<5
MW-65A	09/01/91	680	—	—	—
MW-65A	12/01/91	150	15	<1	15
MW-65A	04/01/92	26	15	<3	12
MW-65A	07/01/92	413	235	93	551
MW-65A	10/01/92	11	<3	<3	67
MW-65A	01/01/93	3	<3	<3	11
MW-65A	04/13/93	4	9	3	8
MW-65A	07/13/93	<3	3	<3	<3
MW-65A	10/13/93	7	3	<3	<3
MW-65A	01/11/94	<0.5	<0.5	<0.5	<0.5
MW-65A	04/05/94	<0.5	<0.5	<0.5	<0.5
MW-65A	07/19/94	<0.5	<0.5	<0.5	<0.5
MW-65A	10/06/94	1.7	<0.5	<0.5	<0.5
MW-65A	01/11/95	<0.5	<0.5	<0.5	0.7
MW-65A	04/08/95	<0.5	<0.5	<0.5	0.5
MW-65A	01/20/96	<0.5	<0.5	<0.5	<0.5
MW-65A	04/18/96	<0.5	<0.5	<0.5	2
MW-65A	06/25/98	<1	<1	16	415
MW-66	09/01/91	<1	—	—	—
MW-66	12/01/91	<1	<1	<1	<1
MW-66	04/01/92	4	7	<3	4
MW-66	07/01/92	8	25	7	11
MW-66	10/01/92	12	36	<3	34
MW-66	01/01/93	3	6	3	20
MW-66	04/13/93	<3	5	5	<3
MW-66	07/13/93	8	4	<3	<3
MW-66	10/12/93	13	60	4	29
MW-66	11/10/93	<4	<4	<4	<4
MW-66	01/11/94	<0.5	<0.5	<0.5	0.6
MW-66	04/07/94	<0.5	<0.5	<0.5	<0.5
MW-66	07/19/94	<0.5	0.6	<0.5	0.8
MW-66	10/04/94	<0.5	3	1.5	17
MW-66	01/09/95	<0.5	<0.5	<0.5	<0.5
MW-66	04/11/95	<0.5	<0.5	<0.5	<0.5
MW-66	07/19/95	<0.5	0.9	<0.5	<0.5
MW-66	10/10/95	<0.5	<0.5	<0.5	3.5
MW-66	01/19/96	<0.5	<0.5	<0.5	<0.5
MW-66	04/17/96	<0.5	0.8	<0.5	1
MW-66	07/01/96	<0.5	<0.5	<0.5	0.5
MW-66	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-66	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-66	05/06/97	<0.5	<0.5	<0.5	<0.5
MW-66	07/16/97	<0.5	<0.5	<0.5	<0.5
MW-66	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-66	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-66	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-66	06/17/98	<1	1.6	<1	<1

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-66	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-66	02/01/99	<0.5	<0.5	<0.5	<0.5
MW-66	04/21/99	<5	<5	<5	<10
MW-66	12/10/99	<5	<5	<5	<10
MW-66	04/27/00	<1	<1	<1	<1
MW-66	10/05/00	<5	<5	<5	<10
MW-66	04/18/01	<5	<5	<5	<15
MW-66	11/01/01	<5	<5	<5	<10
MW-66	04/19/02	<5	<5	<5	<5
MW-66	10/16/02	<5	<5	<5	<5
MW-67	09/01/91	280	—	—	—
MW-67	12/01/91	320	<10	<10	<10
MW-67	04/01/92	5	8	<3	12
MW-67	07/01/92	69	10	20	116
MW-67	10/01/92	3	9	<3	73
MW-67	01/01/93	8	3	<3	12
MW-67	04/13/93	7	18	7	19
MW-67	07/13/93	7	<3	<3	<3
MW-67	10/13/93	<0.5	0.9	<0.5	1.1
MW-67	01/12/94	<0.5	<0.5	<0.5	<0.5
MW-67	04/07/94	<0.5	<0.5	<0.5	<0.5
MW-67	07/19/94	<0.5	0.6	<0.5	3
MW-67	10/05/94	<0.5	<0.5	<0.5	4.3
MW-67	01/11/95	1	<0.5	<0.5	1.1
MW-67	04/07/95	1.8	<0.5	<0.5	1.3
MW-67	07/21/95	<0.5	<0.5	<0.5	0.6
MW-67	10/11/95	6.1	1.8	0.5	4.2
MW-67	01/19/96	4.8	3.6	0.6	4.7
MW-67	04/18/96	3.4	0.9	<0.5	2.5
MW-67	07/01/96	95	110	28	280
MW-67	02/10/97	15	4.8	1.9	41
MW-67	07/16/97	160	330	110	1200
MW-67	06/24/98	1.3	2.7	3.5	45.3
MW-67	04/22/99	<5	<5	<5	<10
MW-67	05/02/00	<1	<1	<1	13.4
MW-67	10/04/00	<5	<5	<5	<10
MW-67	04/19/01	<5	<5	<5	<10
MW-67	11/05/01	<5	<5	<5	<10
MW-67	04/22/02	<5	<5	<5	<5
MW-67	10/17/02	6	<5	<5	<5
MW-68	09/01/91	240	—	—	—
MW-68	12/01/91	1900	4500	500	4000
MW-68	04/01/92	2470	3370	550	3866
MW-68	07/01/92	160	267	49	746
MW-68	10/01/92	2205	3327	<3	4721
MW-68	01/01/93	376	944	246	2376
MW-68	04/13/93	650	1900	330	4000
MW-68	07/13/93	150	230	110	1100
MW-68	10/13/93	374	628	286	2398
MW-68	01/11/94	3000	820	1000	7700
MW-68	04/05/94	120	61	170	1300

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-68	07/19/94	260	170	220	2000
MW-68	10/17/97	740	100	490	3800
MW-68	06/26/98	390	26	140	990
MW-69	09/01/91	2400	-	-	-
MW-69	12/01/91	2100	1100	150	4200
MW-69	07/01/92	568	56	1785	1966
MW-69	10/01/92	1598	71	<3	2879
MW-69	01/01/93	1284	49	309	1931
MW-69	07/18/97	930	23	410	1100
MW-69	04/30/98	970	22	500	530
MW-69	06/29/98	1200	<10	520	510
MW-69	Not Sampled - Condensate Present				
MW-69	Not Sampled - Condensate Present				
MW-69	Not Sampled - Condensate Present				
MW-69	10/18/02	80	<20	40	<20
MW-70	09/01/91	<1	-	-	-
MW-70	12/01/91	<1	<1	<1	<1
MW-70	04/01/92	3	17	<3	8
MW-70	07/01/92	<1	3	1	13
MW-70	10/01/92	11	40	63	60
MW-70	01/01/93	<3	<3	8	5
MW-70	04/14/93	9	20	<3	4
MW-70	07/13/93	<1	11	3	<3
MW-70	10/12/93	25	19	19	18
MW-70	11/10/93	<4	<4	<4	40
MW-70	01/11/94	<0.5	0.6	<0.5	<0.5
MW-70	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-70	07/18/94	<0.5	<0.5	<0.5	<0.5
MW-70	10/04/94	1.2	4.3	1.3	12
MW-70	01/09/95	<0.5	2.3	<0.5	2.4
MW-70	04/05/95	<0.5	<0.5	<0.5	1.1
MW-70	07/18/95	<0.5	0.8	<0.5	<0.5
MW-70	10/10/95	<0.5	<0.5	<0.5	<0.5
MW-70	01/18/96	<0.5	<0.5	<0.5	<0.5
MW-70	04/17/96	<0.5	<0.5	<0.5	<0.5
MW-70	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-70	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-70	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-70	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-70	06/16/98	<1	<1	<1	<1
MW-70	04/22/99	<5	<5	<5	<10
MW-70	04/28/00	<1	<1	<1	<1
MW-70	10/03/00	<5	<5	<5	<10
MW-70	04/24/01	<5	<5	<5	<15
MW-70	04/18/02	<5	<5	<5	<5
MW-71	09/01/93	<4	<4	<4	<4
MW-71	10/12/93	8	5	4	16
MW-71	11/10/93	<4	<4	<4	<4
MW-71	01/11/94	<0.5	1.3	<0.5	0.5
MW-71	04/06/94	<0.5	<0.5	<0.5	<0.5
MW-71	07/18/94	<0.5	3	0.7	6.2

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-71	10/04/94	1.1	6.8	2.7	31
MW-71	01/10/95	<0.5	<0.5	<0.5	<0.5
MW-71	06/23/95	<0.5	66	<0.5	<0.5
MW-71	07/18/95	<0.5	1.2	<0.5	1.9
MW-71	10/10/95	<0.5	<0.5	<0.5	7.3
MW-71	01/18/96	<0.5	<0.5	<0.5	<0.5
MW-71	04/17/96	<0.5	<0.5	<0.5	<0.5
MW-71	07/01/96	<0.5	<0.5	<0.5	<0.5
MW-71	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-71	02/09/97	5.2	1.3	0.8	1.3
MW-71	05/06/97	<0.5	<0.5	<0.5	<0.5
MW-71	07/17/97	<0.5	<0.5	<0.5	<0.5
MW-71	10/16/97	<0.5	<0.5	<0.5	<0.5
MW-71	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-71	04/29/98	<0.5	<0.5	<0.5	<0.5
MW-71	06/28/98	<1	<1	<1	<1
MW-71	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-71	02/01/99	<0.5	<0.5	<0.5	<0.5
MW-71	04/21/99	<5	<5	<5	<10
MW-71	12/10/99	<5	<5	<5	<10
MW-71	04/28/00	<1	<1	<1	<1
MW-71	10/02/00	<5	<5	<5	<10
MW-71	04/18/01	<5	<5	<5	<15
MW-71	10/31/01	<5	<5	<5	<10
MW-71	04/23/02	<5	<5	<5	<5
MW-71	10/16/02	<5	<5	<5	<5
MW-72	04/05/94	<2.5	<2.5	4.7	15
MW-72	07/19/94	18	<0.5	5.1	2.8
MW-72	06/30/98	56	<10	100	<10
MW-73	06/30/98	1.1	<1	<1	<1
MW-73	12/14/99	5.7	<5	<5	8.9
MW-73	05/04/00	<1	<1	<1	<1
MW-73	10/05/00	<5	<5	<5	<10
MW-73	04/23/01	<5	<5	<5	<5
MW-73	11/01/01	<5	<5	<5	<10
MW-73	04/24/02	<5	<5	<5	<5
MW-73	10/21/02	<5	<5	<5	<5
MW-74	07/18/97	180	320	180	1900
MW-74	06/24/98	220	<10	10	<10
MW-74	12/14/99	100	3900	990	6700
MW-74	05/04/00	<1	19	40	110
MW-74	10/05/00	<5	140	66	1320
MW-74	04/24/01	<100	<100	<100	<100
MW-74	11/01/01	<50	<50	<50	<100
MW-74	04/24/02	7	<5	<5	<5
MW-74	Not Sampled - Condensate Present				
MW-75	06/30/98	200	<10	89	270
MW-76	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-76	06/29/98	<1	<1	<1	<1
MW-77	07/21/95	<0.5	<0.5	1.9	2.8
MW-77	01/20/96	<0.5	3.1	<0.5	7.1

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-77	04/19/96	<0.5	3.8	0.8	2.5
MW-77	07/01/96	8	14	19	35
MW-77	10/01/96	160	320	150	1000
MW-77	05/07/97	8.4	70	8.3	52
MW-77	07/18/97	14	30	11	71
MW-77	12/09/99	<5	<5	<5	<10
MW-77	10/03/00	<5	<5	<5	24
MW-77	Not Sampled - Condensate Present				
MW-77	Not Sampled - Dry				
MW-77	10/21/02	<5	<5	<5	<5
MW-78	10/01/96	32	15	9.1	35
MW-78	02/10/97	41	7.9	7.4	12
MW-78	05/07/97	20	42	12	23
MW-78	07/17/97	8.2	10	6.6	16
MW-78	04/30/98	1.4	4.9	2	7.7
MW-78	06/28/98	<1	<1	<1	<1
MW-78	04/22/99	<5	<5	<5	<10
MW-78	12/09/99	<5	44	55	420
MW-78	10/05/00	<25	<25	<25	96
MW-78	Not Sampled - Condensate Present				
MW-78	11/02/01	<5	<5	<5	<10
MW-78	04/22/02	<5	<5	<5	<5
MW-78	10/01/02	<5	<5	<5	<5
MW-79	01/11/95	110	<5	8.5	61
MW-79	04/06/95	14	<0.5	10	53
MW-79	07/21/95	<5	74	7.7	62
MW-79	10/10/95	16	4	<2.5	3.7
MW-79	01/18/96	10	6.7	1.4	4.9
MW-79	04/19/96	2.4	7.3	1	2.7
MW-79	07/01/96	3.2	6.3	0.9	6.3
MW-79	10/01/96	1.7	5.8	1	4.2
MW-79	02/10/97	<0.5	<0.5	<0.5	<0.5
MW-79	05/07/97	<0.5	<0.5	<0.5	<0.5
MW-79	07/17/97	<0.5	<0.5	<0.5	<0.5
MW-79	04/29/98	<0.5	1.5	<0.5	1.1
MW-79	06/28/98	<1	<1	<1	<1
MW-79	04/22/99	<5	<5	<5	<10
MW-79	12/09/99	<5	<5	<5	<10
MW-79	05/02/00	<1	<1	<1	<1
MW-79	04/19/01	<5	<5	<5	<10
MW-79	11/01/01	<5	<5	<5	<10
MW-79	04/17/02	<5	<5	<5	<5
MW-79	10/18/02	<5	<5	<5	<5
MW-81	06/29/98	<1	<1	<1	1.5
MW-82	10/11/95	280	<50	450	910
MW-82	06/25/98	70	<5	75	510
MW-83	06/25/98	<10	<10	16	31
MW-84	06/23/98	93	13	55	458
MW-85	06/23/98	280	<5	120	6.3
MW-86	10/17/97	510	360	580	1400
MW-86	06/26/98	91	10	28	360

Notes:

Concentrations listed in micrograms per liter (ug/L)

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-87	08/01/96	<0.5	20	<0.5	0.5
MW-87	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-87	02/09/97	<0.5	<0.5	<0.5	<0.5
MW-87	05/06/97	<0.5	<0.5	<0.5	<0.5
MW-87	10/16/97	<0.5	<0.5	<0.5	<0.5
MW-87	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-87	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-87	06/27/98	<1	<1	<1	<1
MW-87	10/12/98	<0.5	<0.5	<0.5	<0.5
MW-87	02/02/99	<0.5	<0.5	<0.5	<0.5
MW-87	04/20/99	<5	<5	<5	<10
MW-87	12/13/99	<5	<5	<5	<10
MW-87	05/01/00	<1	<1	<1	<1
MW-87	10/04/00	<5	<5	<5	<10
MW-87	04/19/01	<5	<5	<5	<10
MW-87	11/01/01	<5	<5	<5	<10
MW-87	04/23/02	<5	<5	<5	<5
MW-87	10/17/02	<5	<5	<5	<5
MW-87A	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-87A	02/09/97	0.9	<0.5	0.7	1.5
MW-87A	05/07/97	<0.5	<0.5	<0.5	<0.5
MW-87A	10/16/97	<0.5	<0.5	<0.5	<0.5
MW-87A	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-87A	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-87A	06/27/98	<1	<1	<1	<1
MW-87A	02/02/99	<0.5	<0.5	<0.5	<0.5
MW-87A	04/20/99	<5	<5	<5	<10
MW-87A	12/13/99	<5	<5	<5	<10
MW-87A	05/01/00	<1	<1	<1	<1
MW-87A	10/03/00	<5	<5	<5	<10
MW-87A	04/19/01	<5	<5	<5	<10
MW-87A	11/01/01	<5	<5	<5	<10
MW-87A	04/23/02	<5	<5	<5	<5
MW-87A	10/17/02	<5	<5	<5	<5
MW-88	08/01/96	<0.5	1.1	0.5	1
MW-88	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-88	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-88	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-88	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-88	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-88	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-88	06/27/98	<1	<1	<1	<1
MW-88	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-88	02/01/99	1.6	1.8	1.6	4.8
MW-88	04/21/99	<5	<5	<5	<10
MW-88	12/10/99	<5	<5	<5	<10
MW-88	04/28/00	<1	<1	<1	<1
MW-88	10/02/00	<5	<5	<5	<5
MW-88	04/17/01	<5	<5	<5	<15
MW-88	10/31/01	<5	<5	<5	<10
MW-88	04/19/02	<5	<5	<5	<5

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-88	10/16/02	<5	<5	<5	<5
MW-89	08/01/96	<0.5	1.1	<0.5	<0.5
MW-89	10/01/96	<0.5	<0.5	<0.5	<0.5
MW-89	02/05/97	<0.5	<0.5	<0.5	<0.5
MW-89	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-89	10/15/97	<0.5	<0.5	<0.5	<0.5
MW-89	01/29/98	<0.5	<0.5	<0.5	<0.5
MW-89	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-89	06/17/98	<1	<1	<1	<1
MW-89	02/01/99	11	1.3	<0.5	<0.5
MW-89	04/21/99	<5	<5	<5	<10
MW-89	12/10/99	<5	<5	<5	<10
MW-89	04/27/00	<1	<1	<1	<1
MW-89	10/05/00	<5	<5	<5	<10
MW-89	04/18/01	<5	<5	<5	<10
MW-89	11/02/01	<5	<5	<5	<10
MW-89	04/19/02	<5	<5	<5	<5
MW-89	10/16/02	<5	<5	<5	<5
MW-90	02/10/97	17	0.5	15	14
MW-90	05/07/97	1.1	0.5	0.5	<0.5
MW-90	07/17/97	<0.5	<0.5	<0.5	<0.5
MW-90	04/29/98	<0.5	<0.5	<0.5	<0.5
MW-90	06/17/98	<1	<1	<1	<1
MW-90	04/23/99	<5	<5	<5	<10
MW-90	12/09/99	<5	<5	<5	<10
MW-90	05/02/00	<1	<1	<1	<1
MW-90	10/03/00	<5	<5	<5	<10
MW-90	04/24/01	82	9.3	65	140
MW-90	11/01/01	<5	<5	<5	<10
MW-90	04/18/02	<5	<5	<5	<5
MW-90	10/17/02	<5	<5	<5	<5
MW-91	02/11/97	340	14	50	55
MW-91	04/30/98	17	32	19	200
MW-91	04/23/99	19	<5	8	<10
MW-91	12/09/99	140	15	5.2	19
MW-91	10/03/00	<5	6.7	<5	35
MW-91	04/20/01	40.6	16.4	<5	<10
MW-91	11/01/01	<200	<200	<200	<500
MW-91	04/18/02	36	<5	<5	<5
MW-91	10/18/02	16	<5	5	<5
MW-94	10/17/97	<0.5	<0.5	<0.5	<0.5
MW-94	06/26/98	<1	<1	<1	<1
MW-94	04/22/99	<5	<5	<5	<10
MW-94	05/03/00	<1	<1	<1	<1
MW-94	10/05/00	<5	<5	<5	<10
MW-94	04/24/01	<5	<5	<5	<15
MW-94	04/24/02	<5	<5	<5	<5
MW-95	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-95	01/30/98	<0.5	<0.5	<0.5	<0.5
MW-95	06/22/98	<1	<1	<1	<1
MW-95	04/22/99	<5	<5	<5	<10

Notes:

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Appendix B

Historical BTEX Analytical Data, May 1991 - October 2002 Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-95	12/14/99	<5	<5	<5	<10
MW-95	05/02/00	<1	<1	<1	<1
MW-95	04/24/01	<5	<5	<5	<15
MW-95	11/06/01	<5	<5	<5	<10
MW-95	04/23/02	<5	<5	<5	<5
MW-95	10/17/02	<5	<5	<5	<5
MW-96	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-96	10/16/97	<0.5	<0.5	<0.5	<0.5
MW-96	01/30/98	<0.5	<0.5	<0.5	<0.5
MW-96	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-96	07/01/98	<1	<1	<1	<1
MW-96	10/12/98	<0.5	<0.5	<0.5	<0.5
MW-96	02/02/99	<0.5	<0.5	<0.5	<0.5
MW-96	04/22/99	<5	<5	<5	<10
MW-96	12/14/99	<5	<5	<5	<10
MW-96	05/01/00	<1	<1	<1	<1
MW-96	10/04/00	<5	<5	<5	<10
MW-96	04/19/01	<5	<5	<5	<10
MW-96	11/01/01	<5	<5	<5	<10
MW-96	04/22/02	<5	<5	<5	<5
MW-96	10/17/02	<5	<5	<5	<5
MW-97	04/30/97	<0.5	<0.5	<0.5	<0.5
MW-97	10/17/97	<0.5	<0.5	<0.5	<0.5
MW-97	01/30/98	<0.5	<0.5	<0.5	<0.5
MW-97	04/28/98	<0.5	<0.5	<0.5	<0.5
MW-97	07/01/98	<1	<1	<1	<1
MW-97	10/12/98	<2.5	<2.5	<2.5	<2.5
MW-97	02/02/99	<0.5	<0.5	<0.5	<0.5
MW-97	04/22/99	<5	<5	<5	<10
MW-97	12/14/99	<5	<5	<5	<10
MW-97	05/02/00	<1	<1	<1	<1
MW-97	10/04/00	<5	<5	<5	<10
MW-97	04/19/01	<5	<5	<5	<10
MW-97	11/01/01	<5	<5	<5	<10
MW-97	04/22/02	<5	<5	<5	<5
MW-97	10/17/02	<5	<5	<5	<5
MW-98	04/30/97	5.8	3.5	1.5	26
MW-98	06/29/98	<1	7.1	20	1010
MW-98	12/15/99	<5	13.2	<5	63.1
MW-98	05/02/00	<1	<1	<1	3.1
MW-98	04/24/01	32	<5	49	116
MW-98	11/06/01	<5	<5	<5	<10
MW-98	04/23/02	<5	<5	<5	<5
MW-98	10/17/02	<5	<5	<5	<5
MW-104	07/17/97	<0.5	0.5	<0.5	0.7
MW-104	07/01/98	<1	<1	<1	<1
MW-104	04/23/01	<5	<5	<5	<15
MW-104	11/05/01	<5	<5	<5	<10
MW-104	04/22/02	<5	<5	<5	<5
MW-104	10/21/02	<5	<5	<5	<5
MW-105	06/28/98	<1	<1	<1	<1

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-105	12/09/99	<5	<5	<5	<10
MW-105	10/02/00	<5	<5	<5	<10
MW-105	04/18/01	<5	<5	<5	<15
MW-105	Not Sampled - Dry				
MW-105	Not Sampled - Dry				
MW-106	02/11/97	<0.5	<0.5	<0.5	<0.5
MW-106	05/07/97	<0.5	<0.5	<0.5	<0.5
MW-106	07/18/97	<0.5	<0.5	<0.5	<0.5
MW-106	04/30/98	<0.5	<0.5	<0.5	<0.5
MW-106	06/28/98	<1	<1	<1	<1
MW-106	04/29/99	<5	<5	<5	<10
MW-106	12/08/99	<5	<5	<5	<10
MW-106	05/01/00	<1	<1	<1	<1
MW-106	10/02/00	<5	<5	<5	<10
MW-106	04/18/01	<5	9.4	<5	<15
MW-106	10/31/01	<5	<5	<5	<10
MW-106	04/17/02	<5	<5	<5	<5
MW-106	10/16/02	<5	7	<5	<5
MW-108	07/17/97	<0.5	<0.5	0.5	<0.5
MW-108	06/22/98	<1	<1	<1	<1
MW-108	04/22/99	<5	<5	<5	<10
MW-108	12/14/99	<5	<5	<5	<10
MW-108	05/04/00	<1	<1	<1	<1
MW-108	04/19/01	<5	<5	<5	<10
MW-108	11/05/01	<5	<5	<5	<10
MW-108	04/22/02	<5	<5	<5	<5
MW-108	10/17/02	<5	<5	<5	<5
MW-110	06/30/98	170	<10	150	160
MW-111	06/29/98	<1	<1	<1	<1
MW-111	10/11/98	<0.5	<0.5	<0.5	<0.5
MW-111	02/01/99	<0.5	0.8	<0.5	<0.5
MW-111	04/21/99	<5	<5	<5	<10
MW-111	12/13/99	<5	<5	<5	<10
MW-111	04/27/00	<1	<1	<1	<1
MW-111	10/05/00	<5	<5	<5	<10
MW-111	04/18/01	<5	<5	<5	<15
MW-111	11/02/01	<5	<5	<5	<10
MW-111	04/19/02	<5	<5	<5	<5
MW-111	10/16/02	<5	<5	<5	<5
MW-113	08/11/99	140	<5	59	390
MW-114	07/26/99	<5	<5	<5	<10
MW-115	07/26/99	<5	<5	<5	10
MW-116	07/26/99	<5	<5	<5	<10
MW-117A	12/16/99	<5	<5	<5	<10
MW-118	12/15/99	<5	<5	<5	<10
MW-119	12/28/99	16	<5	<5	<10
MW-121	12/16/99	500	10	370	20
MW-122	12/16/99	11	29	<5	22
MW-124	12/14/99	79	<50	210	1500
MW-127	12/28/99	190	7.1	38	16
MW-128	12/28/99	11	<5	<5	<10

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
SUMP-16A	07/01/91	560	—	—	—
SUMP-16A	07/19/91	—	850	100	—
SUMP-16A	07/30/91	—	—	—	660
SUMP-16A	09/01/91	240	—	—	—
SUMP-16A	12/01/91	2000	1000	<500	3500
SUMP-16A	04/01/92	1332	203	<3	3679
SUMP-16A	07/01/92	1495	2028	280	3442
SUMP-16A	10/01/92	632	87	<3	1821
SUMP-16A	01/01/93	741	40	96	1355
SUMP-16A	04/14/93	707	881	298	4226
SUMP-16A	10/05/94	170	<2.5	120	680
SUMP-16A	01/11/95	2	5.1	2.4	32
SUMP-16A	10/12/95	130	<13	98	780
SUMP-16A	04/19/96	0.8	1.5	3.8	27
SUMP-16A	07/01/96	5.1	0.9	1.2	7.7
SUMP-A10	10/12/95	<0.5	2.9	<0.5	<0.5
SW-01	05/28/91	—	—	—	<10
SW-01	07/01/91	<5	—	—	—
SW-01	07/19/91	—	<5	<5	—
SW-01	09/01/91	<1	—	—	—
SW-01	12/01/91	<1	—	—	—
SW-01	04/01/92	5	6	<3	14
SW-01	07/01/92	17.5	69	<3	67
SW-01	10/01/92	16	15	<3	10
SW-01	01/01/93	6	<3	<3	<3
SW-01	04/15/93	<1	<1	<1	<1
SW-01	05/12/93	<1	<1	<1	<1
SW-01	06/28/93	<0.5	<0.5	<0.5	<0.5
SW-01	07/15/93	<0.5	<0.5	<0.5	<0.5
SW-01	08/03/93	<0.5	<0.5	<0.5	<0.5
SW-01	09/21/93	<0.5	<0.5	1	0.6
SW-01	10/14/93	<0.5	<0.5	<0.5	<0.5
SW-01	11/10/93	<0.5	<0.5	<0.5	<0.5
SW-01	12/06/93	<0.5	<0.5	<0.5	<0.5
SW-01	01/12/94	<0.5	<0.5	<0.5	<0.5
SW-01	02/09/94	<0.5	<0.5	<0.5	<0.5
SW-01	03/16/94	<0.5	<0.5	<0.5	<0.5
SW-01	04/05/94	<0.5	<0.5	<0.5	<0.5
SW-01	05/19/94	<0.5	<0.5	<0.5	<0.5
SW-01	06/23/94	<0.5	<0.5	<0.5	<0.5
SW-01	07/21/94	<0.5	<0.5	<0.5	<0.5
SW-01	08/24/94	<0.5	<0.5	<0.5	<0.5
SW-01	09/20/94	<0.5	<0.5	0.8	2.2
SW-01	10/06/94	<0.5	<0.5	<0.5	0.6
SW-01	11/30/94	<0.5	<0.5	<0.5	<0.5
SW-01	12/16/94	<0.5	<0.5	0.7	4.8
SW-01	01/11/95	<0.5	<0.5	<0.5	<0.5
SW-01	03/09/95	<0.5	<0.5	<0.5	<0.5
SW-01	04/07/95	<0.5	<0.5	<0.5	<0.5
SW-01	05/18/95	<0.5	<0.5	<0.5	<0.5
SW-01	07/21/95	<0.5	<0.5	<0.5	<0.5

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Appendix B

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
SW-01	10/12/95	<0.5	<0.5	0.6	1.2
SW-01	12/27/95	<0.5	<0.5	<0.5	<0.5
SW-01	01/19/96	0.8	4.5	1.5	8.7
SW-01	03/18/96	<0.5	<0.5	<0.5	<0.5
SW-01	04/24/96	<0.5	<0.5	<0.5	<0.5
SW-01	07/01/96	<0.5	<0.5	<0.5	<0.5
SW-01	10/01/96	<0.5	<0.5	<0.5	<0.5
SW-01	02/10/97	<0.5	<0.5	<0.5	<0.5
SW-01	12/10/97	<0.1	<0.1	<0.1	<0.1
SW-01	06/30/98	<1	<1	<1	<1
SW-01	04/23/99	<5	<5	<5	<10
SW-02	09/01/91	<1	—	—	—
SW-02	12/01/91	<1	—	—	—
SW-02	04/01/92	11	12	<3	5
SW-02	07/01/92	7	38	<1	24
SW-02	10/01/92	69	37	25	61
SW-02	01/01/93	47	6	7	9
SW-02	04/15/93	4	<1	<1	<1
SW-02	05/12/93	3	<1	<1	<1
SW-02	01/11/95	<0.5	<0.5	<0.5	<0.5
SW-02	06/24/98	<1	<1	<1	<1
SW-02	04/23/99	<5	<5	<5	<10
SW-03	07/01/96	<0.5	<0.5	<0.5	<0.5
SW-03	10/01/96	<0.5	<0.5	<0.5	<0.5
SW-03	06/24/98	<1	<1	<1	<1
SW-03	04/23/99	<5	<5	<5	<10
TH-21A	07/01/91	1700	—	—	—
TH-21A	07/19/91	—	3400	1200	—
TH-21A	07/30/91	—	—	—	2200
TH-A11	07/01/91	1100	—	—	—
TH-A11	07/19/91	—	1600	1100	—
TH-A11	07/30/91	—	—	—	800
TH-A11	09/01/91	1400	—	—	—
TH-A11	12/01/91	2900	3500	300	4000
TH-A11	04/01/92	3465	3303	306	4158
TH-A11	07/01/92	1258	1710	423	3416
TH-A11	10/01/92	2742	2235	<3	3408
UIHS_ARROYO	05/28/91	—	—	—	<10
UIHS_ARROYO	07/01/91	<5	—	—	—
UIHS_ARROYO	07/19/91	—	<5	<5	—
UIHS_ARROYO	09/01/91	<1	—	—	—
UIHS_ARROYO	12/01/91	<1	—	—	—
UIHS_ARROYO	04/01/92	<1	<1	<1	<1
UIHS_ARROYO	07/01/92	<1	<1	<1	<1
UIHS_ARROYO	10/01/92	<1	<1	<1	<1
UIHS_ARROYO	01/01/93	<1	<1	<1	<1
UIHS_ARROYO	04/15/93	<1	<1	—	<1
UIHS_ARROYO	05/12/93	<1	<1	<1	<1
UIHS_ARROYO	06/28/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/15/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	08/03/93	<0.5	<0.5	<0.5	<0.5

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

— Indicates parameter was not analyzed

Appendix B

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Historical BTEX Analytical Data, May 1991 - October 2002
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
UIHS_ARROYO	09/21/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/14/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	11/10/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	12/06/93	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	01/13/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	02/09/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	03/16/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/05/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	05/19/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	06/23/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/21/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	08/24/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	09/20/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/06/94	<0.5	<0.5	<0.5	0.6
UIHS_ARROYO	11/30/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	12/16/94	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	01/11/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	03/09/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/07/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	05/18/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/21/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/12/95	<0.5	<0.5	<0.5	1.2
UIHS_ARROYO	12/27/95	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	01/19/96	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	03/18/96	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	04/24/96	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	07/01/96	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	10/01/96	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	02/10/97	<0.5	<0.5	<0.5	<0.5
UIHS_ARROYO	06/26/98	<1	<1	<1	<1

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed



ARCADIS

Historical General Chemistry Analytical Data

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
BIEBBLE	7/1/1991	NA	NA	NA	NA	NA	14	NA	1.4	NA	NA	NA	NA	NA	NA	NA	250	1000
BIEBBLE	4/1/1992	NA	NA	NA	NA	NA	13.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	7/1/1992	NA	NA	NA	NA	NA	7.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	10/1/1992	NA	NA	NA	NA	NA	10.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	1/1/1993	NA	NA	NA	NA	NA	10.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	4/15/1993	NA	NA	NA	NA	NA	11.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	7/15/1993	NA	NA	NA	NA	NA	13.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	10/14/1993	NA	NA	NA	NA	NA	10.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	1/13/1994	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	4/5/1994	NA	NA	NA	NA	NA	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	7/21/1994	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	10/6/1994	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	1/11/1995	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	4/7/1995	NA	NA	NA	NA	NA	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	7/21/1995	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	10/12/1995	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	1/19/1996	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	4/17/1996	NA	NA	NA	NA	NA	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	7/1/1996	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	10/1/1996	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BIEBBLE	2/10/1997	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	4/1/1992	NA	NA	NA	NA	NA	218	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	7/1/1992	NA	NA	NA	NA	NA	236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	10/1/1992	NA	NA	NA	NA	NA	285	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	1/1/1993	NA	NA	NA	NA	NA	344	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	4/1/1993	NA	NA	NA	NA	NA	363	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	7/1/1993	NA	NA	NA	NA	NA	459	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	10/1/1993	NA	NA	NA	NA	NA	181	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	1/1/1994	NA	NA	NA	NA	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	4/1/1994	NA	NA	NA	NA	NA	139	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	7/1/1994	NA	NA	NA	NA	NA	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	10/1/1994	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	1/1/1995	NA	NA	NA	NA	NA	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LOWER-QUEEN-MAX	4/1/1995	NA	NA	NA	NA	NA	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/1/1991	NA	NA	NA	NA	NA	20	NA	1.3	NA	NA	NA	NA	NA	NA	NA	450	980
LYMAN	4/1/1992	NA	NA	NA	NA	NA	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/1/1992	NA	NA	NA	NA	NA	14.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	10/1/1992	NA	NA	NA	NA	NA	15.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	1/1/1993	NA	NA	NA	NA	NA	13.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	4/15/1993	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	5/12/1993	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	6/28/1993	NA	NA	NA	NA	NA	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/15/1993	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	8/3/1993	NA	NA	NA	NA	NA	13.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	9/21/1993	NA	NA	NA	NA	NA	12.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	10/14/1993	NA	NA	NA	NA	NA	14.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	11/10/1993	NA	NA	NA	NA	NA	482	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	12/6/1993	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	1/12/1994	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	2/9/1994	NA	NA	NA	NA	NA	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	3/16/1994	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	4/5/1994	NA	NA	NA	NA	NA	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	5/19/1994	NA	NA	NA	NA	NA	12.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	6/23/1994	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/21/1994	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	8/24/1994	NA	NA	NA	NA	NA	11.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	9/20/1994	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	10/6/1994	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	11/30/1994	NA	NA	NA	NA	NA	12.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	12/16/1994	NA	NA	NA	NA	NA	11.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	1/11/1995	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	3/9/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	4/7/1995	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	5/18/1995	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/21/1995	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	10/12/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	1/19/1996	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	4/18/1996	NA	NA	NA	NA	NA	11.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	7/1/1996	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	10/1/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	2/10/1997	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	4/30/1998	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LYMAN	6/29/1998	NA	NA	NA	NA	NA	13	<0.005	0.6	NA	NA	NA	NA	7.4	<0.005	NA	670	1000
MW-001	4/1/1991	NA	NA	NA	NA	NA	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-001	5/1/1991	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	820
MW-001	12/1/1991	NA	NA	NA	NA	NA	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	5/1/1991	NA	NA	NA	NA	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1600
MW-010	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	1440

* Measured in standard units (su)

** Measured in micro-mhos per centimeter (umho/cm)

NA Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-010	12/1/1991	NA	NA	NA	NA	NA	323	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	4/1/1992	NA	NA	NA	NA	NA	319	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	7/1/1992	NA	NA	NA	NA	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	10/1/1992	NA	NA	NA	NA	NA	312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	1/1/1994	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-010	2/1/1997	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	12/1/1991	NA	NA	NA	NA	NA	790	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	4/1/1992	NA	NA	NA	NA	NA	653	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	7/1/1992	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	10/1/1992	NA	NA	NA	NA	NA	239	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	1/1/1993	NA	NA	NA	NA	NA	544	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	10/5/1994	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	7/2/1995	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	1/20/1996	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	4/19/1996	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	7/1/1996	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	10/1/1996	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-011	2/7/1997	NA	NA	NA	NA	NA	46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	2790
MW-013	12/1/1991	NA	NA	NA	NA	NA	780	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	4/1/1992	NA	NA	NA	NA	NA	1240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	7/1/1992	NA	NA	NA	NA	NA	269	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	10/1/1996	NA	NA	NA	NA	NA	45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	2/7/1997	NA	NA	NA	NA	NA	70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-013	3/2/1997	NA	NA	NA	NA	NA	NA	NA	0.4	NA	NA	NA	NA	NA	NA	NA	<10	770
MW-013	6/2/1998	NA	NA	NA	NA	NA	230	<0.005	0.3	NA	NA	NA	NA	7	0.023	NA	<5	1000
MW-014	6/22/1998	NA	NA	NA	NA	NA	330	<0.005	0.4	NA	NA	NA	NA	7	0.008	NA	<5	1400
MW-016	4/15/1993	NA	NA	NA	NA	NA	246	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-017	4/15/1993	NA	NA	NA	NA	NA	306	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-018	5/1/1991	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-018	4/1/1992	NA	NA	NA	NA	NA	464	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1580
MW-018	7/1/1992	NA	NA	NA	NA	NA	109	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-018	10/1/1992	NA	NA	NA	NA	NA	408	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	5/1/1991	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	5/22/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-019	7/1/1991	NA	NA	NA	NA	NA	466	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	1460
MW-019	4/1/1992	NA	NA	NA	NA	NA	463	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	7/1/1992	NA	NA	NA	NA	NA	90	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	10/1/1992	NA	NA	NA	NA	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	10/1/1996	NA	NA	NA	NA	NA	96	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-019	2/7/1997	NA	NA	NA	NA	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-021	5/1/1991	NA	NA	NA	NA	NA	230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1220
MW-021	12/1/1991	NA	NA	NA	NA	NA	343	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-021	4/15/1993	NA	NA	NA	NA	NA	283	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-024	7/1/1992	NA	NA	NA	NA	NA	455	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-026	5/1/1991	NA	NA	NA	NA	NA	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1650
MW-026	12/1/1991	NA	NA	NA	NA	NA	356	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-026	7/1/1992	NA	NA	NA	NA	NA	164	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-026	10/1/1992	NA	NA	NA	NA	NA	222	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-026	1/1/1993	NA	NA	NA	NA	NA	177	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-031	7/1/1992	NA	NA	NA	NA	NA	337	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-031	10/1/1992	NA	NA	NA	NA	NA	296	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-037	6/1/1991	NA	NA	NA	NA	NA	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-037	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-037	7/14/1993	NA	NA	NA	NA	NA	173	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	5/1/1991	NA	NA	NA	NA	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	790
MW-038	5/22/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-038	6/1/1991	NA	NA	NA	NA	NA	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-038	12/1/1991	NA	NA	NA	NA	NA	111	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	4/1/1992	NA	NA	NA	NA	NA	127	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	7/1/1992	NA	NA	NA	NA	NA	147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	10/1/1992	NA	NA	NA	NA	NA	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	10/1/1996	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-038	2/7/1997	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	5/1/1991	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	6/1/1991	NA	NA	NA	NA	NA	244	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-039	1/1/1993	NA	NA	NA	NA	NA	231	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	4/15/1993	NA	NA	NA	NA	NA	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	7/15/1993	NA	NA	NA	NA	NA	296	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	10/14/1993	NA	NA	NA	NA	NA	277	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	1/13/1994	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	4/7/1994	NA	NA	NA	NA	NA	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	7/20/1994	NA	NA	NA	NA	NA	198	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	1/10/1995	NA	NA	NA	NA	NA	194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	10/1/1996	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)
 ** Measured in micro-mhos per centimeter (umho/cm)
 NA Not analyzed or not reported
 < Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-039	2/7/1997	NA	NA	NA	NA	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-039	7/18/1997	NA	NA	NA	NA	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	6/1/1991	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	41	758
MW-041	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA
MW-041	7/1/1991	NA	NA	NA	NA	NA	38	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA
MW-041	12/1/1991	NA	NA	NA	NA	NA	108	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	7/15/1993	NA	NA	NA	NA	NA	242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	10/14/1993	NA	NA	NA	NA	NA	264	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	1/13/1994	NA	NA	NA	NA	NA	370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	4/6/1994	NA	NA	NA	NA	NA	290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	7/20/1994	NA	NA	NA	NA	NA	259	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	10/6/1994	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	1/11/1995	NA	NA	NA	NA	NA	326	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	4/6/1995	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	7/21/1995	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	10/12/1995	NA	NA	NA	NA	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	1/20/1996	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	4/19/1996	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	7/1/1996	NA	NA	NA	NA	NA	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	10/1/1996	NA	NA	NA	NA	NA	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	2/7/1997	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	3/20/1997	NA	NA	NA	NA	NA	NA	NA	1.5	NA	NA	NA	NA	NA	NA	NA	98	1500
MW-041	7/18/1997	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-041	6/19/1998	NA	NA	NA	NA	NA	120	<0.005	1.5	NA	NA	NA	NA	7.5	0.024	NA	190	1200
MW-041	4/20/1999	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	810
MW-042	12/1/1991	NA	NA	NA	NA	NA	571	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	6/1/1991	NA	NA	NA	NA	NA	138	NA	NA	NA	NA	NA	NA	NA	NA	NA	47	1300
MW-043	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-043	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1600
MW-043	7/15/1993	NA	NA	NA	NA	NA	232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	10/14/1993	NA	NA	NA	NA	NA	230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	1/13/1994	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	4/6/1994	NA	NA	NA	NA	NA	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	7/20/1994	NA	NA	NA	NA	NA	266	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	10/6/1994	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	1/11/1995	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	4/6/1995	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	7/21/1995	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	10/12/1995	NA	NA	NA	NA	NA	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	1/20/1996	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	4/19/1996	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	7/1/1996	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	10/1/1996	NA	NA	NA	NA	NA	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	2/7/1997	NA	NA	NA	NA	NA	330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	7/18/1997	NA	NA	NA	NA	NA	230	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	6/22/1998	NA	NA	NA	NA	NA	210	<0.005	0.8	NA	NA	NA	NA	7.3	0.007	NA	53	1500
MW-043	4/20/1999	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1100
MW-044	6/1/1991	NA	NA	NA	NA	NA	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	641
MW-044	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-044	4/1/1992	NA	NA	NA	NA	NA	660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/1/1992	NA	NA	NA	NA	NA	263	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	10/1/1992	NA	NA	NA	NA	NA	356	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	1/1/1993	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	4/15/1993	NA	NA	NA	NA	NA	365	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/15/1993	NA	NA	NA	NA	NA	445	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	10/14/1993	NA	NA	NA	NA	NA	543	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	1/13/1994	NA	NA	NA	NA	NA	490	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	4/6/1994	NA	NA	NA	NA	NA	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/20/1994	NA	NA	NA	NA	NA	430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	10/5/1994	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	1/11/1995	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	4/6/1995	NA	NA	NA	NA	NA	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/21/1995	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	10/12/1995	NA	NA	NA	NA	NA	520	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	1/20/1996	NA	NA	NA	NA	NA	580	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	4/19/1996	NA	NA	NA	NA	NA	530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/1/1996	NA	NA	NA	NA	NA	480	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	10/1/1996	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	2/7/1997	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	7/18/1997	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-044	6/22/1998	NA	NA	NA	NA	NA	260	<0.005	0.8	NA	NA	NA	NA	7.2	0.04	NA	66	1000
MW-044	4/20/1999	NA	NA	NA	NA	NA	94	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	910
MW-045	6/1/1991	NA	NA	NA	NA	NA	507	NA	NA	NA	NA	NA	NA	NA	NA	NA	2940	5440
MW-045	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.9	NA	NA	NA	NA	NA	NA	NA
MW-045	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2090	3920
MW-045	12/1/1991	NA	NA	NA	NA	NA	354	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-045	7/15/1993	NA	NA	NA	NA	NA	434	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-045	10/14/1993	NA	NA	NA	NA	NA	408	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-045	1/13/1994	NA	NA	NA	NA	NA	440	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-045	4/6/1994	NA	NA	NA	NA	NA	430	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-045	7/20/1994	NA	NA	NA	NA	NA	429	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	6/1/1991	NA	NA	NA	NA	NA	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	1220
MW-046	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA/R
MW-046	7/1/1991	NA	NA	NA	NA	NA	45	NA	NA	NA	0.1	NA	NA	NA	NA	NA	NA	NA
MW-046	10/1/1996	NA	NA	NA	NA	NA	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	2/1/1997	NA	NA	NA	NA	NA	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	5/29/1997	NA	990	NA	62	3	132	NA	1.3	<1	NA	NA	NA	7.5	NA	1200	106	1300
MW-046	7/18/1997	NA	NA	NA	NA	NA	180	NA	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	12/10/1997	NA	NA	NA	NA	NA	NA	NA	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	6/21/1998	NA	NA	NA	NA	NA	140	<0.005	1.1	NA	NA	NA	NA	7.2	NA	NA	22	940
MW-046	4/20/1999	NA	NA	NA	NA	NA	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	580
MW-047	6/1/1991	NA	NA	NA	NA	NA	51	NA	NA	NA	NA	NA	NA	NA	NA	NA	23	652
MW-047	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0	NA	NA	NA	NA	NA	NA	NA
MW-047	12/1/1991	NA	NA	NA	NA	NA	433	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-047	10/1/1996	NA	NA	NA	NA	NA	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-048	12/1/1991	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-048	7/1/1992	NA	NA	NA	NA	NA	431	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-048	10/1/1996	NA	NA	NA	NA	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	6/1/1991	NA	NA	NA	NA	NA	365	NA	NA	NA	NA	NA	NA	NA	NA	NA	1800	3910
MW-049	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	NA	NA	NA	NA	NA	NA	NA
MW-049	7/15/1993	NA	NA	NA	NA	NA	399	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	10/14/1993	NA	NA	NA	NA	NA	397	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	1/13/1994	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	4/6/1994	NA	NA	NA	NA	NA	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	7/20/1994	NA	NA	NA	NA	NA	368	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	10/5/1994	NA	NA	NA	NA	NA	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	1/11/1995	NA	NA	NA	NA	NA	389	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	4/6/1995	NA	NA	NA	NA	NA	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	7/21/1995	NA	NA	NA	NA	NA	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	10/12/1995	NA	NA	NA	NA	NA	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	1/20/1996	NA	NA	NA	NA	NA	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	4/19/1996	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	7/1/1996	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	10/1/1996	NA	NA	NA	NA	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	2/7/1997	NA	NA	NA	NA	NA	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	3/20/1997	NA	NA	NA	NA	NA	NA	NA	1.4	NA	NA	NA	NA	NA	NA	NA	1000	3100
MW-049	7/18/1997	NA	NA	NA	NA	NA	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	6/21/1998	NA	NA	NA	NA	NA	630	0.05	1.3	NA	NA	NA	NA	7	0.012	NA	780	2800
MW-049	4/20/1999	NA	NA	NA	NA	NA	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3000
MW-050	6/1/1991	NA	NA	NA	NA	NA	388	NA	NA	NA	NA	NA	NA	NA	NA	NA	3420	6070
MW-050	6/25/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	NA	NA	NA	NA	NA	NA	NA
MW-050	12/1/1991	NA	NA	NA	NA	NA	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/1/1992	NA	NA	NA	NA	NA	397	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	7/1/1992	NA	NA	NA	NA	NA	379	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	10/1/1992	NA	NA	NA	NA	NA	370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	1/1/1993	NA	NA	NA	NA	NA	337	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/15/1993	NA	NA	NA	NA	NA	955	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	7/15/1993	NA	NA	NA	NA	NA	347	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	10/14/1993	NA	NA	NA	NA	NA	292	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	1/13/1994	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/6/1994	NA	NA	NA	NA	NA	290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	7/20/1994	NA	NA	NA	NA	NA	290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	10/5/1994	NA	NA	NA	NA	NA	290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	1/11/1995	NA	NA	NA	NA	NA	314	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/6/1995	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	7/21/1995	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	10/12/1995	NA	NA	NA	NA	NA	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	1/20/1996	NA	NA	NA	NA	NA	290	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/19/1996	NA	NA	NA	NA	NA	330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	7/1/1996	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	10/1/1996	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	2/7/1997	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	3/20/1997	NA	NA	NA	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	3600	5900
MW-050	7/18/1997	NA	NA	NA	NA	NA	330	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	6/19/1998	NA	NA	NA	NA	NA	340	<0.005	1.2	NA	NA	NA	NA	8.2	<0.005	NA	3800	5900
MW-050	4/20/1999	NA	NA	NA	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6200
MW-051	12/1/1991	NA	NA	NA	NA	NA	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-052	7/1/1992	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	12/1/1991	NA	NA	NA	NA	NA	87	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/1/1992	NA	NA	NA	NA	NA	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/1/1992	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	10/1/1992	NA	NA	NA	NA	NA	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	1/1/1993	NA	NA	NA	NA	NA	134	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/14/1993	NA	NA	NA	NA	NA	145	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/14/1993	NA	NA	NA	NA	NA	146	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	10/14/1993	NA	NA	NA	NA	NA	122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)

** Measured in micro-mhos per centimeter (umho/cm)

NA Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-054	1/12/1994	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/6/1994	NA	NA	NA	NA	NA	102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/20/1994	NA	NA	NA	NA	NA	135	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	10/5/1994	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	1/10/1995	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/6/1995	NA	NA	NA	NA	NA	102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/21/1995	NA	NA	NA	NA	NA	95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	10/11/1995	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	1/20/1996	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/18/1996	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/1/1996	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	10/1/1996	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	2/10/1997	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	7/16/1997	NA	NA	NA	NA	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	6/25/1998	NA	NA	NA	NA	NA	110	<0.005	1.8	NA	NA	NA	NA	7.1	<0.005	NA	1300	2200
MW-054	4/22/1999	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3400
MW-055	6/1/1991	NA	NA	NA	NA	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	12/1/1991	NA	NA	NA	NA	NA	501	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/1/1992	NA	NA	NA	NA	NA	385	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/1/1992	NA	NA	NA	NA	NA	273	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	10/1/1992	NA	NA	NA	NA	NA	292	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	1/1/1993	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/14/1993	NA	NA	NA	NA	NA	301	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/14/1993	NA	NA	NA	NA	NA	312	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	10/14/1993	NA	NA	NA	NA	NA	287	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	1/12/1994	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/8/1994	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/20/1994	NA	NA	NA	NA	NA	299	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	10/5/1994	NA	NA	NA	NA	NA	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	1/1/1995	NA	NA	NA	NA	NA	321	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/11/1995	NA	NA	NA	NA	NA	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/20/1995	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	10/11/1995	NA	NA	NA	NA	NA	250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	1/19/1996	NA	NA	NA	NA	NA	370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/18/1996	NA	NA	NA	NA	NA	310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/1/1996	NA	NA	NA	NA	NA	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	10/1/1996	NA	NA	NA	NA	NA	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	2/10/1997	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	7/16/1997	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000
MW-055	6/25/1998	NA	NA	NA	NA	NA	300	<0.005	1.5	NA	NA	NA	NA	7	0.016	NA	55	1500
MW-056	6/1/1991	NA	NA	NA	NA	NA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	7/1/1991	NA	NA	NA	NA	NA	102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	1220
MW-056	12/1/1991	NA	NA	NA	NA	NA	197	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	7/1/1992	NA	NA	NA	NA	NA	248	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	10/1/1992	NA	NA	NA	NA	NA	183	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	1/1/1993	NA	NA	NA	NA	NA	269	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	10/1/1996	NA	NA	NA	NA	NA	270	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	2/1/1997	NA	NA	NA	NA	NA	170	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-056	3/20/1997	NA	NA	NA	NA	NA	NA	NA	1.5	NA	NA	NA	NA	NA	NA	NA	<10	1200
MW-057	6/1/1991	NA	NA	NA	NA	NA	15.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/1/1991	NA	NA	NA	NA	NA	21	NA	<1	NA	2.7	NA	NA	NA	NA	NA	60	460
MW-057	12/1/1991	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/1/1992	NA	NA	NA	NA	NA	117	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/1/1992	NA	NA	NA	NA	NA	63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	10/1/1992	NA	NA	NA	NA	NA	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	1/1/1993	NA	NA	NA	NA	NA	131	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/14/1993	NA	NA	NA	NA	NA	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/14/1993	NA	NA	NA	NA	NA	72	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	10/13/1993	NA	NA	NA	NA	NA	73.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	1/12/1994	NA	NA	NA	NA	NA	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/7/1994	NA	NA	NA	NA	NA	58	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/19/1994	NA	NA	NA	NA	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	10/5/1994	NA	NA	NA	NA	NA	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	1/11/1995	NA	NA	NA	NA	NA	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/8/1995	NA	NA	NA	NA	NA	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/20/1995	NA	NA	NA	NA	NA	37	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	10/11/1995	NA	NA	NA	NA	NA	47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	1/19/1996	NA	NA	NA	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/18/1996	NA	NA	NA	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/1/1996	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	10/1/1996	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	2/10/1997	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	7/15/1997	NA	NA	NA	NA	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	6/25/1998	NA	NA	NA	NA	NA	50	<0.005	0.5	NA	NA	NA	NA	7.3	0.006	NA	110	490
MW-057	4/20/1999	NA	NA	NA	NA	NA	44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	500
MW-058	12/1/1991	NA	NA	NA	NA	NA	124	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	4/1/1992	NA	NA	NA	NA	NA	156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
NA Not analyzed or not reported
< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-058	7/1/1992	NA	NA	NA	NA	NA	149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	10/1/1992	NA	NA	NA	NA	NA	155	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	1/1/1993	NA	NA	NA	NA	NA	175	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	4/13/1993	NA	NA	NA	NA	NA	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	7/13/1993	NA	NA	NA	NA	NA	133	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	10/13/1993	NA	NA	NA	NA	NA	59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	4/5/1994	NA	NA	NA	NA	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	7/19/1994	NA	NA	NA	NA	NA	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	10/6/1994	NA	NA	NA	NA	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	1/11/1995	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	4/8/1995	NA	NA	NA	NA	NA	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	4/18/1996	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	10/1/1996	NA	NA	NA	NA	NA	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-058	6/22/1998	NA	NA	NA	NA	NA	42	<0.005	0.9	NA	NA	NA	NA	7.4	<0.005	NA	<5	760
MW-059	12/1/1991	NA	NA	NA	NA	NA	149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	4/1/1992	NA	NA	NA	NA	NA	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	7/1/1992	NA	NA	NA	NA	NA	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	10/1/1992	NA	NA	NA	NA	NA	69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	1/1/1993	NA	NA	NA	NA	NA	46	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	4/13/1993	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	10/13/1993	NA	NA	NA	NA	NA	56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	4/5/1994	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	7/19/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	10/6/1994	NA	NA	NA	NA	NA	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	1/11/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	2/9/1997	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	6/24/1998	NA	NA	NA	NA	NA	560	<0.005	0.6	NA	NA	NA	NA	7.5	0.022	NA	2300	4100
MW-060	7/1/1991	NA	NA	NA	NA	NA	13	NA	2	NA	0.4	NA	NA	NA	NA	NA	383	860
MW-060	12/1/1991	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/1/1992	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/1/1992	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/1/1992	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	1/1/1993	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/14/1993	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/14/1993	NA	NA	NA	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/13/1993	NA	NA	NA	NA	NA	13.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	1/12/1994	NA	NA	NA	NA	NA	9.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/7/1994	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/19/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/5/1994	NA	NA	NA	NA	NA	9.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	1/10/1995	NA	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/7/1995	NA	NA	NA	NA	NA	8.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/19/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/11/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	1/19/1996	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/18/1996	NA	NA	NA	NA	NA	12.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/1/1996	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/1/1996	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/19/1996	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	2/9/1997	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	3/19/1997	NA	NA	NA	NA	NA	NA	NA	0.8	NA	NA	NA	NA	NA	NA	NA	280	760
MW-060	5/6/1997	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	7/15/1997	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	10/16/1997	0.07	NA	NA	NA	NA	NA	NA	NA	0.28	0.28	<0.2	0.06	NA	NA	NA	NA	NA
MW-060	6/21/1998	NA	NA	NA	NA	NA	12	<0.005	1.4	NA	NA	NA	NA	7.3	<0.005	NA	390	720
MW-060	4/20/1999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	12/1/1991	NA	NA	NA	NA	NA	413	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	1/13/1994	NA	NA	NA	NA	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	4/7/1994	NA	NA	NA	NA	NA	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	7/20/1994	NA	NA	NA	NA	NA	387	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	10/4/1994	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	1/11/1995	NA	NA	NA	NA	NA	439	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	4/11/1995	NA	NA	NA	NA	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	7/21/1995	NA	NA	NA	NA	NA	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	10/10/1995	NA	NA	NA	NA	NA	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	1/20/1996	NA	NA	NA	NA	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	4/18/1996	NA	NA	NA	NA	NA	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	7/1/1996	NA	NA	NA	NA	NA	370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	10/1/1996	NA	NA	NA	NA	NA	420	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	2/10/1997	NA	NA	NA	NA	NA	410	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	7/17/1997	NA	NA	NA	NA	NA	390	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	6/18/1998	NA	NA	NA	NA	NA	480	<0.005	2.2	NA	NA	NA	NA	6.9	<0.005	NA	1600	3200
MW-061	4/20/1999	NA	NA	NA	NA	NA	370	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2900
MW-061A	7/1/1991	NA	NA	NA	NA	NA	16	NA	1.6	NA	0.1	NA	NA	NA	NA	NA	347	805
MW-061A	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	335	755
MW-061A	12/1/1991	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	4/1/1992	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	7/1/1992	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)

** Measured in micro-mhos per centimeter (umho/cm)

NA Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-061A	10/1/1992	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	1/1/1993	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	4/13/1993	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	4/5/1994	NA	NA	NA	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	7/19/1994	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	10/4/1994	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	1/10/1995	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	1/20/1996	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	4/19/1996	NA	NA	NA	NA	NA	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	7/1/1996	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	2/6/1997	NA	266	<0.3	NA	<1	13	NA	0.85	<1	NA	NA	NA	7.5	NA	1020	340	840
MW-061A	5/7/1997	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	6/26/1997	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	7/15/1997	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	10/15/1997	0.08	NA	NA	NA	NA	NA	NA	NA	NA	<0.06	0.4	<2.5	NA	NA	NA	NA	NA
MW-061A	6/18/1998	NA	NA	NA	NA	NA	4	0.025	0.8	NA	NA	NA	NA	7.3	<0.005	NA	300	690
MW-061A	4/20/1999	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	730
MW-062	9/1/1991	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	1120
MW-062	12/1/1991	NA	NA	NA	NA	NA	247	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	4/1/1992	NA	NA	NA	NA	NA	218	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	7/1/1992	NA	NA	NA	NA	NA	236	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	10/1/1992	NA	NA	NA	NA	NA	285	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	1/1/1993	NA	NA	NA	NA	NA	202	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	4/13/1993	NA	NA	NA	NA	NA	207	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	7/14/1993	NA	NA	NA	NA	NA	459	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	10/13/1993	NA	NA	NA	NA	NA	181	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	4/5/1994	NA	NA	NA	NA	NA	139	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	7/19/1994	NA	NA	NA	NA	NA	129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	10/6/1994	NA	NA	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	1/11/1995	NA	NA	NA	NA	NA	152	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	4/8/1995	NA	NA	NA	NA	NA	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	2/11/1997	NA	NA	NA	NA	NA	150	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	7/18/1997	NA	NA	NA	NA	NA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	6/26/1998	NA	NA	NA	NA	NA	91	<0.005	0.8	NA	NA	NA	NA	7.1	<0.005	NA	140	650
MW-062	4/21/1999	NA	NA	NA	NA	NA	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	550
MW-063	12/1/1991	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/1/1992	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/1/1992	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/1/1992	NA	NA	NA	NA	NA	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	1/1/1993	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/13/1993	NA	NA	NA	NA	NA	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/13/1993	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/12/1993	NA	NA	NA	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	1/11/1994	NA	NA	NA	NA	NA	5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/6/1994	NA	NA	NA	NA	NA	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/18/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/4/1994	NA	NA	NA	NA	NA	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	1/9/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/7/1995	NA	NA	NA	NA	NA	6.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/18/1995	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/10/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	1/18/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/17/1996	NA	NA	NA	NA	NA	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/1/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/1/1996	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	2/5/1997	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	7/15/1997	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	10/15/1997	<0.03	NA	NA	NA	NA	NA	NA	NA	6.6	NA	<0.2	0.25	NA	NA	NA	NA	NA
MW-063	6/25/1998	NA	NA	NA	NA	NA	10	<0.005	0.4	NA	NA	NA	NA	7.4	0.005	NA	39	370
MW-063	10/11/1998	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.1	340
MW-064	12/1/1991	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/1/1992	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	7/1/1992	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	10/1/1992	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	1/1/1993	NA	NA	NA	NA	NA	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/13/1993	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	7/13/1993	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	10/13/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	1/12/1994	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/6/1994	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	7/19/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	10/5/1994	NA	NA	NA	NA	NA	10.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	1/10/1995	NA	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/7/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	7/19/1995	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	10/11/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	1/19/1996	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/18/1996	NA	NA	NA	NA	NA	11.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)

** Measured in micro-mhos per centimeter (umho/cm)

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Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-064	2/11/1997	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	7/16/1997	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	6/23/1998	NA	NA	NA	NA	NA	15	<0.005	0.7	NA	NA	NA	NA	7.3	<0.005	NA	<5	600
MW-064	4/21/1999	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	530
MW-065	12/1/1991	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	7/15/1993	NA	NA	NA	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	10/5/1994	NA	NA	NA	NA	NA	5.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	7/1/1996	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	10/1/1996	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	2/11/1997	NA	NA	NA	NA	NA	1.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065	5/7/1997	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	12/1/1991	NA	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	4/1/1992	NA	NA	NA	NA	NA	33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	7/1/1992	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	10/1/1992	NA	NA	NA	NA	NA	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	1/1/1993	NA	NA	NA	NA	NA	35	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	4/13/1993	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	7/13/1993	NA	NA	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	10/13/1993	NA	NA	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	1/11/1994	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	4/5/1994	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	7/19/1994	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	10/6/1994	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	1/11/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	4/8/1995	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	1/20/1996	NA	NA	NA	NA	NA	93	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	4/18/1996	NA	NA	NA	NA	NA	12.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-065A	6/25/1998	NA	NA	NA	NA	NA	24	<0.005	0.7	NA	NA	NA	NA	7.2	0.005	NA	250	550
MW-066	12/1/1991	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/1/1992	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/1/1992	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/1/1992	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	1/1/1993	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/13/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/13/1993	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/12/1993	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	1/11/1994	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/7/1994	NA	NA	NA	NA	NA	8.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/19/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/4/1994	NA	NA	NA	NA	NA	8.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	1/9/1995	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/11/1995	NA	NA	NA	NA	NA	8.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/19/1995	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/10/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	1/19/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/17/1996	NA	NA	NA	NA	NA	9.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/1/1996	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/1/1996	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	2/5/1997	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	5/6/1997	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	7/16/1997	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	10/15/1997	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	0.33	<0.2	0.22	NA	NA	NA	NA	NA
MW-066	6/17/1998	NA	NA	NA	NA	NA	13	0.761	0.8	NA	NA	NA	NA	7.2	<0.005	NA	430	760
MW-066	4/21/1999	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	730
MW-067	12/1/1991	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/1/1992	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/1/1992	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	10/1/1992	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	1/1/1993	NA	NA	NA	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/13/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/13/1993	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	10/13/1993	NA	NA	NA	NA	NA	9.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	1/12/1994	NA	NA	NA	NA	NA	8.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/7/1994	NA	NA	NA	NA	NA	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/19/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	10/5/1994	NA	NA	NA	NA	NA	7.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	1/11/1995	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/7/1995	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/21/1995	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	10/11/1995	NA	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	1/19/1996	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/18/1996	NA	NA	NA	NA	NA	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/1/1996	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	2/10/1997	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	7/16/1997	NA	NA	NA	NA	NA	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	6/24/1998	NA	NA	NA	NA	NA	11	<0.005	0.7	NA	NA	NA	NA	7.3	0.005	NA	140	480
MW-067	4/22/1999	NA	NA	NA	NA	NA	6.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	460
MW-068	12/1/1991	NA	NA	NA	NA	NA	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)
 ** Measured in micro-mhos per centimeter (umho/cm)
 NA Not analyzed or not reported
 < Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
MW-068	4/1/1992	NA	NA	NA	NA	NA	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	7/1/1992	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	10/1/1992	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	1/1/1993	NA	NA	NA	NA	NA	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	4/13/1993	NA	NA	NA	NA	NA	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	7/13/1993	NA	NA	NA	NA	NA	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	10/13/1993	NA	NA	NA	NA	NA	27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	1/11/1994	NA	NA	NA	NA	NA	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	4/5/1994	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	7/19/1994	NA	NA	NA	NA	NA	29	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	10/6/1994	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	1/11/1995	NA	NA	NA	NA	NA	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-068	10/17/1997	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	0.08	1.8	0.41	NA	NA	NA	NA	NA
MW-068	6/26/1998	NA	NA	NA	NA	NA	29	<0.005	0.6	NA	NA	NA	NA	7.3	0.025	NA	100	480
MW-068	10/12/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	NA
MW-069	12/1/1991	NA	NA	NA	NA	NA	154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-069	7/1/1992	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-069	10/1/1992	NA	NA	NA	NA	NA	43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-069	2/7/1997	NA	NA	NA	NA	NA	70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-069	7/18/1997	NA	NA	NA	NA	NA	64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-069	6/29/1998	NA	NA	NA	NA	NA	120	<0.005	0.3	NA	NA	NA	NA	6.9	0.015	NA	<5	860
MW-070	12/1/1991	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/1/1992	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	7/1/1992	NA	NA	NA	NA	NA	9.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/1/1992	NA	NA	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	1/1/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/14/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	7/13/1993	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/12/1993	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	1/11/1994	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/6/1994	NA	NA	NA	NA	NA	9.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	7/18/1994	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/4/1994	NA	NA	NA	NA	NA	9.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	1/9/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/5/1995	NA	NA	NA	NA	NA	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	7/18/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/10/1995	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	1/18/1996	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/17/1996	NA	NA	NA	NA	NA	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	7/1/1996	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/1/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	2/5/1997	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	10/15/1997	<0.03	NA	NA	NA	NA	NA	NA	NA	NA	2.7	<0.2	0.3	NA	NA	NA	NA	NA
MW-070	6/16/1998	NA	NA	NA	NA	NA	12	<0.005	0.6	NA	NA	NA	NA	7.5	<0.005	NA	80	370
MW-070	4/22/1999	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	310
MW-071	9/1/1993	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	10/12/1993	NA	NA	NA	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	1/11/1994	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	4/6/1994	NA	NA	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	7/18/1994	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	10/4/1994	NA	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	1/10/1995	NA	NA	NA	NA	NA	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	6/23/1995	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	7/18/1995	NA	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	10/10/1995	NA	NA	NA	NA	NA	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	1/18/1996	NA	NA	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	4/17/1996	NA	NA	NA	NA	NA	23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	7/1/1996	NA	NA	NA	NA	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	10/1/1996	NA	NA	NA	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	2/9/1997	NA	NA	NA	NA	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	5/6/1997	NA	NA	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	7/17/1997	NA	NA	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	10/16/1997	0.63	NA	NA	NA	NA	NA	NA	NA	NA	0.06	0.6	0.18	NA	NA	NA	NA	NA
MW-071	6/19/1998	NA	NA	NA	NA	NA	4	<0.005	2.2	NA	NA	NA	NA	7.2	<0.005	NA	650	1100
MW-071	10/11/1998	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	550	NA
MW-071	4/21/1999	NA	NA	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1100
MW-072	4/5/1994	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-072	7/19/1994	NA	NA	NA	NA	NA	32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-072	1/11/1995	NA	NA	NA	NA	NA	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-072	6/30/1998	NA	NA	NA	NA	NA	49	<0.005	0.8	NA	NA	NA	NA	6.9	0.015	NA	530	890
MW-073	6/30/1998	NA	NA	NA	NA	NA	320	<0.005	1.3	NA	NA	NA	NA	6.9	<0.005	NA	2800	3700
MW-074	7/18/1997	NA	NA	NA	NA	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-074	6/24/1998	NA	NA	NA	NA	NA	340	<0.005	1.1	NA	NA	NA	NA	7	0.025	NA	13	1500
MW-075	6/30/1998	NA	NA	NA	NA	NA	54	<0.005	1.2	NA	NA	NA	NA	7.3	0.077	NA	390	870
MW-076	6/29/1998	NA	NA	NA	NA	NA	23	<0.005	0.5	NA	NA	NA	NA	7.3	0.008	NA	51	400
MW-077	7/21/1995	NA	NA	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-077	1/20/1996	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-077	4/19/1996	NA	NA	NA	NA	NA	120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)

** Measured in micro-mhos per centimeter (umho/cm)

NA Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
May 1991 - December 1999
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Sample Collection Date	Ammonia (as N)	Bicarbonate Alkalinity	Bromide	Carbon Dioxide	Carbonate Alkalinity	Chloride	Cyanide	Fluoride	Hydroxide	Nitrate	Nitrogen, Kjeldahl, total (as N)	Orthophosphate	pH*	Phenols, total	Specific conductivity**	Sulfate	Total dissolved solids (TDS)
UIHS ARROYO	7/1/1996	NA	NA	NA	NA	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	4/1/1992	NA	NA	NA	NA	NA	16.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	10/1/1992	NA	NA	NA	NA	NA	13.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	4/15/1993	NA	NA	NA	NA	NA	13.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	5/12/1993	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	6/28/1993	NA	NA	NA	NA	NA	11.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	7/15/1993	NA	NA	NA	NA	NA	12.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	8/3/1993	NA	NA	NA	NA	NA	11.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	9/21/1993	NA	NA	NA	NA	NA	11.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	10/14/1993	NA	NA	NA	NA	NA	10.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	11/10/1993	NA	NA	NA	NA	NA	493	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	12/6/1993	NA	NA	NA	NA	NA	10.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	3/16/1994	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	4/5/1994	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	7/21/1994	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	8/24/1994	NA	NA	NA	NA	NA	12.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	9/20/1994	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	10/6/1994	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	11/30/1994	NA	NA	NA	NA	NA	11.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	12/16/1994	NA	NA	NA	NA	NA	12.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	5/18/1995	NA	NA	NA	NA	NA	9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	7/21/1995	NA	NA	NA	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	10/12/1995	NA	NA	NA	NA	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	10/1/1996	NA	NA	NA	NA	NA	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	2/10/1997	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	6/26/1998	NA	NA	NA	NA	NA	13	<0.005	0.7	NA	NA	NA	NA	7.2	0.006	NA	590	940
UIHS ARROYO	1/13/1994	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	5/19/1994	NA	NA	NA	NA	NA	12.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	4/7/1995	NA	NA	NA	NA	NA	13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
UIHS ARROYO	2/9/1994	NA	NA	NA	NA	NA	11.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
NA Not analyzed or not reported
< Constituent not detected above noted laboratory detection limit



Appendix B
Historical General Chemistry Analytical Data
1/1/2000 - 12/31/2002
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Constituent	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	m,p-Xylene (mg/L)	Manganese (mg/L)	Mercury (mg/L)
MW-043	4/28/2000	3.81	0.00782	0.146	<0.2	<0.005	NA	<0.01	<0.01	0.0102	6.28	<0.005	NA	0.186	<0.0002
MW-046	4/28/2000	1.74	<0.005	0.125	<0.2	<0.005	NA	<0.01	<0.01	0.014	1.82	<0.005	<5	0.185	<0.0002
MW-049	4/27/2000	1.4	<0.005	0.039	0.46	<0.005	NA	<0.01	<0.01	<0.01	8.02	<0.005	<1	0.4	<0.0002
MW-050	4/27/2000	0.83	0.00662	0.017	0.43	<0.005	NA	<0.01	<0.01	<0.01	4.12	<0.005	<1	1.1	<0.0002
MW-050	5/2/2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002
MW-054	5/2/2000	0.755	<0.005	0.013	0.28	<0.005	NA	<0.01	<0.01	0.0154	0.759	0.0202	NA	0.0156	<0.0002
MW-055	5/2/2000	<0.1	<0.005	0.235	0.262	<0.005	NA	<0.01	<0.01	<0.01	2.08	<0.005	NA	0.0881	<0.0002
MW-057	5/4/2000	0.301	<0.005	0.256	<0.2	<0.005	NA	<0.01	<0.01	<0.01	1.11	<0.005	NA	0.152	<0.0002
MW-059	5/4/2000	0.538	0.106	0.425	<0.2	<0.005	NA	0.451	0.0265	0.0894	7.64	0.0255	NA	0.793	<0.0002
MW-060	5/1/2000	<0.1	<0.005	0.0156	<0.2	<0.005	NA	<0.01	<0.01	<0.01	NA	<0.005	NA	<0.005	<0.0002
MW-061	5/3/2000	0.317	<0.005	0.0288	0.547	<0.005	NA	<0.01	<0.01	<0.01	0.381	<0.005	NA	0.0162	<0.0002
MW-061A	5/3/2000	<0.1	0.00748	0.0252	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.286	<0.005	NA	0.14	<0.0002
MW-062	5/3/2000	<0.1	0.0127	0.885	<0.2	<0.005	NA	<0.01	<0.01	<0.01	1.01	<0.005	NA	0.427	<0.0002
MW-063	4/27/2000	0.258	<0.005	0.301	<0.2	NA	80.9	<0.01	<0.01	<0.01	0.249	0.0065	<1	0.0126	<0.0002
MW-064	5/3/2000	<0.1	<0.005	0.0141	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.086	<0.005	NA	0.0182	<0.0002
MW-066	4/27/2000	0.375	<0.005	0.0132	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.085	<0.005	<1	<0.005	<0.0002
MW-067	5/2/2000	<0.1	<0.005	0.069	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.063	<0.005	NA	0.415	<0.0002
MW-070	4/27/2000	<0.1	<0.005	0.0481	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.112	0.0081	<1	<0.005	<0.0002
MW-071	4/28/2000	1.26	<0.005	0.0191	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.463	<0.005	<1	<0.005	<0.0002
MW-073	5/4/2000	<0.1	<0.005	0.135	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.491	<0.005	NA	0.108	<0.0002
MW-074	5/4/2000	0.725	0.0731	1.05	0.209	<0.005	NA	<0.01	0.0149	0.0342	37.2	0.0258	NA	0.681	<0.0002
MW-079	5/2/2000	<0.1	<0.005	0.0411	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.262	<0.005	NA	0.161	<0.0002
MW-087	5/1/2000	<0.1	<0.005	0.0167	<0.2	<0.005	NA	<0.01	<0.01	<0.01	NA	0.0072	NA	<0.005	<0.0002
MW-087A	5/1/2000	1.65	0.00589	0.0364	0.351	<0.005	NA	<0.01	<0.01	<0.01	1.91	0.0082	NA	0.0512	<0.0002
MW-088	4/28/2000	<0.1	<0.005	0.0149	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.036	0.0141	<1	<0.005	<0.0002
MW-089	4/27/2000	<0.1	<0.005	0.0139	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.029	0.0051	<1	<0.005	<0.0002
MW-090	5/2/2000	0.234	<0.005	0.131	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.249	<0.005	NA	0.0145	<0.0002
MW-094	5/3/2000	<0.1	<0.005	0.0227	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.022	<0.005	NA	<0.005	<0.0002
MW-095	5/2/2000	1.43	<0.005	0.277	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.876	<0.005	NA	0.0136	<0.0002
MW-096	5/1/2000	0.693	<0.005	0.0366	<0.2	<0.005	NA	<0.01	<0.01	<0.01	1.16	<0.005	NA	0.206	<0.0002
MW-097	5/2/2000	0.117	<0.005	0.0548	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.236	<0.005	NA	0.0125	<0.0002
MW-098	5/2/2000	<0.1	<0.005	0.168	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.18	<0.005	NA	0.00581	<0.0002
MW-106	5/1/2000	0.189	<0.005	0.227	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.219	<0.005	NA	0.0184	<0.0002
MW-108	5/4/2000	<0.1	<0.005	0.0846	<0.2	<0.005	NA	<0.01	<0.01	<0.01	0.34	<0.005	NA	0.0101	<0.0002
MW-111	4/27/2000	0.21	<0.005	0.0221	<0.2	NA	157	<0.01	<0.01	<0.01	0.139	<0.005	NA	0.0162	<0.0002

NA Not analyzed or not reported
< Constituent not detected above noted laboratory detection limit

Appendix B
Historical General Chemistry Analytical Data
1/1/2000 - 12/31/2002

Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Station or Well Name	Constituent	Methyl tert-butyl ether (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	o-Xylene (mg/L)	Selenium (mg/L)	Silver (mg/L)	Sodium (mg/L)	Zinc (mg/L)
MW-043	4/28/2000	NA	<0.02	0.203	NA	<0.005	<0.01	NA	<0.02
MW-046	4/28/2000	NA	<0.02	<0.02	<5	<0.005	<0.01	NA	<0.02
MW-049	4/27/2000	NA	<0.02	<0.02	<1	<0.005	<0.01	NA	0.038
MW-050	4/27/2000	NA	<0.02	<0.02	<1	0.0132	<0.01	NA	0.025
MW-050	5/2/2000	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	195	<0.02
MW-055	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	147	<0.02
MW-057	5/4/2000	<1	<0.02	<0.02	NA	<0.005	<0.01	30.9	<0.02
MW-059	5/4/2000	NA	0.0296	0.823	NA	<0.005	<0.01	NA	0.244
MW-060	5/1/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-061	5/3/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	153	<0.02
MW-061A	5/3/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	12.1	<0.02
MW-062	5/3/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	57.9	<0.02
MW-063	4/27/2000	<1	<0.02	<0.02	<1	<0.005	<0.01	NA	<0.02
MW-064	5/3/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	9.5	<0.02
MW-066	4/27/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-067	5/2/2000	NA	<0.02	0.0299	NA	<0.005	<0.01	NA	0.022
MW-070	4/27/2000	NA	<0.02	<0.02	<1	<0.005	<0.01	NA	<0.02
MW-071	4/28/2000	NA	<0.02	<0.02	<1	<0.005	<0.01	NA	<0.02
MW-073	5/4/2000	<1	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-074	5/4/2000	NA	0.0284	0.0225	NA	<0.005	<0.01	NA	0.032
MW-079	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-087	5/1/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	0.038
MW-087A	5/1/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	170	0.062
MW-088	4/28/2000	NA	<0.02	<0.02	<1	<0.005	<0.01	NA	0.064
MW-089	4/27/2000	NA	<0.02	<0.02	<1	<0.005	<0.01	NA	<0.02
MW-090	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-094	5/3/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-095	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	0.024
MW-096	5/1/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	9.47	<0.02
MW-097	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	6.2	<0.02
MW-098	5/2/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-106	5/1/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02
MW-108	5/4/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	4.85	<0.02
MW-111	4/27/2000	NA	<0.02	<0.02	NA	<0.005	<0.01	NA	<0.02

NA Not analyzed or not reported
 < Constituent not detected above noted laboratory detection limit

Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

Station or Well Name	Constituent New Mexico Standards	1-Methylnaphthalene		2-Methylnaphthalene		Acenaphthene		Acenaphthylene		Anthracene tox		Benzo(a)anthracene**		Benzo(a)pyrene	
		NA	--	NA	--	--	--	--	--	--	--	0.1	--	0.7	--
MW-014	Sample Collection Date 4/18/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-043	4/28/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-043	4/17/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-046	4/28/2000	3.9		0.75		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-046	4/17/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-049	4/27/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-049	4/17/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-050	4/27/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-050	4/17/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-054	5/2/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-054	4/18/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-055	5/2/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-055	4/24/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-057	5/4/2000	0.47		0.28		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-057	4/22/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-059	5/4/2000	110		120		<2.2		5.1		<2.2		<2.2		<2.2	
MW-059	4/23/2002	NA		NA		<25		<25		<5		0.97		1.25	
MW-060	5/1/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-060	4/23/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-061	5/3/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-061	4/19/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-061A	5/3/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-061A	4/19/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-062	5/3/2000	0.46		0.25		<0.1		<0.1		<0.1		<0.1		<0.1	
MW-062	4/22/2002	NA		NA		<5		<5		<1		<0.1		<0.1	
MW-063	4/27/2000	<0.2		<0.2		<0.1		<0.1		<0.1		<0.1		<0.1	

Notes:

- NA No analysis performed
- ug/L Micrograms per liter
- mg/L Milligrams per liter
- WQCC WQCC New Mexico Water Quality Control Commission
- tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.
- No standard published
- ** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level
- 116 Indicates result at/above the applicable standard
- 9 Indicates result above the laboratory detection limit
- <5 Indicates the result is below the specified laboratory detection limit

Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

Station or Well Name	Constituent	Polynuclear Aromatic Hydrocarbons (ug/L)					
		Benzo(b)fluoranthene** 0.2	Benzo(g,h,i)perylene --	Benzo(k)fluoranthene** 0.2	Chrysene** 0.2	Dibenzo(a,h)anthracene** 0.3	Fluoranthene tox
MW-014	Sample Collection Date 4/18/2002						
MW-043	4/28/2000	<0.1	<0.1	<0.1	<1	<0.1	3.06
MW-043	4/17/2002	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-046	4/28/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-046	4/17/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-049	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-049	4/17/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-050	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-050	4/17/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-054	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-054	4/18/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-055	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-055	4/24/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-057	5/4/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-057	4/22/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-059	5/4/2000	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
MW-059	4/23/2002	1.38	0.68	0.51	<5	<0.5	39.5
MW-060	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-060	4/23/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-061	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-061	4/19/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-061A	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-061A	4/19/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-062	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-062	4/22/2002	<0.1	<0.1	<0.1	<1	<0.1	<1
MW-063	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

- NA No analysis performed
- ug/L Micrograms per liter
- mg/L Milligrams per liter
- WQCC WQCC New Mexico Water Quality Control Commission
- tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.
- No standard published
- ** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level
- 116 Indicates result at/above the applicable standard
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Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

Station or Well Name	Constituent	Fluorene					Indeno(1,2,3-cd)pyrene**					Naphthalene					Phenanthrene					Pyrene				
		New Mexico Standards					0.4					tox					tox					tox				
	Sample Collection Date																									
MW-014	4/18/2002																									
MW-043	4/28/2000																									
MW-043	4/17/2002																									
MW-046	4/28/2000																									
MW-046	4/17/2002																									
MW-049	4/27/2000																									
MW-049	4/17/2002																									
MW-050	4/27/2000																									
MW-050	4/17/2002																									
MW-054	5/2/2000																									
MW-054	4/18/2002																									
MW-055	5/2/2000																									
MW-055	4/24/2002																									
MW-057	5/4/2000																									
MW-057	4/22/2002																									
MW-059	5/4/2000																									
MW-059	4/23/2002																									
MW-060	5/1/2000																									
MW-060	4/23/2002																									
MW-061	5/3/2000																									
MW-061	4/19/2002																									
MW-061A	5/3/2000																									
MW-061A	4/19/2002																									
MW-062	5/3/2000																									
MW-062	4/22/2002																									
MW-063	4/27/2000																									

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

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Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

Constituent	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene**	Benzo(a)pyrene
MW-063	4/18/2002	NA	NA	<5	<1	<0.1	<0.1
MW-064	5/3/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-064	4/22/2000	NA	NA	<5	<1	<0.1	<0.1
MW-066	4/27/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-066	4/19/2002	NA	NA	<5	<1	<0.1	<0.1
MW-067	5/2/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-067	4/22/2002	NA	NA	<5	<1	<0.1	<0.1
MW-070	4/27/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-070	4/18/2002	NA	NA	<5	<1	<0.1	<0.1
MW-071	4/28/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-071	4/23/2002	NA	NA	<5	<1	<0.1	<0.1
MW-073	5/4/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-073	4/24/2002	NA	NA	<5	<1	<0.1	<0.1
MW-074	5/4/2000	2.9	<0.56	0.68	<0.56	<0.56	<0.56
MW-074	4/24/2002	NA	NA	<5	<1	<0.1	<0.1
MW-078	4/22/2002	NA	NA	<5	<1	<0.1	<0.1
MW-079	5/2/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-079	4/17/2002	NA	NA	<5	<1	<0.1	<0.1
MW-087	5/1/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087	4/23/2002	NA	NA	<5	<1	<0.1	<0.1
MW-087A	5/1/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087A	4/23/2002	NA	NA	<5	<1	<0.1	<0.1
MW-088	4/28/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-088	4/19/2002	NA	NA	<5	<1	<0.1	<0.1
MW-089	4/27/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-089	4/19/2002	NA	NA	<5	<1	<0.1	<0.1
MW-090	5/2/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-090	4/18/2002	NA	NA	<5	<1	<0.1	<0.1
MW-091	4/18/2002	NA	NA	<5	<1	<0.1	<0.1
MW-094	5/3/2000	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

NA No analysis performed

ug/L Micrograms per liter

mg/L Milligrams per liter

WQCC WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

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Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

Constituent	Benzo(b)fluoranthene**	Benzo(g,h,i)perylene	Benzo(k)fluoranthene**	Chrysene**	Dibenzo(a,h)anthracene**	Fluoranthene
MW-063	4/18/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-064	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-064	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-066	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-066	4/19/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-067	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-067	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-070	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-070	4/18/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-071	4/28/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-071	4/23/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-073	5/4/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-073	4/24/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-074	5/4/2000	<0.56	<0.56	<0.56	<0.56	<0.56
MW-074	4/24/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-078	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-079	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-079	4/17/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087	4/23/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087A	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087A	4/23/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-088	4/28/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-088	4/19/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-089	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-089	4/19/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-090	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-090	4/18/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-091	4/18/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-094	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

	Constituent	Fluorene	Indeno(1,2,3-cd)pyrene**	Naphthalene	Phenanthrene	Pyrene
MW-063	4/18/2002	<1	<0.1	<5	<1	<1
MW-064	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-064	4/22/2002	<1	<0.1	<5	<1	<1
MW-066	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-066	4/19/2002	<1	<0.1	<5	<1	<1
MW-067	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-067	4/22/2002	<1	<0.1	<5	<1	<1
MW-070	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-070	4/18/2002	<1	<0.1	<5	<1	<1
MW-071	4/28/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-071	4/23/2002	<1	<0.1	<5	<1	<1
MW-073	5/4/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-073	4/24/2002	<1	<0.1	<5	<1	<1
MW-074	5/4/2000	13	<0.56	<0.56	<0.56	<0.56
MW-074	4/24/2002	<1	<0.1	<5	<1	<1
MW-078	4/22/2002	<1	<0.1	<5	<1	<1
MW-079	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-079	4/17/2002	<1	<0.1	<5	<1	<1
MW-087	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087	4/23/2002	<1	<0.1	<5	<1	<1
MW-087A	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-087A	4/23/2002	<1	<0.1	<5	<1	<1
MW-088	4/28/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-088	4/19/2002	<1	<0.1	<5	<1	<1
MW-089	4/27/2000	<0.1	<0.1	0.16	<0.1	<0.1
MW-089	4/19/2002	<1	<0.1	<5	<1	<1
MW-090	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-090	4/18/2002	<1	<0.1	<5	<1	<1
MW-091	4/18/2002	<1	<0.1	<5	<1	<1
MW-094	5/3/2000	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

NA No analysis performed

ug/L Micrograms per liter

mg/L Milligrams per liter

WQCC WQCC New Mexico Water Quality Control Commission

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1/1/2000 through 12/31/2002
Polynuclear Aromatic Hydrocarbons

	Constituent	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene**	Benzo(a)pyrene
MW-094	4/24/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-095	5/2/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-095	4/23/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-096	5/10/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-096	4/22/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-097	5/2/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-097	4/22/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-098	5/2/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-098	4/23/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-104	4/22/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-106	5/1/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-106	4/17/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-108	5/4/2000	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
MW-108	4/22/2002	NA	NA	<5	<5	<1	<0.1	<0.1
MW-111	4/27/2000	0.36	0.7	<0.1	<0.1	<0.1	<0.1	<0.1
MW-111	4/19/2002	NA	NA	<5	<5	<1	<0.1	<0.1

Notes:

NA No analysis performed

ug/L Micrograms per liter

mg/L Milligrams per liter

WQCC WQCC New Mexico Water Quality Control Commission

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Polynuclear Aromatic Hydrocarbons

Constituent	Benzo(b)fluoranthene**	Benzo(g,h,i)perylene	Benzo(k)fluoranthene**	Chrysene**	Dibenzo(a,h)anthracene**	Fluoranthene
MW-094	4/24/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-095	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-095	4/23/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-096	5/10/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-096	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-097	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-097	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-098	5/2/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-098	4/23/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-104	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-106	5/1/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-106	4/17/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-108	5/4/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-108	4/22/2002	<0.1	<0.1	<0.1	<0.1	<0.1
MW-111	4/27/2000	<0.1	<0.1	<0.1	<0.1	<0.1
MW-111	4/19/2002	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

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- ug/L Micrograms per liter
- mg/L Milligrams per liter
- WQCC WQCC New Mexico Water Quality Control Commission
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Constituent	Fluorene	Indeno(1,2,3-cd)pyrene**	Naphthalene	Phenanthrene	Pyrene
MW-094	<1	<0.1	<5	<1	<1
MW-095	<0.1	<0.1	<0.1	<0.1	<0.1
MW-095	<1	<0.1	<5	<1	<1
MW-096	<0.1	<0.1	0.19	<0.1	<0.1
MW-096	<1	<0.1	<5	<1	<1
MW-097	<0.1	<0.1	<0.1	<0.1	<0.1
MW-097	<1	<0.1	<5	<1	<1
MW-098	<0.1	<0.1	<0.1	<0.1	<0.1
MW-098	<1	<0.1	<5	<1	<1
MW-104	<1	<0.1	<5	<1	<1
MW-106	<0.1	<0.1	<0.1	<0.1	<0.1
MW-106	<1	<0.1	<5	<1	<1
MW-108	<0.1	<0.1	<0.1	<0.1	<0.1
MW-108	<1	<0.1	<5	<1	<1
MW-111	<0.1	<0.1	<0.1	0.1	<0.1
MW-111	<1	<0.1	<5	<1	<1

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

Station or Well Name	Constituent	WQCC Dissolved Metals (mg/L)													
		Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium
	New Mexico Standards	5	0.1	1	0.75	0.01	0.05	0.05	1.3	1	0.05	0.2	1	0.2	0.05
	Sample Collection Date														
LYMAN	12/18/2000														
MW-014	4/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	4/28/2000	<0.05	<0.02	0.54	0.16	<0.005	<0.01	<0.02	<0.01	0.97	<0.05	0.25	<0.05	0.01	<0.02
MW-043	4/28/2000	<0.1	<0.005	0.118	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.0219	<0.02	<0.02	<0.005
MW-043	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-043	4/17/2002	<0.05	<0.02	0.13	0.16	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.1	<0.05	<0.01	<0.02
MW-046	4/28/2000	<0.1	<0.005	0.119	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.145	<0.02	<0.02	<0.005
MW-046	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-046	4/17/2002	0.3	<0.02	0.13	0.08	<0.005	<0.01	<0.02	<0.01	0.17	<0.05	0.23	<0.05	<0.01	<0.02
MW-049	4/27/2000	<0.1	0.0057	0.0338	0.402	<0.005	<0.01	<0.01	<0.01	0.0206	<0.005	0.218	<0.02	<0.02	0.0638
MW-049	4/17/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-049	4/17/2002	<0.05	<0.02	0.05	0.44	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.16	<0.05	<0.01	0.05
MW-050	4/27/2000	<0.1	0.00709	0.0154	0.382	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	0.00636
MW-050	4/17/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-050	4/17/2002	<0.05	<0.02	0.01	0.32	<0.005	<0.01	<0.02	0.07	<0.05	<0.05	0.69	<0.05	<0.02	0.05
MW-054	5/2/2000	<0.1	<0.005	0.0155	0.277	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-054	4/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-054	4/18/2002	<0.05	<0.02	0.02	0.33	<0.005	<0.01	<0.02	<0.01	0.25	<0.05	0.02	<0.05	<0.01	0.05
MW-055	5/2/2000	<0.1	<0.005	0.194	0.244	<0.005	<0.01	<0.01	<0.01	0.0591	<0.005	0.0697	<0.02	<0.02	<0.005
MW-055	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-055	4/24/2002	<0.05	<0.02	0.22	0.19	<0.005	<0.01	<0.02	<0.02	0.34	<0.05	0.07	<0.05	<0.01	<0.02
MW-057	5/4/2000	<0.1	<0.005	0.228	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.134	<0.02	<0.02	<0.005
MW-057	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-057	4/22/2002	<0.05	<0.02	0.12	0.05	<0.005	<0.01	<0.02	<0.01	0.13	<0.05	0.12	<0.05	<0.01	<0.02
MW-059	5/4/2000	<0.1	0.0191	0.0502	<0.2	<0.005	<0.01	<0.01	<0.01	0.094	<0.005	0.71	<0.02	0.0269	<0.005

Notes:

NA No analysis performed
 ug/L Micrograms per liter
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1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

Station or Well Name	Constituent	Silver	Zinc	Wet Chemistry (mg/L)	
	New Mexico Standards	0.05	10	Total Dissolved Solids (TDS)	Chloride
	Sample Collection Date			1000	250
LYMAN	12/18/2000	NA	NA	NA	15
MW-014	4/18/2002	<0.01	0.04	1200	300
MW-043	4/28/2000	<0.01	<0.02	827	68.9
MW-043	4/19/2001	NA	NA	730	79
MW-043	4/17/2002	<0.01	0.02	640	51
MW-046	4/28/2000	<0.01	<0.02	565	25.8
MW-046	4/19/2001	NA	NA	570	47
MW-046	4/17/2002	<0.01	<0.01	490	37
MW-049	4/27/2000	<0.01	0.0205	3320	379
MW-049	4/17/2001	NA	NA	3100	350
MW-049	4/17/2002	<0.01	<0.01	2600	450
MW-050	4/27/2000	<0.01	<0.02	6510	345
MW-050	4/17/2001	NA	NA	6200	350
MW-050	4/17/2002	<0.01	0.05	6900	360
MW-054	5/2/2000	<0.01	0.0286	3230	138
MW-054	4/23/2001	NA	NA	4500	190
MW-054	4/18/2002	0.09	<0.01	4500	180
MW-055	5/2/2000	<0.01	<0.02	1020	138
MW-055	4/24/2001	NA	NA	920	130
MW-055	4/24/2002	<0.02	<0.01	720	79
MW-057	5/4/2000	<0.01	0.0447	515	43.1
MW-057	4/24/2001	NA	NA	520	48
MW-057	4/22/2002	<0.01	<0.01	540	45
MW-059	5/4/2000	<0.01	<0.02	3300	196

Notes:

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	Constituent	WQCC Dissolved Metals (mg/L)											
		Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum
	New Mexico Standards	5	0.1	1	0.75	0.01	0.05	0.05	1.3	1	0.05	0.2	1
MW-059	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-059	4/23/2002	0.06	<0.02	0.02	0.27	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.15	<0.05
MW-060	5/1/2000	<0.1	<0.005	0.0152	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02
MW-060	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-060	4/23/2002	<0.05	<0.02	0.02	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05
MW-060	5/3/2000	<0.1	<0.005	0.0265	0.527	<0.005	<0.01	<0.01	<0.01	0.0395	<0.005	0.0128	<0.005
MW-061	4/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061	4/19/2002	0.25	0.06	0.02	0.57	<0.005	<0.01	<0.02	0.05	0.47	<0.05	<0.01	<0.05
MW-061A	5/3/2000	<0.1	<0.005	0.0241	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.129	<0.02
MW-061A	4/18/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-061A	4/19/2002	<0.05	0.04	0.01	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.12	<0.05
MW-062	5/3/2000	<0.1	0.00705	0.771	<0.2	<0.005	<0.01	<0.01	<0.01	0.0284	<0.005	0.374	<0.02
MW-062	4/20/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-062	4/22/2002	<0.05	0.03	0.86	0.11	<0.005	<0.01	<0.02	<0.01	0.88	<0.05	0.5	<0.05
MW-063	4/27/2000	<0.1	<0.005	0.271	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02
MW-063	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-063	4/18/2002	<0.05	<0.02	0.36	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05
MW-064	5/3/2000	<0.1	<0.005	0.0132	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02
MW-064	4/20/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-064	4/22/2002	<0.05	<0.02	0.01	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05
MW-066	4/27/2000	<0.1	<0.005	0.019	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02
MW-066	4/18/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-066	4/19/2002	<0.05	<0.02	<0.01	<0.05	<0.005	<0.01	<0.02	<0.02	<0.05	<0.05	<0.01	<0.05
MW-067	5/2/2000	<0.1	<0.005	0.0607	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.37	<0.02
MW-067	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-067	4/22/2002	<0.05	<0.02	0.04	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.02	<0.05

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
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1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

	Constituent	Wet Chemistry (mg/L)		
		Silver	Zinc	Chloride
	New Mexico Standards	0.05	10	250
MW-059	4/19/2001	NA	NA	210
MW-059	4/23/2002	<0.01	<0.01	2400
MW-060	5/1/2000	<0.01	0.0245	5800
MW-060	4/19/2001	NA	NA	790
MW-060	4/23/2002	<0.01	0.01	720
MW-061	5/3/2000	<0.01	<0.02	710
MW-061	4/23/2001	NA	NA	3290
MW-061	4/19/2002	0.07	0.01	3100
MW-061A	5/3/2000	<0.01	0.0254	3200
MW-061A	4/18/2001	NA	NA	811
MW-061A	4/19/2002	<0.01	<0.01	720
MW-062	5/3/2000	<0.01	<0.02	720
MW-062	4/20/2001	NA	NA	695
MW-062	4/22/2002	<0.01	<0.01	700
MW-063	4/27/2000	<0.01	<0.02	670
MW-063	4/24/2001	NA	NA	395
MW-063	4/18/2002	<0.01	0.02	370
MW-064	5/3/2000	<0.01	0.0337	320
MW-064	4/20/2001	NA	NA	611
MW-064	4/22/2002	<0.01	0.02	540
MW-066	4/27/2000	<0.01	<0.02	520
MW-066	4/18/2001	NA	NA	848
MW-066	4/19/2002	<0.02	<0.01	660
MW-067	5/2/2000	<0.01	0.0225	790
MW-067	4/19/2001	NA	NA	537
MW-067	4/22/2002	<0.01	<0.01	470
				420
				5.7

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

tox A numerical standard has not been established, but the contaminant is listed in a narrative standard of toxic pollutant defined in WQCC regulations.

-- No standard published

** Indicates standard used is the United States Environmental Protection Agency Maximum Contaminant Level

116 Indicates result at/above the applicable standard

9 Indicates result above the laboratory detection limit

<5 Indicates the result is below the specified laboratory detection limit

Appendix B
Summary of Analytical Results for All Semi-Annual Sampling Events
1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

	Constituent	WQCC Dissolved Metals (mg/L)												
		Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel
	New Mexico Standards	5	0.1	1	0.75	0.01	0.05	0.05	1.3	1	0.05	0.2	1	0.05
MW-070	4/27/2000	<0.1	<0.005	0.0469	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02
MW-070	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-070	4/18/2002	<0.05	<0.02	0.06	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01
MW-071	4/28/2000	<0.1	<0.005	0.0156	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	0.0356
MW-071	4/18/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-071	4/23/2002	<0.05	<0.02	0.01	0.18	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01
MW-073	5/4/2000	<0.1	<0.005	0.102	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.0822	<0.02	<0.02
MW-073	4/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-074	4/24/2002	<0.05	0.02	0.06	0.12	<0.005	<0.01	<0.02	<0.02	0.16	<0.05	0.19	<0.05	<0.02
MW-074	5/4/2000	<0.1	<0.005	0.689	<0.2	<0.005	<0.01	<0.01	<0.01	3.49	<0.005	0.115	<0.02	<0.02
MW-074	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-074	4/24/2002	<0.05	<0.02	0.71	0.19	<0.005	<0.01	<0.02	<0.02	1.9	<0.05	0.17	<0.05	<0.01
MW-078	4/22/2002	<0.05	<0.02	1.12	<0.05	<0.005	<0.01	<0.02	<0.01	1.04	<0.05	2	<0.05	<0.01
MW-079	5/2/2000	<0.1	<0.005	0.0376	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02
MW-079	4/17/2002	<0.05	<0.02	0.11	0.12	<0.005	<0.01	0.09	<0.01	0.1	<0.05	0.4	<0.05	<0.02
MW-087	5/1/2000	<0.1	<0.005	0.0161	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.005
MW-087	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-087	4/23/2002	<0.05	<0.02	0.02	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01
MW-087A	5/1/2000	<0.1	<0.005	0.0278	0.343	<0.005	<0.01	<0.01	<0.01	<0.02	0.0103	0.018	0.0646	<0.02
MW-087A	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-087A	4/23/2002	0.1	<0.02	<0.01	0.28	<0.005	0.01	<0.02	<0.02	<0.05	<0.05	<0.01	<0.05	<0.02
MW-088	4/28/2000	<0.1	<0.005	0.0187	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	0.047
MW-088	4/17/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-088	4/19/2002	0.15	0.06	<0.01	0.08	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01
MW-089	4/27/2000	<0.1	<0.005	0.017	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.005
MW-089	4/18/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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Appendix B
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1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

	Constituent	Wet Chemistry (mg/L)		
		Silver	Zinc	Chloride
	New Mexico Standards	0.05	10	250
MW-070	4/27/2000	<0.01	<0.02	1000
MW-070	4/24/2001	NA	NA	385
MW-070	4/18/2002	<0.01	0.02	270
MW-071	4/28/2000	<0.01	<0.02	310
MW-071	4/18/2001	NA	NA	1240
MW-071	4/23/2002	<0.02	<0.01	1100
MW-073	5/4/2000	<0.01	<0.02	1100
MW-073	4/23/2001	NA	NA	1570
MW-073	4/24/2002	<0.02	<0.01	1900
MW-074	5/4/2000	<0.01	0.0888	1800
MW-074	4/24/2001	NA	NA	466
MW-074	4/24/2002	<0.02	<0.01	850
MW-078	4/22/2002	<0.01	<0.01	730
MW-079	5/2/2000	<0.01	<0.02	450
MW-079	4/17/2002	<0.01	0.02	563
MW-087	5/1/2000	<0.01	<0.02	490
MW-087	4/19/2001	NA	NA	690
MW-087	4/23/2002	<0.01	<0.01	680
MW-087A	5/1/2000	<0.01	0.122	670
MW-087A	4/19/2001	NA	NA	3290
MW-087A	4/23/2002	<0.02	<0.01	2900
MW-088	4/28/2000	<0.01	0.0452	2700
MW-088	4/17/2001	NA	NA	876
MW-088	4/19/2002	<0.02	0.01	770
MW-089	4/27/2000	<0.01	<0.02	750
MW-089	4/18/2001	NA	NA	850
				760
				52

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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		WQCC Dissolved Metals (mg/L)													
	Constituent	Aluminum	Arsenic	Barium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Selenium
	New Mexico Standards	5	0.1	1	0.75	0.01	0.05	0.05	1.3	1	0.05	0.2	1	0.2	0.05
MW-089	4/19/2002	<0.05	<0.02	0.01	0.06	<0.005	<0.01	<0.02	<0.01	<0.05	0.06	<0.01	<0.05	<0.01	0.07
MW-090	5/2/2000	<0.1	0.00869	0.0924	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-090	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-090	4/18/2002	<0.05	<0.02	0.16	0.08	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.02	<0.05	<0.01	<0.02
MW-091	4/18/2002	<0.05	<0.02	4.92	0.08	<0.005	<0.01	<0.02	<0.01	0.5	<0.05	0.28	<0.05	0.01	<0.02
MW-094	5/3/2000	<0.1	<0.005	0.0212	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-094	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-094	4/24/2002	<0.05	<0.02	0.02	<0.05	<0.005	<0.01	<0.02	<0.02	<0.05	<0.05	<0.02	<0.05	<0.01	0.03
MW-095	5/2/2000	<0.1	<0.005	0.234	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-095	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-095	4/23/2002	0.05	<0.02	0.28	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	<0.02
MW-096	5/1/2000	<0.1	<0.005	0.0178	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	0.0205	<0.02	<0.02	<0.005
MW-096	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-096	4/22/2002	<0.05	<0.02	0.01	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.02	<0.05	<0.01	<0.02
MW-097	5/2/2000	<0.1	<0.005	0.0475	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-097	4/19/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-097	4/22/2002	<0.05	<0.02	0.05	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	<0.02
MW-098	5/2/2000	<0.1	<0.005	0.147	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-098	4/24/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-098	4/23/2002	<0.05	<0.02	0.19	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	<0.01	<0.05	<0.01	<0.02
MW-104	4/23/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-104	4/22/2002	<0.05	<0.02	0.02	<0.05	<0.005	<0.01	<0.02	<0.02	<0.05	<0.05	<0.01	<0.05	<0.01	<0.02
MW-106	5/1/2000	<0.1	<0.005	0.197	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005
MW-106	4/18/2001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-106	4/17/2002	<0.05	<0.02	0.26	<0.05	<0.005	<0.01	<0.02	<0.01	<0.05	<0.05	0.04	<0.05	<0.01	<0.02
MW-108	5/4/2000	<0.1	<0.005	0.0729	<0.2	<0.005	<0.01	<0.01	<0.01	<0.02	<0.005	<0.005	<0.02	<0.02	<0.005

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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1/1/2000 through 12/31/2002
WQCC Dissolved Metals and Wet Chemistry

	Constituent	Silver			Zinc			Wet Chemistry (mg/L)		
		Total Dissolved Solids (TDS)			Chloride					
	New Mexico Standards	0.05	10		1000	250				
MW-089	4/19/2002	<0.01	<0.01		730	48				
MW-090	5/2/2000	<0.01	0.0964		422	17.2				
MW-090	4/24/2001	NA	NA		360	21				
MW-090	4/18/2002	<0.01	<0.01		380	24				
MW-091	4/18/2002	<0.01	<0.01		560	55				
MW-094	5/3/2000	<0.01	<0.02		721	24.1				
MW-094	4/24/2001	NA	NA		560	21				
MW-094	4/24/2002	<0.02	<0.01		550	20				
MW-095	5/2/2000	<0.01	<0.02		349	3.45				
MW-095	4/24/2001	NA	NA		320	3				
MW-095	4/23/2002	<0.01	0.01		330	23				
MW-096	5/1/2000	<0.01	0.0216		600	12.1				
MW-096	4/19/2001	NA	NA		570	12				
MW-096	4/22/2002	<0.01	0.01		520	13				
MW-097	5/2/2000	<0.01	0.0255		533	5.17				
MW-097	4/19/2001	NA	NA		440	4.6				
MW-097	4/22/2002	<0.01	<0.01		450	4.8				
MW-098	5/2/2000	<0.01	<0.02		324	12.1				
MW-098	4/24/2001	NA	NA		300	16				
MW-098	4/23/2002	<0.01	<0.01		330	14				
MW-104	4/23/2001	NA	NA		520	15				
MW-104	4/22/2002	<0.02	<0.01		500	15				
MW-106	5/1/2000	<0.01	0.0691		350	3.45				
MW-106	4/18/2001	NA	NA		340	5.6				
MW-106	4/17/2002	<0.01	<0.01		350	12				
MW-108	5/4/2000	<0.01	0.0475		370	3.45				

Notes:

NA No analysis performed

ug/L Micrograms per liter

mg/L Milligrams per liter

WQCC WQCC New Mexico Water Quality Control Commission

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	Constituent	Wet Chemistry (mg/L)		
		Silver	Zinc	Chloride
	New Mexico Standards	0.05	10	250
MW-108	4/19/2001	NA	NA	360
MW-108	4/22/2002	<0.01	<0.01	330
MW-111	4/27/2000	<0.01	<0.02	994
MW-111	4/18/2001	NA	NA	800
MW-111	4/19/2002	<0.01	0.02	750

Notes:

NA No analysis performed
 ug/L Micrograms per liter
 mg/L Milligrams per liter
 WQCC WQCC New Mexico Water Quality Control Commission

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ARCADIS

Appendix C

Laboratory Analytical Reports
(CD-ROM)

- Monthly Air Stripper Sampling, 2002
- April 2002 Groundwater Sampling Event
- October 2002 Groundwater Sampling Event

ARCADIS

Appendix D

Laboratory Analytical Reports

- Monthly VES Air Sampling,
2002



Analytical Laboratory & Geoprobe Sampling

2/12/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on February 11, 2002 for your project; Indian Basin Remediation.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written over a horizontal line.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES800	VES700	VES900	VES1000	VES100	VES300	VES1100	VES200	VES600	MDL
HEXANE	3.83	10.65	6.93	10.34	7.20	0.73	36.05	0.80	23.86	0.07
BENZENE	ND	ND	ND	ND	ND	ND	1.26	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	**ND	ND	**ND	0.18	ND	0.71	ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	0.13	ND	ND	0.07
TOTAL C3-C14 *	318.65	509.75	243.92	212.32	146.66	19.26	837.30	79.27	733.48	0.07

FILE NAME	V20A3.39A	V20A3.40A	V20A3.41A	V20A3.42A	V20A3.43A	V20A3.44A	V20A3.45A	V20A3.46A	V20A3.47A
DATE SAMPLED	01/22/02	01/22/02	01/22/02	01/22/02	01/22/02	01/22/02	01/22/02	01/22/02	01/22/02
DATE RECEIVED	02/11/02	02/11/02	02/11/02	02/11/02	02/11/02	02/11/02	02/11/02	02/11/02	02/11/02
DATE ANALYZED	02/12/02	02/12/02	02/12/02	02/12/02	02/12/02	02/12/02	02/12/02	02/12/02	02/12/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

12-Feb-02

Reviewed by



Vaportech Services, Inc.

64-22100

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V20A3.29A V20A3.31A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	109.09	6.95
BENZENE	1.25	1.29	2.88
TOLUENE	1.06	1.07	0.57
ETHYL BENZENE	0.92	0.94	1.74
M&P XYLENE	1.84	1.87	1.36
O-XYLENE	0.92	0.96	4.02

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V20A3.28A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	1.42	0.07

ND - denotes 'Not Detected' above the lower method detection limit

12-Feb-02

Reviewed by 



Analytical Laboratory & Geoprobe Sampling

3/22/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on March 19, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-85	VES-700 MW-121	VES-900 MW-130	VES-1000 MW-113	VES-100 MW-112	VES-1100 MW-129	VES-200 MW-14	VES-300 MW-69	VES-600 MW-110	MDL
HEXANE	2.21	7.90	5.22	11.50	12.81	33.15	0.24	0.21	16.37	0.07
BENZENE	ND	ND	ND	ND	ND	1.09	ND	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	**ND	**ND	**ND	1.22	0.33	**ND	**ND	**ND	0.07
O-XYLENE	ND	0.11	ND	ND	ND	0.14	ND	ND	0.08	0.07
TOTAL C3-C14 *	180.67	411.57	162.54	226.81	363.30	796.19	73.88	10.35	491.37	0.07

FILE NAME	V21A3.83A	V21A3.84A	V21A3.85A	V21A3.86A	V21A3.87A	V21A3.88A	V21A3.89A	V21A3.90A	V21A3.91A
DATE SAMPLED	02/25/02	02/25/02	02/25/02	02/25/02	02/25/02	02/25/02	02/25/02	02/25/02	02/25/02
DATE RECEIVED	03/19/02	03/19/02	03/19/02	03/19/02	03/19/02	03/19/02	03/19/02	03/19/02	03/19/02
DATE ANALYZED	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

22-Mar-02

Reviewed by 

Vaportech Services, Inc.

2198

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V21A3.71A V21A3.73A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	109.99	7.83
BENZENE	1.25	1.25	0.00
TOLUENE	1.06	1.07	0.75
ETHYL BENZENE	0.92	0.92	0.11
M&P XYLENE	1.84	1.87	1.47
O-XYLENE	0.92	0.95	3.48

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V21A3.69A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.84	0.07

Notes 'Not Detected' above the lower method detection limit

2-Mar-02

Reviewed by 

MO-C-645-22170

CHAIN-OF-CUSTODY RECORD



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MARATHON OIL COMPANY
Address: P.O. Box 552 State: NM Zip: 79702
City: CARLSBAD
Proj. Manager: Paul Peacock
Proj. Location: Indian Basin Remediation Project
Proj. Number: _____
Phone #: 915-687-8118 Fax #: 915-637-8186

Bugs

Sampler's signature: _____

Analysis Options: Enter letters in Requested Analysis columns below.

A	B	C	D	E	F	G	H	I	J
Light Hydrocarbons	Permanent Gases	Methane	Methane, Ethane, Ethylene	Hydrogen	BTEX	BTEX & C5 - C10	TPH (C4 - C12 range)	Chlorinated Hydrocarbons	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis	(Other)	Remarks
2-25-02	1:30pm	2	AIR	VES-800 MW-85	H	F	Hexane (C3-C14)
	1:34pm			VES-700 MW-121			
	1:42pm			VES-900 MW-130			
	1:47pm			VES-1000 MW-113			
	1:50pm			VES-100 MW-112			
	2:00pm			VES-1100 MW-129			
	2:10pm			VES-200 MW-14			
	2:16pm			VES-300 MW-69			
	2:28pm			VES-600 MW-110			
2-25-02	2:00pm	2	AIR	VES-1100 MW-25	H	F	VACUUM in Vials.

Results to: <u>MARATHON OIL COMPANY</u>				Invoice to: <u>Same</u>			
P.O. Box 552 MIDLAND TX 79702							
Relinquished by: <u>Bugs</u>	Company: <u>MOC</u>	Date: <u>2-25-02</u>	Time: <u>3:00pm</u>	Received by: <u>Paul Peacock</u>	Company: <u>Marathon</u>	Date: <u>2/29/02</u>	Time: <u>2:00</u>
Relinquished by: _____	Company: _____	Date: _____	Time: _____	Received by: _____	Company: _____	Date: _____	Time: _____
Relinquished by: _____	Company: _____	Date: _____	Time: _____	Received by: _____	Company: _____	Date: _____	Time: _____

WHITE COPY : Laboratory to return.

YELLOW COPY : Laboratory

PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

4/9/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on April 3, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-121	VES-900 MW-124	VES-1000 MW-113	VES-100 MW-123	VES-300 MW-69	VES-1100 MW-129	VES-200 MW-14	VES-600 MW-110	MDL
HEXANE	7.95	0.27	12.62	6.07	14.36	1.31	25.84	0.49	21.96	0.07
BENZENE	ND	ND	ND	ND	ND	ND	0.87	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	**ND	**ND	**ND	ND	**ND	**ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	0.09	ND	0.10	0.07
TOTAL C3-C14 *	140.43	15.70	209.73	117.14	312.14	30.86	590.40	64.26	638.14	0.07
FILE NAME	V22A.30A	V22A.31A	V22A.32A	V22A.33A	V22A.34A	V22A.35A	V22A.36A	V22A.37A	V22A.42A	
DATE SAMPLED	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	03/20/02	
DATE RECEIVED	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	04/03/02	
DATE ANALYZED	04/04/02	04/05/02	04/05/02	04/05/02	04/05/02	04/05/02	04/05/02	04/05/02	04/05/02	

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

09-Apr-02

Reviewed by DOM

Vaportech Services, Inc.

2236

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V22A.25A V22A.26A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	107.12	5.02
BENZENE	1.25	1.27	1.92
TOLUENE	1.06	1.05	0.94
ETHYL BENZENE	0.92	0.90	2.39
M&P XYLENE	1.84	1.79	2.93
O-XYLENE	0.92	0.92	0.22

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V22A.24A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.84	0.07

Notes 'Not Detected' above the lower method detection limit

9-Apr-02

Reviewed by 



VAPOR TECH
Services, Inc.

Company Name: Parathon Oil Company
Address: P.O. Box 552 State: NM Zip: 79702
City: CARLSBAD
Proj. Manager: Paul Peacock
Proj. Location: Androm Basin Remediation Project
Proj. Number: _____
Phone #: 915-687-8118 Fax #: 915-687-8186

Sampler's signature:

Collection Date	Number of Containers	Sample Type	Sample Identification	Requested Analysis	(Other)	Remarks
3-20-02 12:30pm	2	AIR	VES-800 MW-1210	H	HEXANE	(C.3 - C.14)
12:40pm			VES-200 MW-121			
12:55pm			VES-900 MW-124			
1:05pm			VES-1000 MW-113			
1:15pm			VES-100 MW-123			
1:30pm			VES-300 MW-69			
1:45pm			VES-1800 MW-129			
1:55pm			VES-200 MW-14			
2:05pm			VES-600 MW-110			

Results to: MARTIN OIL COMPANY
P.O. BOX 557 MIDLAND TX 79702

Relinquished by : <i>B. G. S.</i>	Company : <i>MOT</i>	Date : <i>3-20-02</i>	Time : <i>3:20 pm</i>	Received by : <i>Joe Minton</i>	Company : <i>V. A. R. T. S.</i>	Date : <i>4/3/02</i>	Time : <i>1:30</i>
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Laboratory to return.

YELLOW COPY ; Laboratory

PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

5/10/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on May 8, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', with a stylized flourish at the end.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-100 MW-123	VES-200 MW-14	VES-300 MW-69	VES-600 MW-110	VES-700 MW-121	VES-900 MW-124	VES-1000 MW-113	VES-1100 MW-126
HEXANE	25.63	0.17	6.82	59.57	0.53	23.16	24.23	4.46
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND
M&P XYLENE	**ND	**ND	**ND	**ND	ND	**ND	**ND	**ND
O-XYLENE	ND	ND	ND	0.26	ND	ND	ND	ND
TOTAL C3-C14 *	484.55	79.58	282.35	1873.19	24.43	425.40	467.47	142.85

FILE NAME	V22A3.51A	V22A3.52A	V22A3.53A	V22A3.54A	V22A3.55A	V22A3.56A	V22A3.57A	V22A3.58A
DATE SAMPLED	04/17/02	04/17/02	04/17/02	04/17/02	04/17/02	04/17/02	04/17/02	04/17/02
DATE RECEIVED	05/08/02	05/08/02	05/08/02	05/08/02	05/08/02	05/08/02	05/08/02	05/08/02
DATE ANALYZED	05/09/02	05/09/02	05/10/02	05/10/02	05/10/02	05/10/02	05/10/02	05/10/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

11-May-02

Reviewed by DOM

Vaportech Services, Inc.

67-22336

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V22A3.45A V22A3.46A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	106.68	4.59
BENZENE	1.25	1.24	0.64
TOLUENE	1.06	1.06	0.19
ETHYL BENZENE	0.92	0.89	3.04
M&P XYLENE	1.84	1.81	1.79
O-XYLENE	0.92	0.91	1.41

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V22A3.44A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.84	0.07

denotes 'Not Detected' above the lower method detection limit

10-May-02

Reviewed by 

MDC 67- 22536

CHAIN-OF-CUSTODY RECORD



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: Marathon Oil Company
Address: 329 Lakewood State: NM Zip: 88254
City: Paul Peacock
Proj. Manager: IBRP
Proj. Location: IBRP
Proj. Number: 915-687-818
Phone #: 915-687-818 Fax #: 915-687-818
Sampler's signature: M. Paul Peacock

Analysis Options: Enter letters in Requested Analysis columns below.

A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis (Other)	Remarks
4/17/02	2:05pm	2	Air	VES-100 (MV-123)	H G	TPH (C3-C14)
	1:40pm	2	Air	VES-200 (MV-14)		
	2:45pm	2	Air	VES-300 (MW-69)		
	1:15pm	2	Air	VES-400 (MW-110)		
	2:17pm	2	Air	VES-700 (MW-121)		
	2:00pm	2	Air	VES-900 (MW-124)		
	1:50pm	2	Air	VES-1000 (MW-113)		
✓	1:45pm	2	Air	VES-1100 (MW-126)	↓	✓

Results to: Paul Peacock Invoice to: Sane
Marathon Oil Company, P.O. Box 552, Midland, TX 79702

Relinquished by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:
Paul Peacock	Marathon Oil Co.	4/25/02	2:45pm	Paul Peacock	Marathon Oil Co.	5/8/02	1:00pm
Relinquished by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:
Relinquished by:	Company:	Date:	Time:	Relinquished by:	Company:	Date:	Time:



Analytical Laboratory & Geoprobe Sampling

6/19/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on June 17, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-700 MW-121	VES-900 MW-130	VES-1000 MW-113	VES-100 MW-123	VES-200 MW-14	VES-1100 MW-126	VES-300 MW-69	VES-600 MW-110	MDL
HEXANE	0.19	7.32	7.96	7.12	ND	2.08	1.45	25.02	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	**ND	**ND	**ND	ND	**ND	**ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	ND	0.10	0.07
TOTAL C3-C14 *	14.63	221.21	147.48	150.34	68.61	104.79	85.36	907.73	0.07

FILE NAME	V23A1.18A	V23A1.19A	V23A1.20A	V23A1.21A	V23A1.22A	V23A1.23A	V23A1.24A	V23A1.25A
DATE SAMPLED	05/30/02	05/30/02	05/30/02	05/30/02	05/30/02	05/30/02	05/30/02	05/30/02
DATE RECEIVED	06/17/02	06/17/02	06/17/02	06/17/02	06/17/02	06/17/02	06/17/02	06/17/02
DATE ANALYZED	06/18/02	06/19/02	06/19/02	06/19/02	06/19/02	06/19/02	06/19/02	06/19/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

19-Jun-02

Reviewed by



Vaportech Services, Inc.

68-22430

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V23A1.14A V23A1.15A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	106.66	4.57
BENZENE	1.25	1.16	7.36
TOLUENE	1.06	1.04	2.17
ETHYL BENZENE	0.92	0.90	1.96
M&P XYLENE	1.84	1.84	0.22
O-XYLENE	0.92	0.92	0.43

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V23A1.13A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	1.19	0.07

denotes 'Not Detected' above the lower method detection limit

19-Jun-02

Reviewed by



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059



Tel: 724-898-2622 • Fax: 724-898-2633

CHAIN-OF-CUSTODY RECORD

Company Name: MARATHON oil Company
 Address: P.O. Box 552 State: TX Zip: 79702
 City: Midland
 Proj. Manager: Paul Percock
 Proj. Location: Indian Basin Remediation Project
 Proj. Number:
 Phone #: 915-687-8118 Fax #: 915-687-8186

Sampler's signature: Bago

Analysis Options: Enter letters in Requested Analysis columns below.

A	B	C	D	E	F	G	H	I	J
Light Hydrocarbons	Permanent Gases	Methane	Methane, Ethane, Ethylene	Hydrogen	BTEX	BTEX & C5 - C10	TPH (C4 - C12 range)	Chlorinated Hydrocarbons	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
 Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
 BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
 C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
 Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis	Remarks
5-30-02	9:02 AM	2	AIR	VES-700 MW-121	H F	(C3-C14)
	9:10 AM			VES-900 MW-130		
	9:15 AM			VES-1000 MW-113		
	9:20 AM			VES-100 MW-123		
	9:25 AM			VES-200 MW-14		
	9:30 AM			VES-1100 MW-126		
	9:45 AM			VES-300 MW-69		
	9:50 AM			VES-600 MW-110		

Results to: <u>MARATHON oil Company</u>				Invoice to: <u> </u>			
P.O. Box 552 MIDLAND TX 79702							
Relinquished by: <u>Bago</u>	Company: <u>MOC</u>	Date: <u>5-30-02</u>	Time: <u>2:00 pm</u>	Received by: <u>D. Mearns</u>	Company: <u>VAPORTECH</u>	Date: <u>6/17/02</u>	Time: <u>1000</u>
Relinquished by: <u> </u>	Company: <u> </u>	Date: <u> </u>	Time: <u> </u>	Received by: <u> </u>	Company: <u> </u>	Date: <u> </u>	Time: <u> </u>
Relinquished by: <u> </u>	Company: <u> </u>	Date: <u> </u>	Time: <u> </u>	Received by: <u> </u>	Company: <u> </u>	Date: <u> </u>	Time: <u> </u>

WHITE COPY : Laboratory to return.

YELLOW COPY : Laboratory

PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

7/11/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on July 08, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read "David J. Masdea".

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-121	VES-900 MW-130	VES-1000 MW-113	VES-100 MW-123	VES-1100 MW-126	VES-200 MW-14	VES-300 MW-69	VES-600 MW-110	MDL
HEXANE	5.53	0.18	6.01	10.20	10.38	1.01	0.87	ND	34.67	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	**ND	ND	**ND	**ND	ND	**ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOTAL C3-C14 *	237.66	14.26	185.65	212.82	188.13	70.32	59.04	338.99	840.52	0.07

FILE NAME	V23A3.09A	V23A3.10A	V23A3.11A	V23A3.12A	V23A3.13A	V23A3.14A	V23A3.15A	V23A3.16A	V23A3.17A
DATE SAMPLED	06/12/02	06/12/02	06/12/02	06/12/02	06/12/02	06/12/02	06/12/02	06/12/02	06/12/02
DATE RECEIVED	07/08/02	07/08/02	07/08/02	07/08/02	07/08/02	07/08/02	07/08/02	07/08/02	07/08/02
DATE ANALYZED	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

11-Jul-02

Reviewed by 

Vaportech Services, Inc.

69-22500

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V23A3.07A V23A3.08A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	104.95	2.89
BENZENE	1.25	1.25	0.00
TOLUENE	1.06	1.04	1.70
ETHYL BENZENE	0.92	0.91	1.63
M&P XYLENE	1.84	1.82	0.87
O-XYLENE	0.92	0.94	2.50

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V23A3.06A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	1.19	0.07

denotes 'Not Detected' above the lower method detection limit

11-Jul-02

Reviewed by



now 69-22500

CHAIN-OF-CUSTODY RECORD



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: Marathon Oil Company
Address: P.O. Box 552 State: TX Zip: 79702
City: Midland
Proj. Manager: Paul Petcock
Proj. Location: Indian Basin Remediation Project
Proj. Number: 8186
Phone #: 915-687-8140 Fax #: 915-687-8140

Sampler's signature: Biggo

Analysis Options: Enter letters in Requested Analysis columns below.

A	B	C	D	E	F	G	H	I	J
Light Hydrocarbons	Permanent Gases	Methane	Methane, Ethane, Ethylene	Hydrogen	BTEX	BTEX & C5 - C10	TPH (C4 - C12 range)	Chlorinated Hydrocarbons	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis (Other)	Remarks
6-12-02	8:35 AM	2	AIR	VES-800 MW-120	HEXANE	(C3-C14)
	8:40 AM			VES-700 MW-121		
	9:00 AM			VES-900 MW-130		
	9:10 AM			VES-1000 MW-113		
	9:15 AM			VES-100 MW-123		
	9:25 AM			VES-1100 MW-126		
	9:30 AM			VES-200 MW-14		
	9:45 AM			VES-300 MW-69		
	9:55 AM			VES-600 MW-110		

Invoice to:

Results to: Marathon Oil Company
P.O. Box 552 Midland TX 79702

Relinquished by: <u>(Lester) Biggo</u>	Company: <u>MOC</u>	Date: <u>6-12-02</u>	Time: <u>1:00 PM</u>	Received by: <u>Paul Petcock</u>	Company: <u>VAPORTECH</u>	Date: <u>7/28/03</u>	Time: <u>1:00</u>
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:

WHITE COPY: Laboratory to return.

YELLOW COPY: Laboratory

PINK COPY: Submitter



Analytical Laboratory & Geoprobe Sampling

8/7/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on August 4, 2002 for your project; Indian Basin Remediation.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read "David J. Masdea".

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-121	VES-900 MW-130	VES-1000 MW-113	VES-100 MW-123	VES-200 MW-14	VES-1100 MW-126	VES-300 MW-69	VES-600 MW-110	MDL
HEXANE	10.89	0.25	3.78	9.82	12.17	ND	0.81	ND	30.04	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	ND	**ND	**ND	**ND	ND	**ND	ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	ND	0.55	0.39	ND	ND	ND	**ND	0.07
O-XYLENE	0.10	ND	ND	ND	ND	ND	ND	ND	0.11	0.07
TOTAL C3-C14 *	441.31	11.10	121.82	207.58	239.18	7.47	50.14	6.02	794.13	0.07

FILE NAME	V23A4.79A	V23A4.80A	V23A4.81A	V23A4.82A	V23A4.83A	V23A4.84A	V23A4.85A	V23A4.86A	V23A4.87A
DATE SAMPLED	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02	07/10/02
DATE RECEIVED	08/04/02	08/04/02	08/04/02	08/04/02	08/04/02	08/04/02	08/04/02	08/04/02	08/04/02
DATE ANALYZED	08/06/02	08/06/02	08/06/02	08/06/02	08/06/02	08/06/02	08/06/02	08/06/02	08/07/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

07-Aug-02

Reviewed by

Vaportech Services, Inc.

0-22547

Marathon Oil Company
Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V23A4.57A V23A4.58A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	106.84	4.74
BENZENE	1.25	1.22	2.32
TOLUENE	1.06	1.03	2.45
ETHYL BENZENE	0.92	0.91	0.76
M&P XYLENE	1.84	1.84	0.16
O-XYLENE	0.92	0.95	2.72

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V23A4.56A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	3.19	0.07

denotes 'Not Detected' above the lower method detection limit

07-Aug-02

Reviewed by





1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
 Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: Marathon Oil Company
 Address: P.O. Box 552 State: TX Zip: 79702
 City: Midland
 Proj. Manager: Paul Pearce
 Proj. Location: Federal Basin Remediation Project
 Proj. Number: _____
 Phone #: 915-687-8140 Fax #: 915-687-8140

Sampler's signature: Bigo Aguilera
Tester

Analysis Options: Enter letters in Requested Analysis columns below.

A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
 Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
 BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
 C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
 Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis (Other)	Remarks
7-10-02	10:20 AM	2	AIR	VES-800 MW-120	HEXANE	(C3-C14)
	10:15 AM			VES-700 MW-121		
	10:30 AM			VES-900 MW-130		
	10:35 AM			VES-1000 MW-113		
	10:40 AM			VES-100 MW-123		
	10:45 AM			VES-200 MW-114		
	10:50 AM			VES-1100 MW-126		
	11:15 AM			VES-300 MW-69		
	11:30 AM			VES-600 MW-110		

Results to: Marathon Oil Company
P.O. Box 552 Midland TX 79702

Relinquished by:	Company:	Received by:	Company:	Date:	Time:
<u>Bigo Aguilera</u>	<u>MOC</u>	<u>for Monitor</u>	<u>VaporTech</u>	<u>8-4-02</u>	<u>15:30</u>
Relinquished by:	Company:	Received by:	Company:	Date:	Time:
Relinquished by:	Company:	Received by:	Company:	Date:	Time:



Analytical Laboratory & Geoprobe Sampling

10/1/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on September 30, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-121	VES-900 MW-130	VES-1000 MW-113	VES-100 MW-123	VES-200 MW-14	VES-1100 MW-126	VES-300 MW-69	VES-600 MW-110	MDL
HEXANE	5.10	0.25	0.60	2.26	3.21	ND	ND	0.10	16.68	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	**ND	**ND	**ND	**ND	ND	ND	ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	**ND	ND	**ND	ND	ND	ND	**ND	0.07
O-XYLENE	0.07	ND	ND	ND	ND	ND	ND	ND	0.07	0.07
TOTAL C3-C14 *	249.49	29.16	39.35	63.55	107.95	8.47	4.68	8.15	479.35	0.07

FILE NAME	V24A4.03A	V24A4.04A	V24A4.05A	V24A4.06A	V24A4.07A	V24A4.08A	V24A4.09A	V24A4.10A	V24A4.11A
DATE SAMPLED	08/23/02	08/23/02	08/23/02	08/23/02	08/23/02	08/23/02	08/23/02	08/23/02	08/23/02
DATE RECEIVED	09/30/02	09/30/02	09/30/02	09/30/02	09/30/02	09/30/02	09/30/02	09/30/02	09/30/02
DATE ANALYZED	10/01/02	10/01/02	10/01/02	10/01/02	10/01/02	10/01/02	10/01/02	10/01/02	10/01/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower "Method Detection Limit"

ND - "Not Detected" at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

01-Oct-02

Reviewed by



Vaportech Services, Inc.

71-22678

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V24A3.95A V24A3.96A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	107.14	5.04
BENZENE	1.25	1.35	7.60
TOLUENE	1.06	1.15	8.77
ETHYL BENZENE	0.92	1.00	8.70
M&P XYLENE	1.84	2.01	9.35
O-XYLENE	0.92	1.02	11.20

LABORATORY BLANK RESULTS

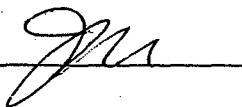
BLANK: N2 IN VIAL
FILE NAME: V24A3.94A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	3.65	0.07

denotes 'Not Detected' above the lower method detection limit

01-Oct-02

Reviewed by



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059

CHAIN-OF-CUSTODY RECORD



Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MARATHON OIL Company
 Address: P.O. Box 552
 City: MILAND State: TX Zip: 79702
 Proj. Manager: Paul Percock
 Proj. Location: Indian Basin Remediation Project
 Proj. Number: 8186
 Phone #: 915-687-8140 Fax #: 915-687-8140

Sampler's signature: Bigo Aguilera

Analysis Options: Enter letters in Requested Analysis columns below.

A	B	C	D	E	F	G	H	I	J
Light Hydrocarbons	Permanent Gases	Methane	Methane, Ethane, Ethylene	Hydrogen	BTEX	BTEX & C5 - C10	TPH (C4 - C12 range)	Chlorinated Hydrocarbons	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
 Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
 BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
 C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
 Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection Date	Time	Number of Containers	Sample Type	Sample Identification	Requested Analysis	(Other)	Remarks
8/23/02	11:45 AM	2	HR	VES-800 MW-120	H F	HEXANE	(C3-C14)
	11:49 AM			VES-700 MW-121			
	11:50 AM			VES-900 MW-130			
	11:53 AM			VES-1000 MW-113			
	11:54 AM			VES-100 MW-123			
	12:00 PM			VES-200 MW-14			
	12:05 PM			VES-1100 MW-126			
	12:15 PM			VES-300 MW-69			
	12:30 PM			VES-600 MW-110			

Results to: <u>MARATHON OIL Company</u>		Invoice to: <u>Same</u>	
Relinquished by: <u>Bigo Aguilera</u>	Company: <u>MOC</u>	Received by: <u>Mentore</u>	Company: <u>VaporTech</u>
Relinquished by:	Company:	Received by:	Company:
Relinquished by:	Company:	Received by:	Company:
		Date: <u>8/30/02</u>	Date: <u>9/30/02</u>
		Time: <u>1:00 PM</u>	Time: <u>1:00</u>
		Date:	Date:
		Time:	Time:

WHITE COPY : Laboratory to return.

YELLOW COPY : Laboratory

PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

10/16/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on October 9, 2002 for your project; Indian Basin Remediation Project.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'David J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-200 MW-68	VES-600 MW-110	VES-1100 MW-126	VES-800 MW-120	VES-1000 MW-113	VES-900 MW-124	VES-700 MW-131	VES-100 MW-123	MDL
HEXANE	2.63	11.81	0.32	7.24	0.34	2.32	0.84	1.07	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	**ND	ND	**ND	ND	**ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	ND	**ND	ND	**ND	ND	**ND	ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOTAL C3-C14 *	80.84	392.08	7.15	365.47	7.72	61.55	15.58	34.63	0.07

FILE NAME	V25A.27A	V25A.28A	V25A.29A	V25A.30A	V25A.31A	V25A.32A	V25A.33A	V25A.34A
DATE SAMPLED	09/27/02	09/27/02	09/27/02	09/27/02	09/27/02	09/27/02	09/27/02	09/27/02
DATE RECEIVED	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02	10/09/02
DATE ANALYZED	10/15/02	10/15/02	10/15/02	10/15/02	10/16/02	10/16/02	10/16/02	10/16/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

16-Oct-02

Reviewed by



Vaportech Services, Inc.

2-22718

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V25A.22A V25A.23A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	106.56	4.47
BENZENE	1.25	1.16	6.88
TOLUENE	1.06	1.01	4.53
ETHYL BENZENE	0.92	0.88	4.57
M&P XYLENE	1.84	1.77	4.02
O-XYLENE	0.92	0.86	6.52

LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V25A.21A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.88	0.07

enotes 'Not Detected' above the lower method detection limit

16-Oct-02

Reviewed by



CHAIN-OF-CUSTODY RECORD



1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Company Name: MARATHON OIL Company
Address: P.O. Box 522 State: NM Zip: 79702
City: MILANO Paul Pearce
Proj. Manager: Indian Basin Remediation Project
Proj. Location: 915-687-8140 Fax #: 915-687-8140
Proj. Number:

Sampler's signature: Bigo Aguilar

Light Hydrocarbons: Methane, Ethane, Ethylene, Propane, Propylene, iso-Butane, n-Butane
Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide
BTEX: Benzene, Toluene, Ethyl Benzene, m & p -Xylene, o-Xylene
C5-C10: Pentane, Hexane, Heptane, Octane, Nonane, Decane
Chlorinated HC: 1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
 1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Analysis Options:

Analysis of Petro:		Enter letters in requested analysis columns below:	
A	Light Hydrocarbons	F	BTEX
B	Permanent Gases	G	BTEX & C5 - C10
C	Methane	H	TPH (C4 - C12 range)
D	Methane, Ethane, Ethylene	I	Chlorinated Hydrocarbons
E	Hydrogen	J	624 Compound List

[illegible]

Results to: MATTATHUN D.L. Co. P.O. BOX 552 MINDHORN TX 79702	Invoice to:  Same
--	---

Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Besa Sybilu	MDC	9-27-82	11:15am	Susan Madden	Vapor Tech	11/01/82	10-9-02
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Laboratory to return. YELLOW COPY : Laboratory PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

11/14/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on November 11, 2002 for your project, Indian Basin Remediation.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'D. J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-131	VES-900 MW-124	VES-1000 MW-113	VES-100 MW-123	VES-1100 MW-126	VES-200 MW-68	VES-600 MW-110	MDL
HEXANE	4.98	0.23	1.83	3.11	0.68	ND	2.96	10.63	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	ND	**ND	0.72	0.18	ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	0.14	ND	ND	ND	ND	**ND	0.07
O-XYLENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOTAL C3-C14 *	368.13	9.36	64.60	96.09	19.75	3.77	74.59	336.60	0.07

FILE NAME	V25A2.62A	V25A2.63A	V25A2.64A	V25A2.65A	V25A2.66A	V25A2.67A	V25A2.68A	V25A2.69A
DATE SAMPLED	10/29/02	10/29/02	10/29/02	10/29/02	10/29/02	10/29/02	10/29/02	10/29/02
DATE RECEIVED	11/11/02	11/11/02	11/11/02	11/11/02	11/11/02	11/11/02	11/11/02	11/11/02
DATE ANALYZED	11/11/02	11/11/02	11/11/02	11/11/02	11/12/02	11/12/02	11/12/02	11/12/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon

range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

14-Nov-02

Reviewed by



Vaportech Services, Inc.

-22813

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V25A2.57A V25A2.58A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	105.81	3.74
BENZENE	1.25	1.26	0.56
TOLUENE	1.06	1.09	2.83
ETHYL BENZENE	0.92	0.95	2.83
M&P XYLENE	1.84	1.92	4.46
O-XYLENE	0.92	0.96	4.78

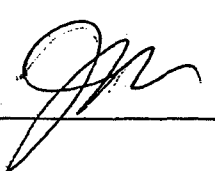
LABORATORY BLANK RESULTS

BLANK: N2 IN VIAL
FILE NAME: V25A2.56A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.93	0.07

ND denotes 'Not Detected' above the lower method detection limit

14-Nov-02

Reviewed by 



Analytical Laboratory & Geoprobe Sampling

11/25/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on November 22, 2002 for your project; Indian Basin Remediation.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'David J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-131	VES-900 MW-124	VES-1000 MW-113	VES-100 MW-123	VES-1100 MW-126	VES-200 MW-88	VES-600 MW-110	MDL
HEXANE	3.68	0.11	1.68	1.58	0.64	ND	2.08	7.67	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	ND	**ND	**ND	**ND	ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	ND	ND	ND	ND	ND	**ND	0.07
O-XYLENE	0.11	ND	ND	ND	ND	ND	ND	ND	0.07
TOTAL C3-C14 *	336.92	8.38	47.15	57.02	36.08	6.01	72.32	277.12	0.07

FILE NAME	V25A3.16A	V25A3.17A	V25A3.18A	V25A3.19A	V25A3.20A	V25A3.21A	V25A3.22A	V25A3.23A
DATE SAMPLED	11/12/02	11/12/02	11/12/02	11/12/02	11/12/02	11/12/02	11/12/02	11/12/02
DATE RECEIVED	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02
DATE ANALYZED	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02	11/22/02	11/23/02	11/23/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

Vaportech Services, Inc.

M2074-22833

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V25A3.14A V25A2.92A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	105.48	3.41
BENZENE	1.25	1.30	3.68
TOLUENE	1.06	1.11	5.00
ETHYL BENZENE	0.92	0.97	5.33
M&P XYLENE	1.84	1.97	7.17
O-XYLENE	0.92	0.96	4.13

LABORATORY BLANK RESULTS

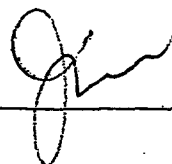
BLANK: N2 IN VIAL
FILE NAME: V25A3.15A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.68	0.07

ND denotes 'Not Detected' above the lower method detection limit

25-Nov-02

Reviewed by



Vaportech Services, Inc.

MCS74-22833

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V25A3.14A V25A2.92A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	105.48	3.41
BENZENE	1.25	1.30	3.68
TOLUENE	1.06	1.11	5.00
ETHYL BENZENE	0.92	0.97	5.33
M&P XYLENE	1.84	1.97	7.17
O-XYLENE	0.92	0.96	4.13

LABORATORY BLANK RESULTS

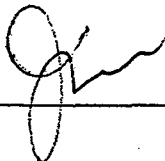
BLANK: N2 IN VIAL
FILE NAME: V25A3.15A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.68	0.07

ND denotes 'Not Detected' above the lower method detection limit

25-Nov-02

Reviewed by _____



CHAIN-OF-CUSTODY RECORD

Company Name:

Address: 70 Box 522

City: Middle And

Proj. Manager:

Proj. Location:

Proj. Number:

Phone #: 915-687-8140
Fax #: 915-687-8140

Sampler's signature :

Rigo Aguilar

1158 Pittsburgh Road • Suite 201 • Valencia, PA 16059
Tel: 724-898-2622 • Fax: 724-898-2633

Analysis Options:

A	Light Hydrocarbons	B	BTEX
B	Permanent Gases	C	BTEX & C5 - C10
C	Methane	D	TPH (C4 -C12 range)
D	Methane, Ethane, Ethylene	E	Chlorinated Hydrocarbons
E	Hydrogen	F	624 Compound List

Light Hydrocarbons: Methane, Ethane, Ethylene, Propene, iso-Butane, n-Butane

Permanent Gases: Carbon Dioxide, Oxygen, Nitrogen, Methane, Carbon Monoxide

BTEX: Benzene, Toluene, Ethyl Benzene, m & p-Xylene, o-Xylene

C5-C10:
Pentane, Hexane, Heptane, Octane, Nonane, Decane

Chlorinated HC:
1,1,1-DCE, 1,1-DCA, Methylene Chloride, trans-1,2-DCE, cis-1,2-DCE, Chloroform
1,1,1-TCA, Carbon Tetrachloride, Trichloroethylene (TCE), Tetrachloroethylene (PCE)

Collection		Number of Containers	Sample Type	Sample Identification	Requested Analysis	Remarks
Date	Time					
11-12-02	10:12	2	AIR	VES-800 MW-120	H F	(C3-C14)
	10:17			VES-700 MW-131		
	10:33			VES-900 MW-124		
	10:37			VES-1000 MW-113		
	10:40			VES-100 MW-123		
	10:50			VES-1100 MW-126		
	10:55			VES-200 MW-68		
	11:10			VES-600 MW-110		

Invoice to :

Results to: Matheson Oil Co

P.O. BOX 522 MIDLAND TX 79702

Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Bibo Aguilar	MOC	11-12-02	11:30 AM	J. Montre	VIAPOSTAL	11/22/02	1800
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Laboratory to return.

YELLOW COPY : Laboratory

PINK COPY : Submitter



Analytical Laboratory & Geoprobe Sampling

12/18/02

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, TX 79702

Dear Paul:

Enclosed are the sample data report, chain of custody record and quality control data for the samples received on December 16, 2002 for your project; Indian Basin Remediation.

Please give me a call if you have questions or I can be of further assistance. Thank you for using Vaportech Services.

Sincerely,

A handwritten signature in dark ink, appearing to read 'David J. Masdea', written in a cursive style.

David J. Masdea

Enclosure:

Marathon Oil Company
Project: Indian Basin Remediation Project

CONCENTRATIONS IN PPMV

COMPOUND	VES-800 MW-120	VES-700 MW-121	VES-900 MW-124	VES-1000 MW-113	VES-100 MW-123	VES-1100 MW-126	VES-200 MW-68	VES-600 MW-110	MDL
HEXANE	2.92	ND	0.67	0.88	0.27	ND	2.14	8.70	0.07
BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
TOLUENE	**ND	ND	**ND	**ND	**ND	ND	**ND	**ND	0.07
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	ND	ND	0.07
M&P XYLENE	**ND	ND	ND	ND	ND	ND	ND	**ND	0.07
O-XYLENE	0.09	ND	ND	ND	ND	ND	ND	ND	0.07
TOTAL C3-C14 *	290.69	4.83	22.09	32.13	16.14	3.03	68.22	329.71	0.07

FILE NAME	V26A.27A	V26A.28A	V26A.29A	V26A.30A	V26A.31A	V26A.32A	V26A.33A	V26A.34A
DATE SAMPLED	12/05/02	12/05/02	12/05/02	12/05/02	12/05/02	12/05/02	12/05/02	12/05/02
DATE RECEIVED	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02	12/16/02
DATE ANALYZED	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02

* Includes the total of all identified and unidentified compounds in the C3-C14 hydrocarbon

range, calculated using the sensitivity of hexane

MDL - Lower 'Method Detection Limit'

ND - 'Not Detected' at or above the lower method detection limit

** Target analyte coelutes with interfering unidentified compound.

18-Dec-02

Reviewed by



Vaportech Services, Inc.

75-22895

Marathon Oil Company Project: Indian Basin Remediation Project

QUALITY CONTROL

CONTINUING CALIBRATION CHECK

STANDARDS: V21-R4 STD 220
FILE NAME: V26A.25A V26A.26A

COMPOUND	KNOWN (PPMV)	RESULT (PPMV)	PERCENT DIFFERENCE
HEXANE	102.00	110.38	8.21
BENZENE	1.25	1.29	2.88
TOLUENE	1.06	1.09	3.21
ETHYL BENZENE	0.92	0.96	3.80
M&P XYLENE	1.84	1.92	4.08
O-XYLENE	0.92	0.95	3.37

LABORATORY BLANK RESULTS

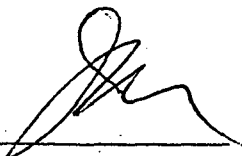
BLANK: N2 IN VIAL
FILE NAME: V26A.26A

COMPOUND	BLANK (PPMV)	METHOD DETECTION LIMIT (PPMV)
HEXANE	ND	0.07
BENZENE	ND	0.07
TOLUENE	ND	0.07
ETHYL BENZENE	ND	0.07
M&P XYLENE	ND	0.07
O-XYLENE	ND	0.07
TOTAL C3-C14	0.68	0.07

ND denotes 'Not Detected' above the lower method detection limit

18-Dec-02

Reviewed by



ARCADIS

Appendix E

USEPA Low-flow Purging and
Sampling Procedures

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION II

GROUND WATER SAMPLING PROCEDURE
LOW STRESS (Low Flow) PURGING AND SAMPLING

I. SCOPE & APPLICATION

This Low Stress (or Low-Flow) Purging and Sampling Procedure is the EPA Region II standard method for collecting low stress (low flow) ground water samples from monitoring wells. Low stress Purging and Sampling results in collection of ground water samples from monitoring wells that are representative of ground water conditions in the geological formation. This is accomplished by minimizing stress on the geological formation and minimizing disturbance of sediment that has collected in the well. The procedure applies to monitoring wells that have an inner casing with a diameter of 2.0 inches or greater, and maximum screened intervals of ten feet unless multiple intervals are sampled. The procedure is appropriate for collection of ground water samples that will be analyzed for volatile and semi-volatile organic compounds (VOCs and SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and microbiological and other contaminants in association with all EPA programs.

This procedure does not address the collection of light or dense non-aqueous phase liquids (LNAPL or DNAPL) samples, and should be used for aqueous samples only. For sampling NAPLs, the reader is referred to the following EPA publications: DNAPL Site Evaluation (Cohen & Mercer, 1993) and the RCRA Ground-Water Monitoring: Draft Technical Guidance (EPA/530-R-93-001), and references therein.

II. METHOD SUMMARY

The purpose of the low stress purging and sampling procedure is to collect ground water samples from monitoring wells that are representative of ground water conditions in the geological formation. This is accomplished by setting the intake velocity of the sampling pump to a flow rate that limits drawdown inside the well casing.

Sampling at the prescribed (low) flow rate has three primary benefits. First, it minimizes disturbance of sediment in the bottom of the well,

thereby producing a sample with low turbidity (i.e., low concentration of suspended particles). Typically, this saves time and analytical costs by eliminating the need for collecting and analyzing an additional filtered sample from the same well. Second, this procedure minimizes aeration of the ground water during sample collection, which improves the sample quality for VOC analysis. Third, in most cases the procedure significantly reduces the volume of ground water purged from a well and the costs associated with its proper treatment and disposal.

III. ADDRESSING POTENTIAL PROBLEMS

Problems that may be encountered using this technique include a) difficulty in sampling wells with insufficient yield; b) failure of one or more key indicator parameters to stabilize; c) cascading of water and/or formation of air bubbles in the tubing; and d) cross-contamination between wells.

Insufficient Yield

Wells with insufficient yield (i.e., low recharge rate of the well) may dewater during purging. Care should be taken to avoid loss of pressure in the tubing line due to dewatering of the well below the level of the pump's intake. Purging should be interrupted before the water level in the well drops below the top of the pump, as this may induce cascading of the sand pack. Pumping the well dry should therefore be avoided to the extent possible in all cases. Sampling should commence as soon as the volume in the well has recovered sufficiently to allow collection of samples. Alternatively, ground water samples may be obtained with techniques designed for the unsaturated zone, such as lysimeters.

Failure to Stabilize Key Indicator Parameters

If one or more key indicator parameters fails to stabilize after 4 hours, one of four options should be considered: a) continue purging in an attempt to achieve stabilization; b) discontinue purging, do not collect samples, and document attempts to reach stabilization in the log book; c) discontinue purging, collect samples, and document attempts to reach stabilization in the log book; or d) Secure the well, purge and collect samples the next day (preferred). The key indicator parameter for samples to be analyzed for VOCs is dissolved

oxygen. The key indicator parameter for all other samples is turbidity.

Cascading

To prevent cascading and/or air bubble formation in the tubing, care should be taken to ensure that the flow rate is sufficient to maintain pump suction. Minimize the length and diameter of tubing (i.e., 1/4 or 3/8 inch ID) to ensure that the tubing remains filled with ground water during sampling.

Cross-Contamination

To prevent cross-contamination between wells, it is strongly recommended that dedicated, in-place pumps be used. As an alternative, the potential for cross-contamination can be reduced by performing the more thorough "daily" decontamination procedures between sampling of each well in addition to the start of each sampling day (see Section VII, below).

Equipment Failure

Adequate equipment should be on-hand so that equipment failures do not adversely impact sampling activities.

IV. PLANNING DOCUMENTATION AND EQUIPMENT

- Approved site-specific Field Sampling Plan/Quality Assurance Project Plan (QAPP). This plan must specify the type of pump and other equipment to be used. The QAPP must also specify the depth to which the pump intake should be lowered in each well. Generally, the target depth will correspond to the mid-point of the most permeable zone in the screened interval. Borehole geologic and geophysical logs can be used to help select the most permeable zone. However, in some cases, other criteria may be used to select the target depth for the pump intake. In all cases, the target depth must be approved by the EPA hydrogeologist or EPA project scientist.
- Well construction data, location map, field data from last sampling event.
- Polyethylene sheeting.

- Flame Ionization Detector (FID) and Photo Ionization Detector (PID).
- Adjustable rate, positive displacement ground water sampling pump (e.g., centrifugal or bladder pumps constructed of stainless steel or Teflon). A peristaltic pump may only be used for inorganic sample collection.
- Interface probe or equivalent device for determining the presence or absence of NAPL.
- Teflon or Teflon-lined polyethylene tubing to collect samples for organic analysis. Teflon or Teflon-lined polyethylene, PVC, Tygon or polyethylene tubing to collect samples for inorganic analysis. Sufficient tubing of the appropriate material must be available so that each well has dedicated tubing.
- Water level measuring device, minimum 0.01 foot accuracy, (electronic preferred for tracking water level drawdown during all pumping operations).
- Flow measurement supplies (e.g., graduated cylinder and stop watch or in-line flow meter).
- Power source (generator, nitrogen tank, etc.).
- Monitoring instruments for indicator parameters. Eh and dissolved oxygen must be monitored in-line using an instrument with a continuous readout display. Specific conductance, pH, and temperature may be monitored either in-line or using separate probes. A nephelometer is used to measure turbidity.
- Decontamination supplies (see Section VII, below).
- Logbook (see Section VIII, below).
- Sample bottles.
- Sample preservation supplies (as required by the analytical methods).
- Sample tags or labels, chain of custody.

V. SAMPLING PROCEDURES

Pre-Sampling Activities

1. Start at the well known or believed to have the least contaminated ground water and proceed systematically to the well with the most contaminated ground water. Check the well, the lock, and the locking cap for damage or evidence of tampering. Record observations.
2. Lay out sheet of polyethylene for placement of monitoring and sampling equipment.
3. Measure VOCs at the rim of the unopened well with a PID and FID instrument and record the reading in the field log book.
4. Remove well cap.
5. Measure VOCs at the rim of the opened well with a PID and an FID instrument and record the reading in the field log book.
6. If the well casing does not have a reference point (usually a V-cut or indelible mark in the well casing), make one. Note that the reference point should be surveyed for correction of ground water elevations to the mean geodesic datum (MSL).
7. Measure and record the depth to water (to 0.01 ft) in all wells to be sampled prior to purging. Care should be taken to minimize disturbance in the water column and dislodging of any particulate matter attached to the sides or settled at the bottom of the well.
8. If desired, measure and record the depth of any NAPLs using an interface probe. Care should be taken to minimize disturbance of any sediment that has accumulated at the bottom of the well. Record the observations in the log book. If LNAPLs and/or DNAPLs are detected, install the pump at this time, as described in step 9, below. Allow the well to sit for several days between the measurement or sampling of any DNAPLs and the low-stress purging and sampling of the ground water.

Sampling Procedures

9. Install Pump: Slowly lower the pump, safety cable, tubing and electrical lines into the well to the depth specified for that well in the EPA-approved QAPP or a depth otherwise approved by the EPA hydrogeologist or EPA project scientist. The pump intake must be kept at least two (2) feet above the bottom of the well to prevent disturbance and resuspension of any sediment or NAPL present in the bottom of the well. Record the depth to which the pump is lowered.
10. Measure Water Level: Before starting the pump, measure the water level again with the pump in the well. Leave the water level measuring device in the well.
11. Purge Well: Start pumping the well at 200 to 500 milliliters per minute (ml/min). The water level should be monitored approximately every five minutes. Ideally, a steady flow rate should be maintained that results in a stabilized water level (drawdown of 0.3 ft or less). Pumping rates should, if needed, be reduced to the minimum capabilities of the pump to ensure stabilization of the water level. As noted above, care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record each adjustment made to the pumping rate and the water level measured immediately after each adjustment.
12. Monitor Indicator Parameters: During purging of the well, monitor and record the field indicator parameters (turbidity, temperature, specific conductance, pH, Eh, and DO) approximately every five minutes. The well is considered stabilized and ready for sample collection when the indicator parameters have stabilized for three consecutive readings as follows (Puls and Barcelona, 1996):
 - ±0.1 for pH
 - ±3% for specific conductance (conductivity)
 - ±10 mv for redox potential
 - ±10% for DO and turbidityDissolved oxygen and turbidity usually require the longest time to achieve stabilization. The pump must not be removed from the well between purging and sampling.
13. Collect Samples: Collect samples at a flow rate between 100 and 250 ml/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 ft. VOC samples must be collected first and directly into sample

containers. All sample containers should be filled with minimal turbulence by allowing the ground water to flow from the tubing gently down the inside of the container.

Ground water samples to be analyzed for volatile organic compounds (VOCs) require pH adjustment. The appropriate EPA Program Guidance should be consulted to determine whether pH adjustment is necessary. If pH adjustment is necessary for VOC sample preservation, the amount of acid to be added to each sample vial prior to sampling should be determined, drop by drop, on a separate and equal volume of water (e.g., 40 ml). Ground water purged from the well prior to sampling can be used for this purpose.

14. Remove Pump and Tubing: After collection of the samples, the tubing, unless permanently installed, must be properly discarded or dedicated to the well for resampling by hanging the tubing inside the well.
15. Measure and record well depth.
16. Close and lock the well.

VI. FIELD QUALITY CONTROL SAMPLES

Quality control samples must be collected to determine if sample collection and handling procedures have adversely affected the quality of the ground water samples. The appropriate EPA Program Guidance should be consulted in preparing the field QC sample requirements of the site-specific QAPP.

All field quality control samples must be prepared exactly as regular investigation samples with regard to sample volume, containers, and preservation. The following quality control samples should be collected during the sampling event:

- > Field duplicates
- > Trip blanks for VOCs only
- > Equipment blank (not necessary if equipment is dedicated to the well)

As noted above, ground water samples should be collected systematically from wells with the lowest level of contamination through to wells with highest level of contamination. The equipment

blank should be collected after sampling from the most contaminated well.

VII. DECONTAMINATION

Non-disposable sampling equipment, including the pump and support cable and electrical wires which contact the sample, must be decontaminated thoroughly each day before use ("daily decon") and after each well is sampled ("between-well decon"). Dedicated, in-place pumps and tubing must be thoroughly decontaminated using "daily decon" procedures (see #17, below) prior to their initial use. For centrifugal pumps, it is strongly recommended that non-disposable sampling equipment, including the pump and support cable and electrical wires in contact with the sample, be decontaminated thoroughly each day before use ("daily decon").

EPA's field experience indicates that the life of centrifugal pumps may be extended by removing entrained grit. This also permits inspection and replacement of the cooling water in centrifugal pumps.

All non-dedicated sampling equipment (pumps, tubing, etc.) must be decontaminated after each well is sampled ("between-well decon," see #18 below).

17. Daily Decon

A) Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.

B) Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5 minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.

C) Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.

D) Disassemble pump.

E) Wash pump parts: Place the disassembled parts of the pump into a deep basin containing 8 to 10 gallons of non-phosphate

detergent solution.. Scrub all pump parts with a test tube brush.

F) Rinse pump parts with potable water.

G) Rinse the following pump parts with distilled/ deionized water: inlet screen, the shaft, the suction interconnector, the motor lead assembly, and the stator housing.

H) Place impeller assembly in a large glass beaker and rinse with 1% nitric acid (HNO_3).

I) Rinse impeller assembly with potable water.

J) Place impeller assembly in a large glass bleaker and rinse with isopropanol.

K) Rinse impeller assembly with distilled/deionized water.

18. Between-Well Decon

A) Pre-rinse: Operate pump in a deep basin containing 8 to 10 gallons of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.

B) Wash: Operate pump in a deep basin containing 8 to 10 gallons of a non-phosphate detergent solution, such as Alconox, for 5 minutes and flush other equipment with fresh detergent solution for 5 minutes. Use the detergent sparingly.

C) Rinse: Operate pump in a deep basin of potable water for 5 minutes and flush other equipment with potable water for 5 minutes.

D) Final Rinse: Operate pump in a deep basin of distilled/deionized water to pump out 1 to 2 gallons of this final rinse water.

VIII. **FIELD LOG BOOK**

A field log book must be kept each time ground water monitoring activities are conducted in the field. The field log book should document the following:

- Well identification number and physical condition.
- Well depth, and measurement technique.
- Static water level depth, date, time, and measurement technique.
- Presence and thickness of immiscible liquid layers and detection method.
- Collection method for immiscible liquid layers.
- Pumping rate, drawdown, indicator parameters values, and clock time, at three to five minute intervals; calculate or measure total volume pumped.
- Well sampling sequence and time of sample collection.
- Types of sample bottles used and sample identification numbers.
- Preservatives used.
- Parameters requested for analysis.
- Field observations of sampling event.
- Name of sample collector(s).
- Weather conditions.
- QA/QC data for field instruments.

IX. REFERENCES

Cohen, R.M. and J.W. Mercer, 1993, DNAPL Site Evaluation, C.K. Smoley Press, Boca Raton, Florida.

Puls, R.W. and M.J. Barcelona, 1996, Low-Flow (Minimal Drawdown) Ground-water Sampling Procedures, EPA/540/S-95/504.

U.S. EPA, 1993, RCRA Ground-Water Monitoring: Draft Technical Guidance, EPA/530-R-93-001.

U.S. EPA Region II, 1989, CERCLA Quality Assurance Manual.



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Appendix F

OCD Correspondence dated
February 3, 2003



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

February 3, 2003

CERTIFIED MAIL

RETURN RECEIPT NO. 7001-1940-0004-7923-0674

Mr. Paul Peacock
Marathon Oil Company
P.O. Box 552
Midland, Texas 79702-0552

**RE: GROUND WATER REMEDIATION PROJECT
MARATHON INDIAN BASIN GAS PLANT (GW-21)**

Dear Mr. Peacock:

The New Mexico Oil Conservation Division (OCD) has reviewed Marathon Oil Company's (MOC) December 4, 2002 "PETITION TO DISCONTINUE GROUNDWATER EXTRACTION OPERATIONS, INDIAN BASIN REMEDIATION PROJECT" and April 29, 2002 "ANNUAL GROUNDWATER MONITORING REPORT, JANUARY - DECEMBER 2001, INDIAN BASIN REMEDIATION PROJECT". These documents contain the results of MOC's remediation and monitoring of hydrocarbon contaminated ground water at MOC's Indian Basin Gas Plant, and requests permission to plug and abandon certain shallow zone monitor wells and use low-flow sampling techniques during future sampling events. The documents also request approval to discontinue the ground water pump and treat system in lieu of remediating ground water with the ongoing vapor extraction system.

The above-referenced requests are approved with the following conditions:

1. MOC shall not plug and abandon shallow zone monitor wells MW-17, MW-32 AND MW-47.
2. The OCD defers comment on dismantling the ground water extraction system until the OCD has the opportunity to evaluate the future performance of ground water remediation activities.

Please be advised that OCD approval does not relieve MOC of responsibility if the system fails to adequately remediate or monitor contamination related to MOC's activities, or if contamination exists which is outside the scope of the plan. In addition, OCD approval does not relieve MOC of responsibility for compliance with any other federal, state or local laws and regulations.

Mr. M. Paul Peacock
February 3, 2003
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If you have any questions, please contact me at (505) 476-3491.

Sincerely,

A handwritten signature in black ink, appearing to read "Will Olson", written in a cursive style.

William C. Olson
Hydrologist
Environmental Bureau

xc: Tim Gum, OCD Artesia District Supervisor