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ARCADIS GERAGHTY & MILLER

Annual Groundwater Monitoring Report, January - December 2000

Indian Basin Remediation Project
Eddy County, New Mexico

PREPARED FOR

Marathon Oil Company

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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 with 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.

During 2000, Marathon continued a plan to expand the ongoing groundwater and condensate recovery activities at the site. This plan included extensive soil vapor extraction testing, modification of vapor extraction wells to focus on discrete intervals, a study of aerobic biodegradation of condensate ongoing in the subsurface, and additional geophysical characterization of the Lower Queen.

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 2000. 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 0.015 and flow in the Lower Queen is slightly radial and to the north at an approximate gradient of 0.002.

Groundwater samples were also collected from selected wells during each of the gauging events to evaluate groundwater quality at the site. Groundwater samples were primarily analyzed for benzene, toluene, ethylbenzene, and xylenes (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.

Remediation efforts completed at the site in 2000 included continued groundwater extraction and treatment (including dual pump recovery) and vapor extraction in the

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 and then infiltrated in upgradient wells. Vapor extraction was operated to enhance the removal of condensate from the subsurface via both recovery in the vapor phase and enhanced aerobic biodegradation of condensate.

During 2000, a total of approximately 1,711 barrels of condensate were recovered at the site, as follows:

- Approximately 667 barrels of condensate were removed in the liquid phase through pump and treat efforts in the Lower Queen;
- The equivalent of approximately 337 barrels of condensate was removed in the vapor phase by vapor extraction system (VES) wells in the Lower Queen; and,
- The equivalent of approximately 707 barrels of condensate was removed by aerobic biodegradation enhanced by the use of vapor extraction.

Cumulatively, from the initiation of remedial efforts in April 1991 through December 1999, a total of approximately 14,189 barrels of condensate have been recovered.

Through the operation of the VES and groundwater recovery systems, Marathon has maintained hydraulic control of the condensate and dissolved hydrocarbons in groundwater at the site. Ongoing remediation efforts in the year 2001 and beyond will include the following:

- Continued operation of the groundwater recovery system to contain the extent of the condensate plume;
- Compliance monitoring and reporting, regular groundwater monitoring; and,
- Expanded application of focused vapor extraction to provide more aggressive condensate mass removal.

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.

1. Introduction

ARCADIS Geraghty & Miller, Inc. has prepared this Annual Groundwater Monitoring report on behalf of Marathon Oil Company (Marathon). This report presents the results of the cleanup activities conducted between January and December 2000 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 2000, 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 2000 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.

3. Investigation Activities

During 2000, additional geophysical logging and Lower Queen well modifications were undertaken by Marathon. The goal of these activities was to assess and provide modifications to Lower Queen wells such that they could be more productive in terms of remediation (condensate removal) in the future. The results of these activities are presented in the following sections.

3.1 Down-Well Video Logging

In August 2000, Marathon contracted DHV International, Inc. of Odessa, Texas to conduct borehole videotape logging in two of the Lower Queen wells (MW-116 and MW-119). The video taping was conducted primarily to identify if shallow zone water was entering the open boreholes of the selected wells. To a lesser extent, the videotapes were intended to make correlations in lithology, fractures, and fracture orientation in the underlying geology.

In general, the videotapes confirmed that the presence of shallow zone water in the upper portion of the boreholes. This information was also used to develop a plan for modification of these two wells in order to allow focused vapor extraction from each via isolating the lower zones. A summary of the modifications to these wells, as well as other wells, performed in 2000 is included in the following section.

3.2 Well Completion Modifications

Based on the results of previous SVE/packer testing (ARCADIS Geraghty & Miller, 2000. Annual Groundwater Monitoring Report, January – December 1999, March 2000.), 16 existing Lower Queen wells (MW-72, MW-74, MW-83, MW-86, MW-113, MW-116, MW-118, MW-119, MW-120, MW-121, MW-123, MW-125, MW-127, MW-129, MW-130, and MW-131) were modified. The modifications generally consisted of the installation of a polyvinyl chloride (PVC) well casing and screen within the existing open-hole well. The objective of these modifications was to target the discrete intervals of the open boreholes of the wells containing free product and enhance the ability to achieve hydrocarbon mass removal via vapor extraction. In addition, well MW-117 was converted to a shallow well. Revised well completion details are provided in Appendix A. The well modifications are summarized as follows:

- **MW-72:** On April 19, 2000, WTWWS installed 60 feet of 6-inch diameter, 0.04-inch slot PVC screen and 175 feet of 6-inch diameter PVC casing in the open borehole of well MW-72. The total depth of the well is 241.5 feet below the top of

the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-74:** On April 20, 2000, WTWWS installed 50 feet of 6-inch diameter, 0.04-inch slot PVC screen and 170 feet of 6-inch diameter PVC casing in the open borehole of well MW-74. The total depth of the well is 220 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-83:** On April 18, 2000, WTWWS installed 50 feet of 6-inch diameter, 0.04-inch slot PVC screen and 150 feet of 6-inch diameter PVC casing in the open borehole of well MW-83. The total depth of the well is 202 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-86:** On October 18, 2000, WTWWS installed 40 feet of 6-inch diameter, 0.04-inch slot PVC screen and 180 feet of 6-inch diameter PVC casing in the open borehole of well MW-86. The total depth of the well is 225 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-113:** The specific details for the well modification were not available for this report. The well modification was estimated based on similar modifications. WTWWS installed 70 feet of 6-inch diameter, 0.04-inch slot PVC screen and 125 feet of 6-inch diameter PVC casing in the open borehole of well MW-113. The total depth of the well is 200 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-116:** On August 29, 2000, WTWWS installed 70 feet of 6-inch diameter, 0.04-inch slot PVC screen and 150 feet of 6-inch diameter PVC casing in the open

borehole of well MW-116. The total depth of the well is 220 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-117:** March 29, 2000, Rhino Environmental over-drilled well MW-117. The borehole was filled with grout from approximately 47 to 240 feet below land surface. Then Rhino Environmental installed 30 feet of 4-inch diameter, 0.04-inch slot PVC screen and 17 feet of 4-inch diameter PVC casing in the open borehole of well MW-117. The total depth of the well is 47 feet below top of the 6-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-118:** On February 28, 2000, WTWWS installed 90 feet of 4-inch diameter, 0.04-inch slot PVC screen and 110 feet of 4-inch diameter PVC casing in the open borehole of well MW-118. The total depth of the well is 202 feet below the top of the 6-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-119:** On October 16, 2000, WTWWS installed 60 feet of 4-inch diameter, 0.04-inch slot PVC screen and 180 feet of 4-inch diameter PVC casing in the open borehole of well MW-119. The total depth of the well is 245 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-120:** On February 23, 2000, WTWWS installed 60 feet of 4-inch diameter, 0.04-inch slot PVC screen and 170 feet of 4-inch diameter PVC casing in the open borehole of well MW-120. The total depth of the well is 240 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 6/9) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-121:** On April 27, 2000, WTWWS installed 50 feet of 4-inch diameter, 0.04-inch slot PVC screen and 170 feet of 4-inch diameter PVC casing in the open borehole of well MW-121. The total depth of the well is 225 feet below the top of the 7-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-123:** On February 22, 2000, West Texas Water Well Service (WTWWS) installed 100 feet of 4-inch diameter, 0.04-inch slot PVC screen and 120 feet of 4-inch diameter casing in the open borehole of well MW-123. The total depth of the well is 225 feet below the top of the steel casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-125:** On February 28, 2000, WTWWS installed 90 feet of 4-inch diameter, 0.04-inch slot PVC screen and 130 feet of 4-inch diameter PVC casing in the open borehole of well MW-125. The total depth of the well is 225 feet below the top of the 7-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-127:** On August 28, 2000, WTWWS installed 50 feet of 4-inch diameter, 0.04-inch slot PVC screen and 190 feet of 4-inch diameter PVC casing in the open borehole of well MW-127. The total depth of the well is 245 feet below the top of the 7-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-129:** On February 28, 2000, WTWWS installed 90 feet of 4-inch diameter, 0.04-inch slot PVC screen and 150 feet of 4-inch diameter PVC casing in the open borehole of well MW-129. The total depth of the well is 245 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-130:** On February 22, 2000, WTWWS installed 90 feet of 4-inch diameter, 0.04-inch slot PVC screen and 140 feet of 4-inch diameter PVC casing in the open borehole of well MW-130. The total depth of the well is 235 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

- **MW-131:** On October 17, 2000, WTWWS installed 100 feet of 4-inch diameter, 0.04-inch slot PVC screen and 140 feet of 4-inch diameter PVC casing in the open borehole of well MW-131. The total depth of the well is 245 feet below the top of the 8-inch diameter steel surface casing. Gravel pack (size 4/10 Brady gravel) was 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 was filled with bentonite pellets to the top of the PVC casing.

4. 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 2000. The gauging events consisted of collecting liquid-level measurements from both the Shallow Zone and Lower Queen. The results of the 2000 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 B.

4.1 Shallow Zone Acquifer

A total of 78 wells completed in the Shallow Zone were gauged during one or both gauging events in 2000. 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 B indicate, 36 of the wells completed in the Shallow Zone did not contain groundwater for one or both of the 2000 gauging events. Total fluctuations in groundwater elevation throughout the Shallow Zone in 2000 ranged from 0 feet in Well MW-33, to 6.26 feet in Well MW-126, as indicated by the data presented in Appendix B.

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 0.015. The flow direction and gradient are consistent with patterns observed in previous years.

During 2000, a measurable thickness of condensate was detected in Shallow Zone Wells MW-14 and MW-69. The condensate thicknesses ranged from 0.03 feet in Well MW-14 in April 2000 to 2.71 feet in MW-69 in October 2000. Figures 5 and 6 depict the observed condensate distribution for the Shallow Zone during each monitoring event.

4.2 Lower Queen Acquifer

A total of 66 wells completed in the Lower Queen were gauged during one or both gauging events in 2000. 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 B indicate, total fluctuations in groundwater elevation throughout the Lower Queen aquifer in 2000 (pumping wells were not considered) ranged from 0.03 feet in Well MW-120, to 9.91 feet in Well MW-82.

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 slightly radial and to the north at an approximate gradient of 0.002. This flow direction and gradient are consistent with patterns observed in previous years.

During one or more of the gauging events in 2000, condensate was observed in Lower Queen Wells MW-68, MW-82, MW-85, MW-104, MW-112, MW-113, MW-120, MW-121, MW-123, MW-125, MW-127, MW-130, and VE-19. Observed condensate thicknesses in these wells ranged from 0.01 feet in Well MW-120 in April 2000, to 10.73 feet in well MW-85 in October 2000. Figures 9 and 10 depict the observed condensate distribution for the Lower Queen during each monitoring event.

4.3 Precipitation Recharge

The site has historically received the highest amounts of precipitation between the months of June and October. The average annual rainfall measured at the site over the past five years is approximately 10 inches. During 2000, the data collected using the rain gauge maintained at the site indicate that the highest amount of precipitation was received in June (3.2 inches), with a total of 9.75 inches for the year. This level of rainfall is comparable to that observed in 1994 through 1997, but slightly more than was observed at the site in 1998 and 1999. Table 2 summarizes monthly rainfall received at the site during 2000.

5. Groundwater Sampling and Analysis

Two groundwater sampling events were completed at the site in 2000 by personnel from ARCADIS Geraghty & Miller. 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 2000, groundwater samples were collected from 10 Shallow Zone and 25 Lower Queen wells. These samples were submitted for laboratory analysis and analyzed for BTEX, total dissolved solids (TDS), chloride using USEPA Methods 8021, 160.1, and 325.2, respectively, polynuclear aromatic hydrocarbons (PNAs) using USEPA Method 8310, and WQCC metals.
- In October 2000, groundwater samples were collected from 14 Shallow Zone wells and 21 Lower Queen wells. These samples were submitted for BTEX analysis using USEPA Method 8021.

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 analytical results for April 2000 and Table 4 summarizes the BTEX analytical results for October 2000. Summaries of historical BTEX and general chemistry analytical data are presented in Appendix C. The complete laboratory analytical reports for each groundwater sampling event are presented on a CD-Rom inserted in Appendix D.

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

5.1 Shallow Zone Aquifer

During 2000, groundwater samples were collected from a total of 15 different wells completed in the Shallow Zone. These samples were collected in April and October

2000. The results of the BTEX laboratory analysis of these groundwater samples is summarized as follows:

- Of the 15 wells sampled, groundwater samples from 7 wells (MW-50, MW-54, MW-61, MW-79, MW-90, MW-105, 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);
- Where detected, benzene concentrations ranged from 4.1 ug/L in Well MW-43 (April 2000) to 68 ug/L in Well MW-55 (April 2000);
- Toluene concentrations ranged from 6.7 ug/L in Well MW-91 (October 2000) to 39 ug/L in Well MW-46 (October 2000);
- Ethylbenzene concentrations ranged from 3.6 ug/L in Well MW-43 (April 2000) to 19 ug/L in Well MW-46 October 2000); and,
- Total xylene concentrations ranged from 24 ug/L in Well MW-77 (October 2000) to 128 ug/L in Well MW-46 (October 2000).

Figures 5 and 6 illustrate the distribution of dissolved BTEX compounds in the Shallow Zone aquifer during 2000. As indicated by the historical data in Appendix C, BTEX concentrations in this water-bearing zone have generally remained stable or declined slightly over time.

5.2 Lower Queen Aquifer

During 2000, groundwater samples were collected from a total of 24 different Lower Queen wells. The laboratory analysis of these samples is summarized as follows:

- Of the 24 wells sampled, 18 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);
- Where detected, benzene concentrations ranged from 4.5 ug/L in MW-62 (April 2000) to 29 ug/L in MW-59 (April 2000);
- Toluene concentrations ranged from 1.5 ug/L in MW-62 (April 2000) to 140 ug/L in MW-74 (October 2000);
- Ethylbenzene concentrations ranged from 3.3 ug/L in MW-62 (April 2000) to 490 ug/L in MW-59 (October 2000); and,
- Total xylene concentrations ranged from 3.1 ug/L in MW-98 (April 2000) to 1320 ug/L in MW-74 (October 2000).

Figures 9 and 10 illustrate the distribution of dissolved BTEX compounds in the Lower Queen during 2000. 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 C.

6. Remediation System Operation and Maintenance

Remediation efforts completed at the site as part of the IBRP from April 1991 through December 2000 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 2000.

6.1 Groundwater Recovery and Infiltration

Groundwater and total fluids (condensate and groundwater) recovery wells operating at the site currently include MW-65A, MW-72, MW-75, MW-76, MW-81, MW-83, MW-84, MW-85, MW-86, MW-94, and MW-110. Recovered groundwater is treated and then infiltrated in upgradient wells IW-1 and IW-2 in the Lower Queen.

During 2000, there was no active groundwater recovery from the Shallow Zone. The total fluids recovery rate from the Lower Queen ranged from approximately 100 to 225 gallons per minute (gpm). Approximately 1,817,059 barrels of total fluids were recovered and treated, removing approximately 667 barrels of condensate. Subsequently, approximately 1,462,382 barrels of treated water were infiltrated in Lower Queen infiltration wells IW-1 and IW-2, and 68,400 barrels of untreated water and condensate were sent to the gas plant for disposal in the Class II injection wells. Typically, the amount infiltrated is less than the amount recovered due to the removal of condensate, evaporation, and meter error.

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 2000 is presented in Table 5.

6.2 Groundwater Treatment

Recovered groundwater at the site is treated by two air-strippers, designated "east" and "west". During 2000, monthly water samples were collected from the influent and

effluent of the air strippers by Marathon personnel. 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 8021, and the quarterly samples were submitted for Polynuclear Aromatic Hydrocarbons analysis using USEPA 8270 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 D. 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.

6.3 Vapor Extraction

A vapor extraction system (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 switched over to these new wells in June 1997 and operated through the end of 1998.

During 1999, three VES blowers were employed at the site (VES-100, VES-200, and VES-300). Marathon undertook an involved program of soil vapor extraction testing in 1999. The goal of this testing was to maximize recovery of condensate in the vapor phase. The soil vapor extraction testing continued in 2000 with 19 short term vapor extraction tests being conducted using five VES blowers (VES-100, VES-200, VES-300, VES-400, and VES-500). A summary of VES operation at the site during 2000 is presented in Table 8.

VES emissions are regulated by the New Mexico Environment Department Bureau of Air Quality under Permit No. 1859-M-1. The permit requires monthly sampling and quarterly reporting to track mass removal and emissions concentrations. The

following sections discuss VES performance in both hydrogeologic zones at the site during 2000.

6.3.1 Shallow Zone Vapor Extraction

During 2000, vapor extraction efforts were focused on the Lower Queen, where the greatest extent of condensate is known to be present. There were no Shallow Zone wells included in vapor extraction efforts at the site during 2000.

6.3.2 Lower Queen Vapor Extraction

During 2000, vapor extraction in the Lower Queen primarily included Wells MW-59, MW-65A, MW-67, MW-68, MW-72, MW-74, MW-75, MW-85, MW-104, MW-110, MW-112, MW-113, MW-120, MW-121, MW-123, MW-125, MW-129, MW-130, and VE-19. The combined vapor extraction in 2000 ranged from the equivalent of 9.5 barrels of condensate in September, to the equivalent of 61.8 barrels of condensate in January. For the year, a total equivalent of approximately 337 barrels of condensate was removed from the Lower Queen in the vapor phase.

6.3.3 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:

$$C_6H_{14} + 9.5O_2 \rightarrow 6CO_2 + 7H_2O$$

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 9 presents a summary of estimated aerobic biodegradation of condensate at the site in 2000. As the data in Table 9 show, it can be estimated that approximately 707 barrels of condensate were degraded in 2000.

7. Summary and Action Plan

7.1 Condensate Mass Removal

During 2000, a total of approximately 1,711 barrels of condensate were removed at the site. Of the total recovery, approximately 667 barrels of condensate were removed in the liquid phase through pump and treat efforts in the Lower Queen, and approximately 337 barrels of condensate were removed in the vapor phase by VES efforts. In addition to the liquid phase and vapor phase recovery, it is estimated that an additional 707 barrels of condensate were removed via enhanced aerobic degradation in the subsurface.

Overall, the total condensate removed at the site in 2000 represents an approximately 7% decrease in total recovery (decrease of 117 barrels), as compared to that achieved in 1999. The decrease in condensate recovery can be attributed to the air flowrate be corrected to standard conditions. However, the 2000 removal results continue the substantial increasing trend in recovery as compared to the condensate removed in 1998. The data from 2000 continues to show that a more effective use of vapor extraction at the site, specifically via focused vapor extraction efforts in discrete zones known to contain condensate, will increase condensate removal.

Cumulatively, from the initiation of remedial efforts in April 1991 through December 2000, a total of approximately 14,189 barrels of condensate have been recovered. Of the 14,189 barrels of condensate recovered to date, approximately 2,987 barrels have been removed in the liquid phase from recovery wells and sumps, and the equivalent of approximately 2,565 barrels have been removed or degraded in the vapor phase by VES operation. A summary of monthly and cumulative condensate removed from May 1991 through December 2000 is presented in Table 10.

7.2 Planned Activities

Through the operation of VES and groundwater recovery systems, Marathon has provided hydraulic control of the condensate and dissolved hydrocarbons in groundwater at the site (as demonstrated by routine gauging and sampling data).

Routine operation and maintenance of the remediation systems, compliance monitoring and reporting, and semi-annual groundwater monitoring will continue at the site in 2001.

As indicated by the recovery data from 2000, the renewed focus on condensate recovery via vapor extraction through the use of focused extraction in discrete zones known to contain condensate allows for an increase in overall recovery. Therefore, ongoing remediation efforts in the year 2001 and beyond will include the following:

- Operation of the groundwater recovery system to contain the extent of the condensate plume;

- Compliance monitoring and reporting, semi-annual groundwater monitoring; and,

- Continued operation of the vapor extraction along with expansion of the vapor extraction effort. Marathon is proposing to deploy an additional six vapor extraction blowers on-site during 2001 (actual schedule pending air permit modifications). The proposed expansion will bring the total vapor extraction operation to 11 units and 11 wells at any given time. Exact operating details have not been determined at this time, but it is expected the vapor extraction will be applied to a given well for a period to three to four months (longer if mass removal rates remain stable) at which time the equipment will be deployed on a new well. This type of operation is expected to optimize achievable mass removal rates.

7.3 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. A summary of the approved Groundwater Monitoring Plan is presented in Table 11.

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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/ OpenHole 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

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

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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/ OpenHole Interval (feet btoc)	Screen/Open Hole Depth (feet)	Casing Diameter (inches)
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
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

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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-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

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 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

Table 2. Summary of Historical Rainfall with Monthly Rainfall During 2000
Marathon Oil Company, Indian Basin Remediation Project
Eddy County, New Mexico.

Historical Totals

Year	Rainfall (inches)
1994	9.31
1995	7.84
1996	16.60
1997	10.65
1998	3.95
1999	4.70

Monthly/2000

Month	Rainfall (inches)
January	0.00
February	0.00
March	0.40
April	0.00
May	0.00
June	3.20
July	1.00
August	2.00
September	0.00
October	1.85
November	1.30
December	0.00
2000 Annual Total	9.75

Source: Rain gauge at Indian Basin Gas Plant

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Table 3. Summary of BTEX Analytical Results, April 2000 Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Shallow Zone

Well ID	MW-43	MW-46	MW-49	MW-50	MW-54	MW-55	MW-61
Date Sampled	4/28/00	4/28/00	4/27/00	5/2/00	5/2/00	5/2/00	5/3/00
Parameter							
Benzene	4.1	17	24	<1	<1	68	<1
Toluene	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	3.6	<1	12	<1	<1	14	<1
Total Xylenes	<1	<1	<1	<1	<1	5.5	<1

Well ID	MW-79	MW-90	MW-106
Date Sampled	5/2/00	5/2/00	5/1/00
Parameter			
Benzene	<1	<1	<1
Toluene	<1	<1	<1
Ethylbenzene	<1	<1	<1
Total Xylenes	<1	<1	<1

Lower Queen

Well ID	MW-57	MW-59	MW-60	MW-61A	MW-62	MW-63	MW-64	MW-66	MW-67
Date Sampled	5/4/00	5/4/00	5/1/00	5/3/00	5/3/00	4/27/00	5/3/00	4/27/00	5/2/00
Parameter									
Benzene	<1	29	<1	<1	4.5	<1	<1	<1	13.4
Toluene	<1	<1	<1	<1	1.5	<1	<1	<1	<1
Ethylbenzene	3.4	130	<1	<1	3.3	<1	<1	<1	<1
Total Xylenes	8.8	405	<1	<1	16.7	<1	<1	<1	<1

Well ID	MW-70	MW-71	MW-73	MW-74	MW-87	MW-87A	MW-88	MW-89	MW-94
Date Sampled	4/28/00	4/28/00	5/4/00	5/4/00	5/1/00	5/1/00	4/28/00	4/27/00	5/3/00
Parameter									
Benzene	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	19	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	40	<1	<1	<1	<1	<1
Total Xylenes	<1	<1	<1	110	<1	<1	<1	<1	<1

Well ID	MW-95	MW-96	MW-97	MW-98	MW-108	MW-111
Date Sampled	5/2/00	5/1/00	5/2/00	5/2/00	5/4/00	4/27/00
Parameter						
Benzene	<1	<1	<1	<1	<1	<1
Toluene	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1	<1	<1	<1	<1	<1
Total Xylenes	<1	<1	<1	3.1	<1	<1

Notes:

Concentrations listed in micrograms per liter (ug/L)

Results listed for BTEX only, results for other parameters (if any) are included in Appendix C

<1 Constituent not detected above noted laboratory detection limit

Table 4. Summary of BTEX Analytical Results, October 2000 Groundwater Sampling Event, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Shallow Zone

Well ID	MW-43	MW-46	MW-49	MW-50	MW-54	MW-55	MW-61	MW-65	MW-77
Date Sampled	10/2/00	10/2/00	10/2/00	10/2/00	10/3/00	10/4/00	10/2/00	10/2/00	10/3/00
Parameter									
Benzene	<5	12	35	<5	<5	43	<5	<5	<5
Toluene	7.4	39	38	<5	<5	10	<5	<5	<5
Ethylbenzene	5.1	19	18	<5	<5	14	<5	<5	<5
Total Xylenes	41	128	107	<10	<10	<10	<10	<10	24

Well ID	MW-78	MW-90	MW-91	MW-105	MW-106
Date Sampled	10/5/00	10/3/00	10/3/00	10/2/00	10/2/00
Parameter					
Benzene	<25	<5	<5	<5	<5
Toluene	<25	<5	6.7	<5	<5
Ethylbenzene	<25	<5	<5	<5	<5
Total Xylenes	96	<10	35	<10	<10

Lower Queen

Well ID	MW-57	MW-59	MW-60	MW-61A	MW-62	MW-63	MW-64	MW-66	MW-67
Date Sampled	10/4/00	10/5/00	10/4/00	10/2/00	10/5/00	10/3/00	10/4/00	10/5/00	10/4/00
Parameter									
Benzene	10	<100	<5	<5	14	<5	<5	<5	<5
Toluene	<5	<100	<5	6.3	<5	<5	<5	<5	<5
Ethylbenzene	<5	490	<5	<5	6	<5	<5	<5	<5
Total Xylenes	<10	520	<10	27	35	<10	<10	<10	<10

Well ID	MW-70	MW-71	MW-73	MW-74	MW-87	MW-87A	MW-88	MW-89	MW-94
Date Sampled	10/3/00	10/2/00	10/5/00	10/5/00	10/4/00	10/3/00	10/2/00	10/5/00	10/5/00
Parameter									
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	140	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	66	<5	<5	<5	<5	<5
Total Xylenes	<10	<10	<10	1320	<10	<10	<5	<10	<10

Well ID	MW-96	MW-97	MW-111
Date Sampled	10/4/00	10/4/00	10/5/00
Parameter			
Benzene	<5	<5	<5
Toluene	<5	<5	<5
Ethylbenzene	<5	<5	<5
Total Xylenes	<10	<10	<10

Notes:

Concentrations listed in micrograms per liter (ug/L)

Results listed for BTEX only, results for other parameters (if any) are included in Appendix C

<5 Constituent not detected above noted laboratory detection limit

Table 5. Summary of 2000 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	146,419	144,251
February	138,047	132,041
March	153,827	148,928
April	133,118	122,523
May	157,887	126,108
June	159,295	136,893
July	158,408	137,204
August	163,893	128,096
September	152,352	113,225
October	143,858	105,170
November	155,767	83,489
December	154,189	84,455
Totals	1,817,059	1,462,382

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

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Table 6. Summary of 2000 Analytical Results, East Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	01/12/00		02/28/00		03/23/00		04/28/00		05/17/00		06/20/00	
		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	8	<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	65	<5	<5	<5
Total Xylenes	620	<10	<10	<10	<10	<10	<10	7	<5	<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	0.7	--	<0.1	--	--	--	--	--	--	--	--	--	<0.1
Benzo(ghi)perylene	--	--	<0.1	--	--	--	--	--	--	--	--	--	<0.1
Chrysene	--	--	<1	--	--	--	--	--	--	--	--	--	<1
Dibenzo(ah)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	30	--	ND	--	--	--	--	--	--	--	--	--	ND
General Chemistry (mg/L):													
Bromide	--	--	<0.5	--	--	--	--	--	--	--	--	--	<5
Chloride	250	--	36.3	--	--	--	--	--	--	--	--	--	87
Fluoride	1.6	--	0.87	--	--	--	--	--	--	--	--	--	<5
Sulfate	600	--	193	--	--	--	--	--	--	--	--	--	250
Metals (mg/L):													
Calcium	--	--	109	--	--	--	--	--	--	--	--	--	95.6
Magnesium	--	--	48.2	--	--	--	--	--	--	--	--	--	43.2
Potassium	--	--	1.5	--	--	--	--	--	--	--	--	--	1.4
Sodium	--	--	21.5	--	--	--	--	--	--	--	--	--	32.7

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 no standard has been published or that analysis was not run
ND	Indicates that no such parameters were detected
WQCC	New Mexico Water Quality Control Commission.

ARCADIS GERAGHTY&MILLER

Table 6. Summary of 2000 Analytical Results, East Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	07/26/00		08/22/00		09/26/00		10/25/00		11/27/00		12/18/00	
		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	7	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	750	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	620	20	<10	10	<10	<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	0.7	--	--	--	--	--	<0.1	--	--	--	<0.1	--	--
Benzo(ghi)perylene	--	--	--	--	--	--	<0.1	--	--	--	<0.1	--	--
Chrysene	--	--	--	--	--	--	<1	--	--	--	<1	--	--
Dibenzo(ah)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	30	--	--	--	--	--	ND	--	--	--	ND	--	--
General Chemistry (mg/L):													
Bromide	--	--	--	--	--	--	<5	--	--	--	<5	--	--
Chloride	250	--	--	--	--	--	36	--	--	--	38	--	--
Fluoride	1.6	--	--	--	--	--	<5	--	--	--	0.86	--	--
Sulfate	600	--	--	--	--	--	198	--	--	--	200	--	--
Metals (mg/L):													
Calcium	--	--	--	--	--	--	113	--	--	--	112	--	--
Magnesium	--	--	--	--	--	--	54.1	--	--	--	51	--	--
Potassium	--	--	--	--	--	--	1.7	--	--	--	1.6	--	--
Sodium	--	--	--	--	--	--	35.6	--	--	--	26.3	--	--

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 no standard has been published.
ND	Indicates that no such parameters were detected
WQCC	New Mexico Water Quality Control Commission.

ARCADIS GERAGHTY & MILLER

Table 7. Summary of 2000 Analytical Results, West Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC Standards	01/12/00		02/28/00		03/23/00		04/28/00		05/17/00		06/20/00	
		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	7	<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	60	<5	<5	<5
Total Xylenes	620	<10	<10	<10	<10	<10	<10	6	<5	<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	0.7	--	<0.1	--	--	--	--	--	--	--	--	--	<0.1
Benzo(ghi)perylene	--	--	<0.1	--	--	--	--	--	--	--	--	--	<0.1
Chrysene	--	--	<1	--	--	--	--	--	--	--	--	--	<1
Dibenzo(ah)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	30	--	ND	--	--	--	--	--	--	--	--	--	ND
General Chemistry (mg/L):													
Bromide	--	--	<0.5	--	--	--	--	--	--	--	--	--	<5
Chloride	250	--	36.6	--	--	--	--	--	--	--	--	--	46
Fluoride	1.6	--	0.8	--	--	--	--	--	--	--	--	--	<5
Sulfate	600	--	192	--	--	--	--	--	--	--	--	--	221
Metals (mg/L):													
Calcium	--	--	110	--	--	--	--	--	--	--	--	--	127
Magnesium	--	--	48.8	--	--	--	--	--	--	--	--	--	55.7
Potassium	--	--	1.7	--	--	--	--	--	--	--	--	--	1.7
Sodium	--	--	21.7	--	--	--	--	--	--	--	--	--	8.4

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 no standard has been published or that analysis was not run
ND	Indicates that no such parameters were detected
WQCC	New Mexico Water Quality Control Commission.

ARCADIS GERAGHTY & MILLER

Table 7. Summary of 2000 Analytical Results, West Air Stripper, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	WQCC	07/26/00		08/22/00		09/26/00		10/25/00		11/27/00		12/18/00	
	Standards	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	7	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Xylenes	620	20	<10	10	<10	<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	0.7	--	--	--	--	--	<0.1	--	--	--	<0.1	--	--
Benzo(ghi)perylene	--	--	--	--	--	--	<0.1	--	--	--	<0.1	--	--
Chrysene	--	--	--	--	--	--	<1	--	--	--	<1	--	--
Dibenzo(ah)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	30	--	--	--	--	--	ND	--	--	--	ND	--	--
General Chemistry (mg/L):													
Bromide	--	--	--	--	--	--	<5	--	--	--	<5	--	--
Chloride	250	--	--	--	--	--	36	--	--	--	38	--	--
Fluoride	1.6	--	--	--	--	--	<5	--	--	--	0.84	--	--
Sulfate	600	--	--	--	--	--	194	--	--	--	190	--	--
Metals (mg/L):													
Calcium	--	--	--	--	--	--	111	--	--	--	112	--	--
Magnesium	--	--	--	--	--	--	53.3	--	--	--	50.8	--	--
Potassium	--	--	--	--	--	--	3.1	--	--	--	1.5	--	--
Sodium	--	--	--	--	--	--	33.6	--	--	--	27.5	--	--

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 no standard has been published.
ND	Indicates that no such parameters were detected
WQCC	New Mexico Water Quality Control Commission.

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

VES-100

Date	Description	Condensate Recovered (bbl)
1/10/00	System restarted (MW-67) till 1/14/00	
1/20/00	System restarted (VE-19)	
2/7/00	System running (MW-67)	
3/9/00	System running (MW-65A)	
3/29/00	System running (MW-130)	
	1st Quarter 2000 Estimated Subtotal	8.14
4/1/00	System running (MW-130)	
4/20/00	System running (MW-112)	
5/17/00	System running (MW-83, MW-84, and MW-118)	
5/18/00	System running (MW-123)	
6/8/00	System running (MW-113)	
	2nd Quarter 2000 Estimated Subtotal	27.02
7/1/00	System running (MW-113)	
7/10/00	System running (MW-68)	
8/3/00	System running (MW-125)	
8/25/00	System running (MW-129)	
	3rd Quarter 2000 Estimated Subtotal	4.18
10/1/00	System running (MW-129)	
12/20/00	System running (MW-125)	
	4th Quarter 2000 Estimated Subtotal	12.52
	2000 Subtotal, VES-100	**51.9**

VES-300

Date	Description	Condensate Recovered (bbl)
1/1/00	System running (MW-85)	
	1st Quarter 2000 Estimated Subtotal	77.32
4/1/00	System running (MW-85)	
	2nd Quarter 2000 Estimated Subtotal	29.54
7/1/00	System running (MW-85)	
	3rd Quarter 2000 Estimated Subtotal	14.03
10/1/00	System running (MW-85)	
10/12/00	System shut-down	
10/16/00	System running (MW-85)	
	4th Quarter 2000 Estimated Subtotal	11.08
	2000 Subtotal, VES-300	**132.0**

VES-500

Date	Description	Condensate Recovered (bbl)
3/30/00	System running (MW-75)	
	1st Quarter 2000 Estimated Subtotal	0.48
4/1/00	System running (MW-75)	
5/3/00	System running (MW-59)	
5/30/00	System running (MW-72)	
6/15/00	System running (MW-120)	
	2nd Quarter 2000 Estimated Subtotal	11.98
7/1/00	System running (MW-120)	
7/13/00	System running (MW-121)	
8/3/00	System running (MW-74)	
8/31/00	System running (MW-121)	
9/21/00	System running (MW-120)	
	3rd Quarter 2000 Estimated Subtotal	8.28
10/1/00	System running (MW-120)	
10/10/00	System shut-down	
10/24/00	System running (MW-120)	
	4th Quarter 2000 Estimated Subtotal	4.49
	2000 Subtotal, VES-400	**25.2**

2000 TOTAL	**336.4**

VES-200

Date	Description	Condensate Recovered (bbl)
1/1/00	System running (MW-110)	
3/25/00	System shut-down	
	1st Quarter 2000 Estimated Subtotal	40.9
4/1/00	System not operated during 2nd quarter	
6/31/00	System not operated during 2nd quarter	
	2nd Quarter 2000 Estimated Subtotal	0.0
7/1/00	System not operated during 3rd quarter	
9/30/00	System not operated during 3rd quarter	
	3rd Quarter 2000 Estimated Subtotal	0.0
10/1/00	System not operated during 2nd quarter	
12/31/00	System not operated during 2nd quarter	
	4th Quarter 2000 Estimated Subtotal	0.0
	2000 Subtotal, VES-200	**40.9**

VES-400

Date	Description	Condensate Recovered (bbl)
3/30/00	System running (MW-110)	
	1st Quarter 2000 Estimated Subtotal	1.19
4/1/00	System running (MW-110)	
	2nd Quarter 2000 Estimated Subtotal	36.68
7/1/00	System running (MW-110)	
8/29/00	System running (MW-110 and MW-127)	
9/21/00	System running (MW-127)	
	3rd Quarter 2000 Estimated Subtotal	20.11
10/1/00	System running (MW-127)	
10/10/00	System shut-down	
10/20/00	System running (MW-110)	
	4th Quarter 2000 Estimated Subtotal	28.48
	2000 Subtotal, VES-400	**86.5**

Notes:
Condensate recovery and operational data provided by Marathon Oil.
bbl Barrels of condensate recovered in the vapor phase. one barrel is the equivalent of 42 gallons.

Table 9. Aerobic Biodegradation of Condensate, Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

	VES-100	VES-200	VES-300	VES-400	VES-500	Total
	Aerobic Biodegradation (barrels)	Aerobic Biodegradation (barrels)	Aerobic Biodegradation (barrels)	Aerobic Biodegradation (barrels)	Aerobic Biodegradation (barrels)	Aerobic Biodegradation (barrels)
Jan-00	0.46	13.85	19.16	NR	NR	33.47
Feb-00	4.12	17.86	18.11	NR	NR	40.08
Mar-00	15.18	16.46	17.71	1.93	0.46	51.74
Apr-00	25.37	0.00	20.31	42.81	9.15	97.65
May-00	6.59	0.00	8.06	29.79	9.34	53.78
Jun-00	25.43	0.00	11.90	32.57	11.98	81.88
Jul-00	17.16	0.00	13.53	52.29	7.31	90.29
Aug-00	10.98	0.00	7.76	34.71	19.86	73.32
Sep-00	6.39	0.00	7.43	15.83	10.00	39.65
Oct-00	4.35	0.00	10.35	7.21	3.75	25.67
Nov-00	0.00	0.00	14.47	36.57	9.37	60.41
Dec-00	0.91	0.00	12.68	35.38	10.43	59.41
Total	116.96	48.17	161.49	289.10	91.65	**707.35**

Notes:
NR Not running.

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Table 10. Summary of Historical Condensate Recovery Data,
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Date	Emergency Reponse 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
Apr-91	717.3	33.0	465.0	4,447.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5,662.3
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	2,041.0
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	465.0	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

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Date	Emergency Reponse 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
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**	**6.6**	**36.7**	**0.0**	**22.9**	**53.1**	**0.0**	**0.0**	**122.7**
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**

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Date	Emergency Reponse 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**	**535.9**
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**

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Table 10. Summary of Historical Condensate Recovery Data,
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Date	Emergency Reponse 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-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	**17.7**	**5.2**	**14.7**	0.0	**37.6**
Sep-98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**72.1**	**5.5**	**10.2**	0.0	**87.8**
Oct-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**
Nov-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**
Dec-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**
Subtotal 1998	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**511.3**	**65.5**	**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**

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Date	Emergency Reponse 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**	**53.8**	**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**	**1,711.3**
TOTALS	**3,692.3**	**33.0**	**465.0**	**4,447.0**	**3.4**	**6.6**	**180.8**	**164.0**	**1,964.8**	**203.0**	**858.5**	**1,503.4**	**14,189.1**

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

Table 11. Groundwater Monitoring Plan
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico.

Shallow Zone

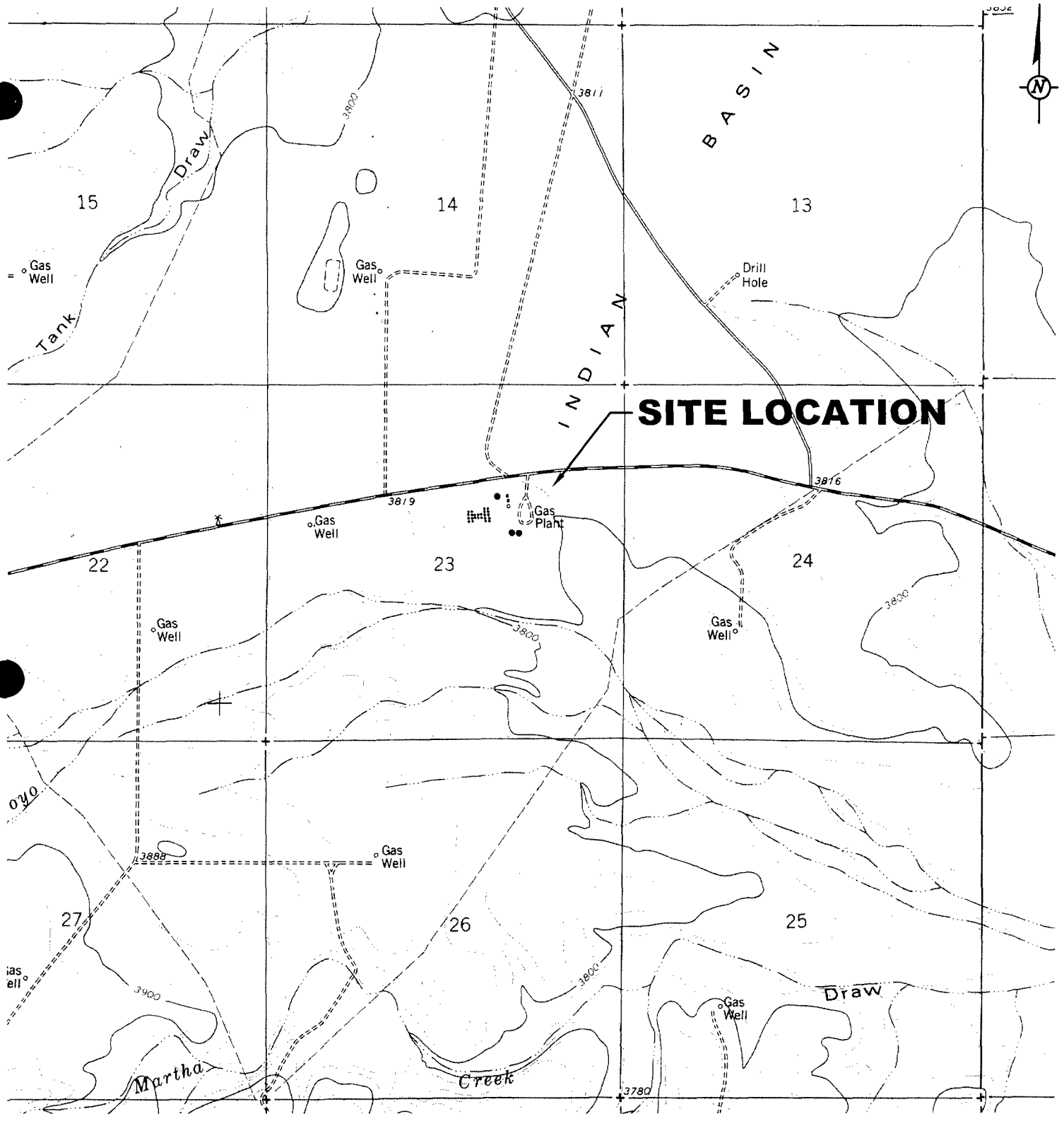
	Sampling Schedule					
Well ID	Month April	Analytical Paramenters semi-annual	annual	e/o year	Month October	Analytical Paramenters semi-annual
MW-14	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X	BTEX
MW-39	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X	BTEX
MW-43	X	BTEX	Chloride, TDS	SVOCs, WQCC metals	X	BTEX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

Lower Queen

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

Notes:
SVOC and WQCC metals analysis will fall on even years (i.e., 2000, 2002, etc.)

SVOCs	Semi-Volatile Organic Compounds
WQCC metals	New Mexico Water Quality Control Commission metals
TDS	Total Dissolved Solids
e/o year	Every other year



SOURCE: USGS 7.5 MIN. TOPOGRAPHICAL QUADRANGLE:
MARTHA CREEK, N. MEX., 1978

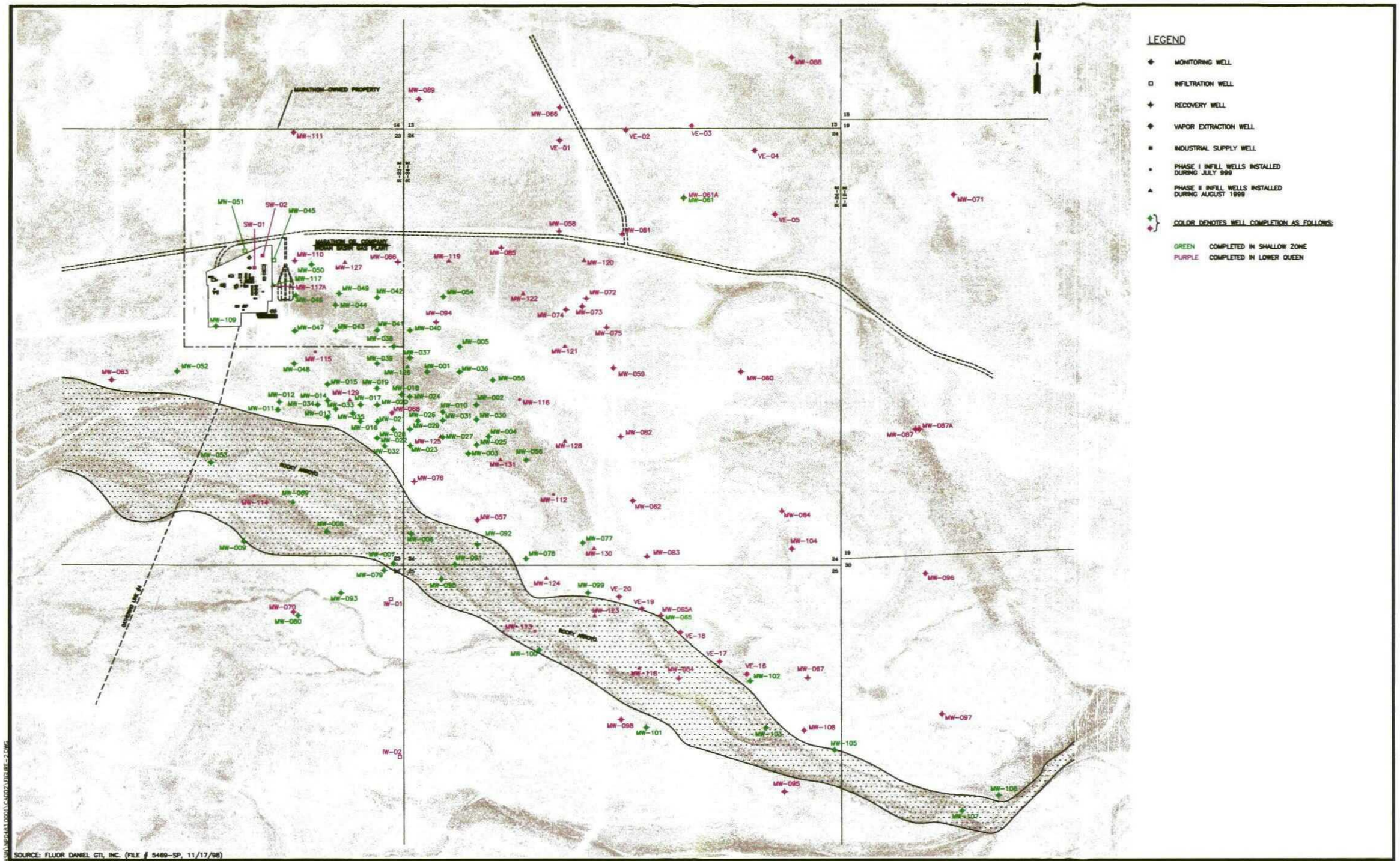
NEW MEXICO

0 2000
SCALE IN FEET

G:\APROJECT\MOC\INDIAN BASIN\2000 ANNUAL REPORT\CADD\FIGURE-1.DWG

ARCADIS GERAGHTY & MILLER

DRAWN M. WASILEWSKI	DATE 02/07/01	PROJECT MANAGER M. HANSEN	DEPARTMENT MANAGER A. HANNUM
SITE LOCATION		LEAD DESIGN PROF.	CHECKED J. HORST
MARATHON OIL COMPANY INDIAN BASIN REMEDIATION PROJECT EDDY COUNTY, NEW MEXICO		PROJECT NUMBER NP000483.0003	DRAWING NUMBER 1



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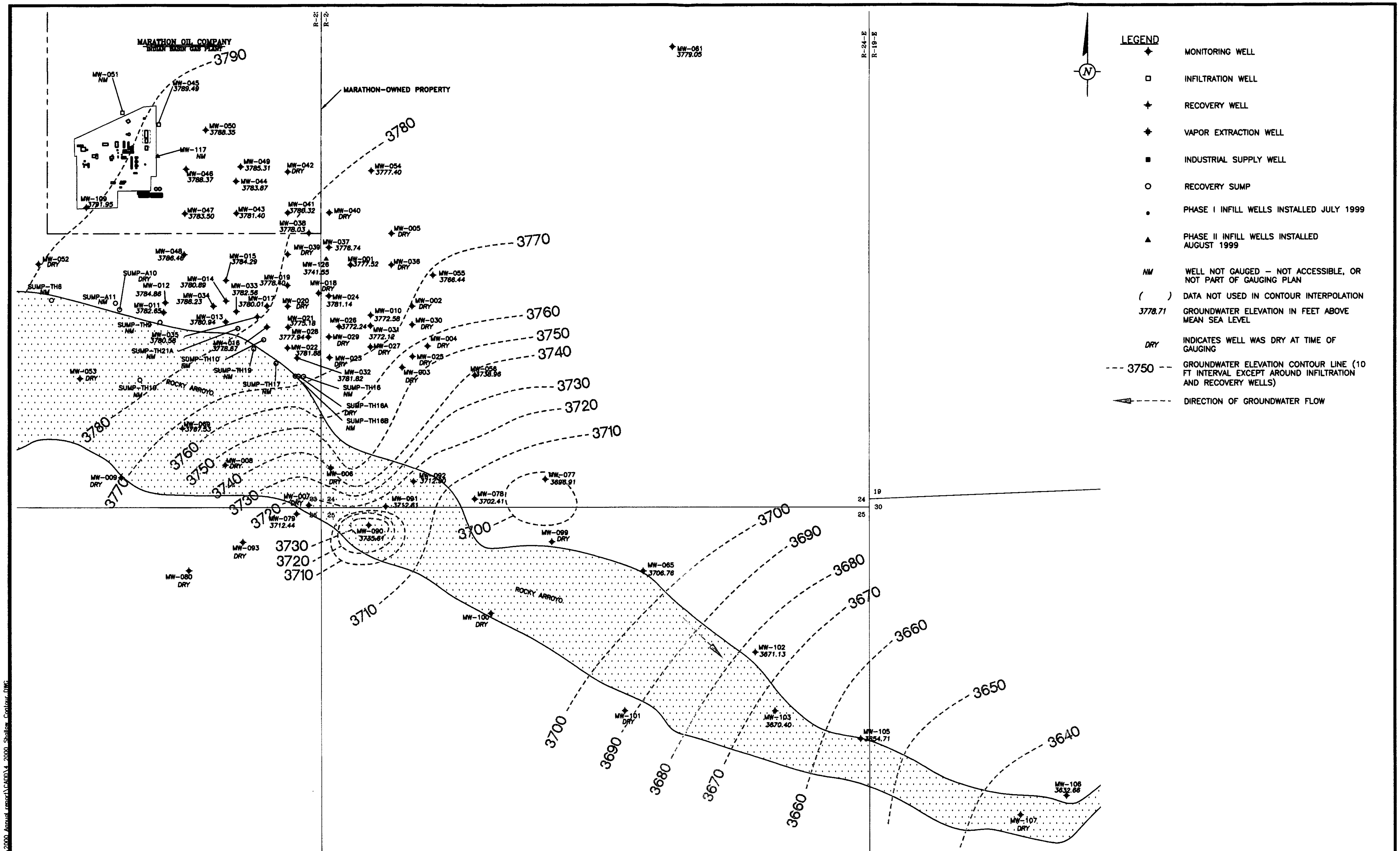
Tel: 215/752-6940 Fax: 215/752-6879

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SITE LAYOUT

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	02/07/00	M. HANSEN	D. SOUSA
		LEAD DESIGN PROF.	CHECKED
			J. HORST
		PROJECT NUMBER	DRAWING NUMBER
		NP000483.0001	2

R:\APROJECT\MO\INDIAN_BASIN\NP0483.0001\CAD02\FIGURE-2.DWG



SOURCE: FLUOR DANIEL GTI, INC. (FILE # 5469-SP, 11/17/98)

0 400 800 1200
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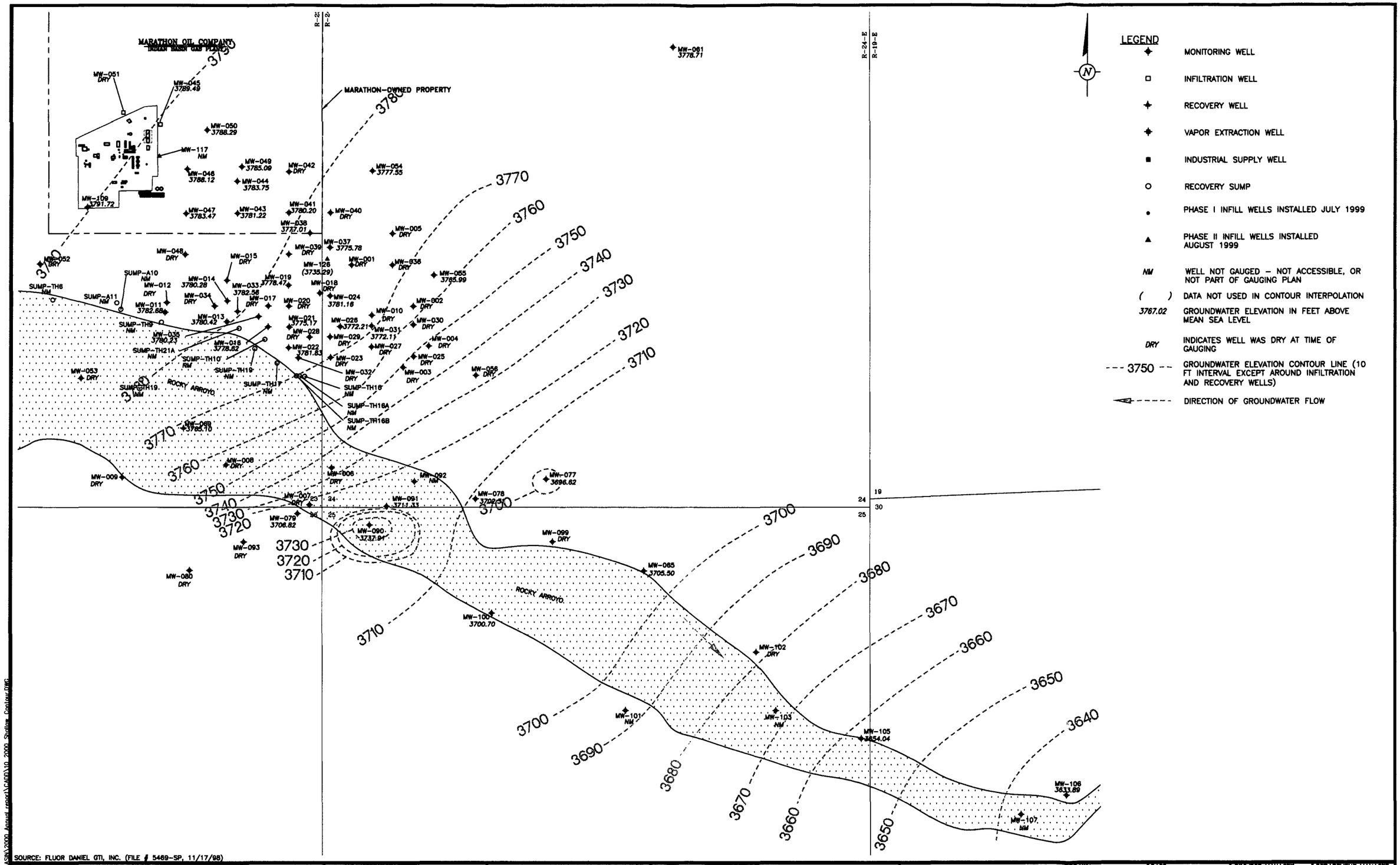
MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SHALLOW ZONE GROUNDWATER ELEVATION CONTOURS
APRIL 2000

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	02/02/01	M. HANSEN	A. HANNUM
		LEAD DESIGN PROF.	CHECKED J. HORST
		PROJECT NUMBER NP000483.0003	DRAWING NUMBER 3



LEGEND

- MONITORING WELL
- INFILTRATION WELL
- RECOVERY WELL
- VAPOR EXTRACTION WELL
- INDUSTRIAL SUPPLY WELL
- RECOVERY SUMP
- PHASE I INFILL WELLS INSTALLED JULY 1999
- PHASE II INFILL WELLS INSTALLED AUGUST 1999
- *NM* — WELL NOT GAUGED – NOT ACCESSIBLE, OR NOT PART OF GAUGING PLAN
- ( ) — DATA NOT USED IN CONTOUR INTERPOLATION
- *3767.02* — GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- *DRY* — INDICATES WELL WAS DRY AT TIME OF GAUGING
- --- 3750 --- GROUNDWATER ELEVATION CONTOUR LINE (10 FT INTERVAL EXCEPT AROUND INFILTRATION AND RECOVERY WELLS)
- DIRECTION OF GROUNDWATER FLOW

SOURCE: FLUOR DANIEL GTI, INC. (FILE # 5469-SP, 11/17/98)

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SCALE IN FEET

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Suite 3004, Langhorne, Pa 19047
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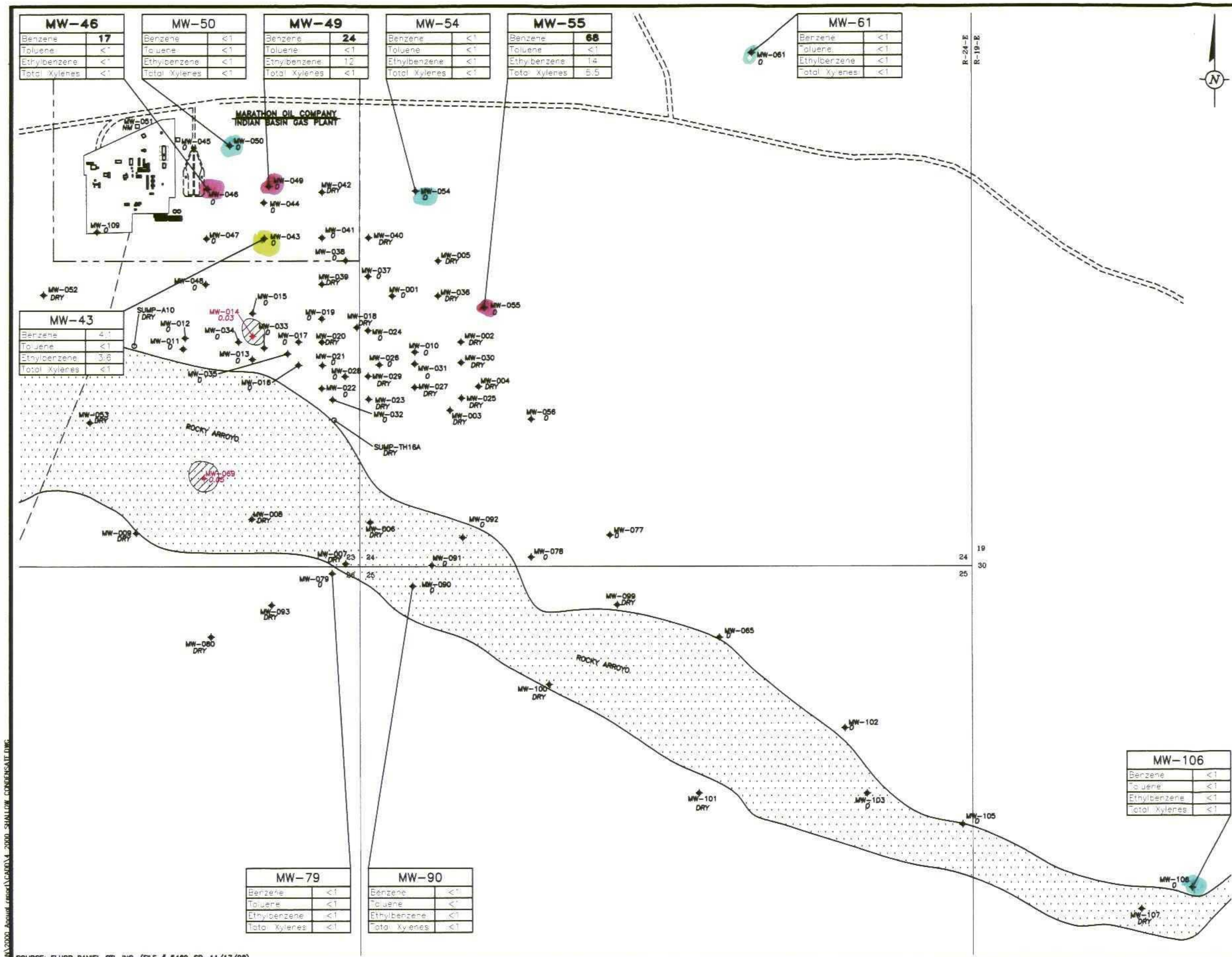
MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

SHALLOW ZONE GROUNDWATER ELEVATION CONTOURS
OCTOBER 2000

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	02/02/01	M. HANSEN	A. HANNUM
		LEAD DESIGN PROF.	CHECKED
			J. HORST
		PROJECT NUMBER	DRAWING NUMBER
		NP000483.0003	4



MW-46	
Benzene	**17**
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-50	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-49	
Benzene	**24**
Toluene	<1
Ethylbenzene	12
Total Xylenes	<1

MW-54	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-55	
Benzene	**68**
Toluene	<1
Ethylbenzene	14
Total Xylenes	5.5

MW-61	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-43	
Benzene	4.1
Toluene	<1
Ethylbenzene	3.6
Total Xylenes	<1

MW-79	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-90	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

MW-106	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

SOURCE: FLUOR DANIEL GTI, INC. (FILE # 5469-SP, 11/17/98)

LEGEND

- MONITORING WELL
- INFILTRATION WELL
- RECOVERY WELL
- VAPOR EXTRACTION WELL
- INDUSTRIAL SUPPLY WELL
- RECOVERY SUMP
- PHASE I INFILL WELLS INSTALLED DURING JULY 999
- PHASE II INFILL WELLS INSTALLED DURING AUGUST 1999
- COP — CONDENSATE ON PROBE AT TIME OF GAUGING
- 0.01 — THICKNESS OF SEPARATE-PHASE CONDENSATE IN FEET
- DRY — INDICATES WELL WAS DRY AT TIME OF GAUGING
- NM — WELL NOT GAUGED; NOT ACCESSIBLE
- INFERRED BOUNDARY OF CONDENSATE PLUME

MW-50	
Benzene	<1
Toluene	<1
Ethylbenzene	<1
Total Xylenes	<1

- WELL ID
- BOLD INDICATES BTEX CONSTITUENTS PRESENT AT CONCENTRATIONS ABOVE REGULATORY LIMITS.
- INDICATES CONSTITUENT NOT DETECTED ABOVE NOTED LABORATORY DETECTION LIMIT (WITH LIMIT SHOWN).
- CONCENTRATION (ug/L)
- CONSTITUENT

OCD CLEANUP GOALS/REGULATORY LIMITS

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

NOTES:

OCD NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, OIL CONSERVATION DIVISION

ug/L MICROGRAMS PER LITER

mg/L MILLIGRAMS PER LITER

0 400 800 1200 SCALE IN FEET

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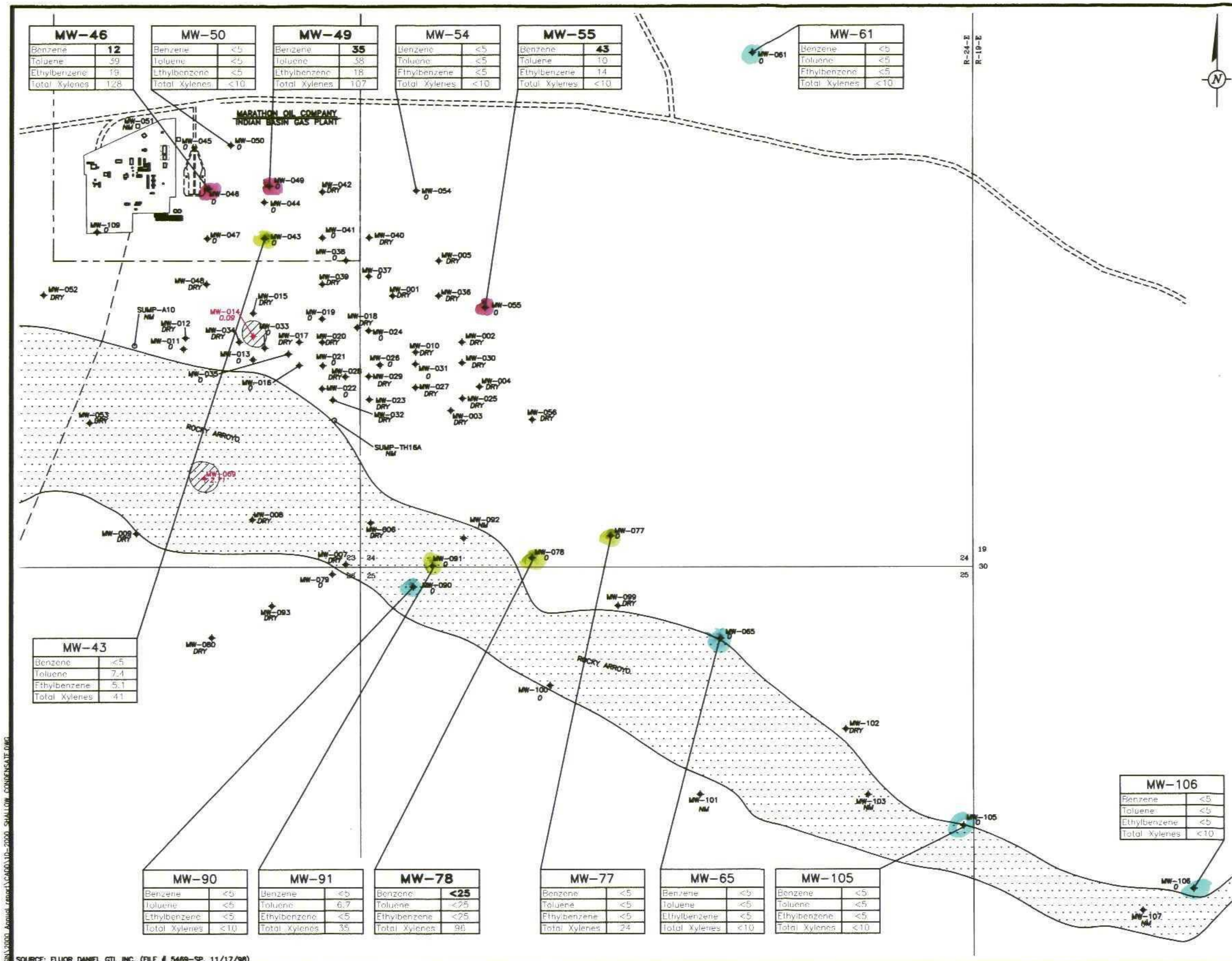
MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

BTEX AND SEPARATE-PHASE CONDENSATE DISTRIBUTION SHALLOW ZONE
APRIL 2000

DRAWN	M. WASILEWSKI
DATE	02/02/01
PROJECT MANAGER	M. HANSEN
DEPARTMENT MANAGER	A. HANNUM
LEAD DESIGN PROF.	
CHECKED	J. HORST
PROJECT NUMBER	NP000483.0003
DRAWING NUMBER	5



MW-46	
Benzene	**12**
Toluene	39
Ethylbenzene	19
Total Xylenes	128

MW-50	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-49	
Benzene	**35**
Toluene	38
Ethylbenzene	18
Total Xylenes	107

MW-54	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-55	
Benzene	**43**
Toluene	10
Ethylbenzene	14
Total Xylenes	<10

MW-61	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-43	
Benzene	<5
Toluene	7.4
Ethylbenzene	5.1
Total Xylenes	41

MW-106	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-90	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-91	
Benzene	<5
Toluene	6.7
Ethylbenzene	<5
Total Xylenes	35

MW-78	
Benzene	**<25**
Toluene	<25
Ethylbenzene	<25
Total Xylenes	96

MW-77	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	24

MW-65	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

MW-105	
Benzene	<5
Toluene	<5
Ethylbenzene	<5
Total Xylenes	<10

LEGEND

- 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
- 0.01 THICKNESS OF SEPARATE-PHASE CONDENSATE IN FEET
- DRY INDICATES WELL WAS DRY AT TIME OF GAUGING
- NM WELL NOT GAUGED; NOT ACCESSIBLE
- INFERRED BOUNDARY OF CONDENSATE PLUME

WELL ID

MW-55	
Benzene	**43**
Toluene	10
Ethylbenzene	14
Total Xylenes	<10

- BOLD INDICATES BTEX CONSTITUENTS PRESENT AT CONCENTRATIONS ABOVE REGULATORY LIMITS.
- INDICATES CONSTITUENT NOT DETECTED ABOVE NOTED LABORATORY DETECTION LIMIT (WITH LIMIT SHOWN).
- CONCENTRATION (ug/L)
- CONSTITUENT

OCD CLEANUP GOALS/REGULATORY LIMITS

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

NOTES:

OCD NEW MEXICO ENERGY , MINERALS AND NATURAL RESOURCES DEPARTMENT, OIL CONSERVATION DIVISION

ug/L MICROGRAMS PER LITER

0 400 800 1200
SCALE IN FEET

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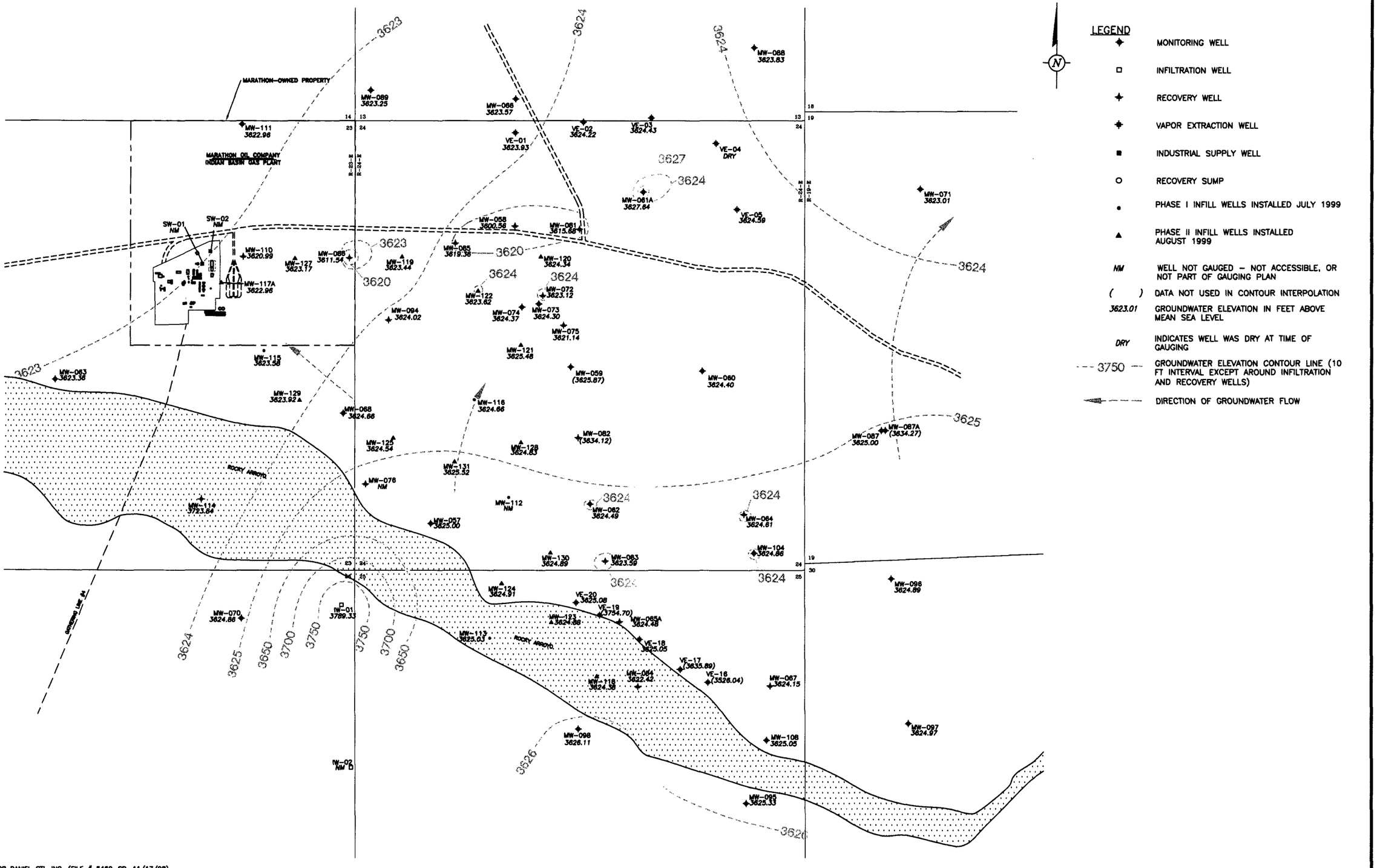
Tel: 215/752-6840 Fax: 215/752-6879

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

BTEX AND SEPARATE-PHASE CONDENSATE DISTRIBUTION SHALLOW ZONE OCTOBER 2000

DRAWN: M. WASILEWSKI	DATE: 02/02/01
PROJECT MANAGER: M. HANSEN	DEPARTMENT MANAGER: A. HANNUM
LEAD DESIGN PROF.	CHECKED: J. HORST
PROJECT NUMBER: NP000483.0003	DRAWING NUMBER: 6



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0 500 1000 1500
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Tel: 215/752-8840 Fax: 215/752-9879

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN GROUNDWATER ELEVATION CONTOURS
APRIL 2000

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	02/07/00	M. HANSEN	A. HANNUM
		LEAD DESIGN PROF.	CHECKED
			J. HORST
		PROJECT NUMBER	DRAWING NUMBER
		NP000483.0003	7

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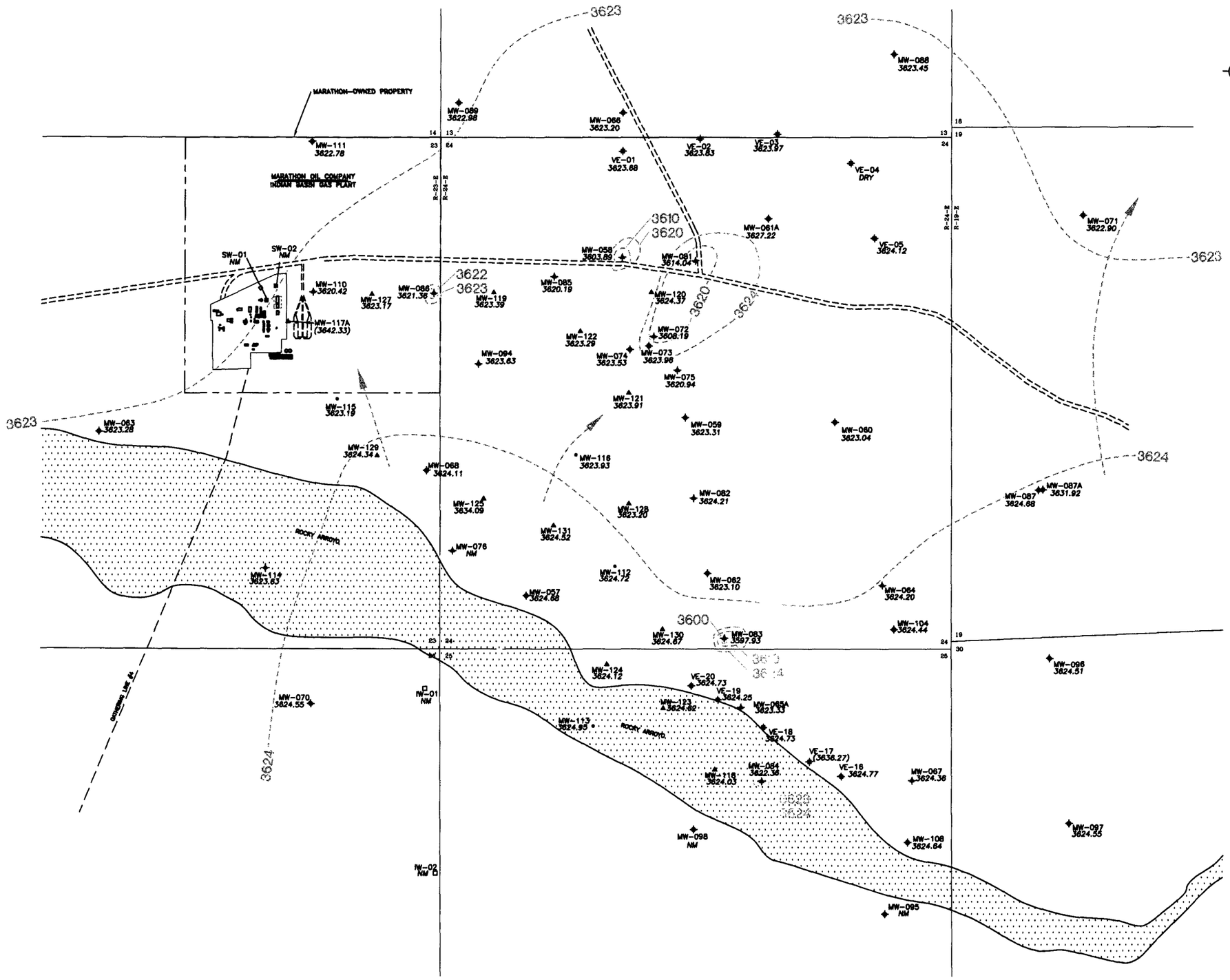

LEGEND

- MONITORING WELL
- INFILTRATION WELL
- RECOVERY WELL
- VAPOR EXTRACTION WELL
- INDUSTRIAL SUPPLY WELL
- RECOVERY SUMP
- PHASE I INFILL WELLS INSTALLED JULY 1999
- PHASE II INFILL WELLS INSTALLED AUGUST 1999
- NM — WELL NOT GAUGED – NOT ACCESSIBLE, OR NOT PART OF GAUGING PLAN
- ( ) — DATA NOT USED IN CONTOUR INTERPOLATION
- 3623.01 — GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- DRY — INDICATES WELL WAS DRY AT TIME OF GAUGING
- 3624 — GROUNDWATER ELEVATION CONTOUR LINE (10 FT INTERVAL EXCEPT AROUND INFILTRATION AND RECOVERY WELLS)
- DIRECTION OF GROUNDWATER FLOW

SOURCE: FLUOR DANIEL GTI, INC. (FILE # 5469-SP, 11/17/98)

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0 500 1000 1500
SCALE IN FEET

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Suite 3004, Langhorne, Pa 19047
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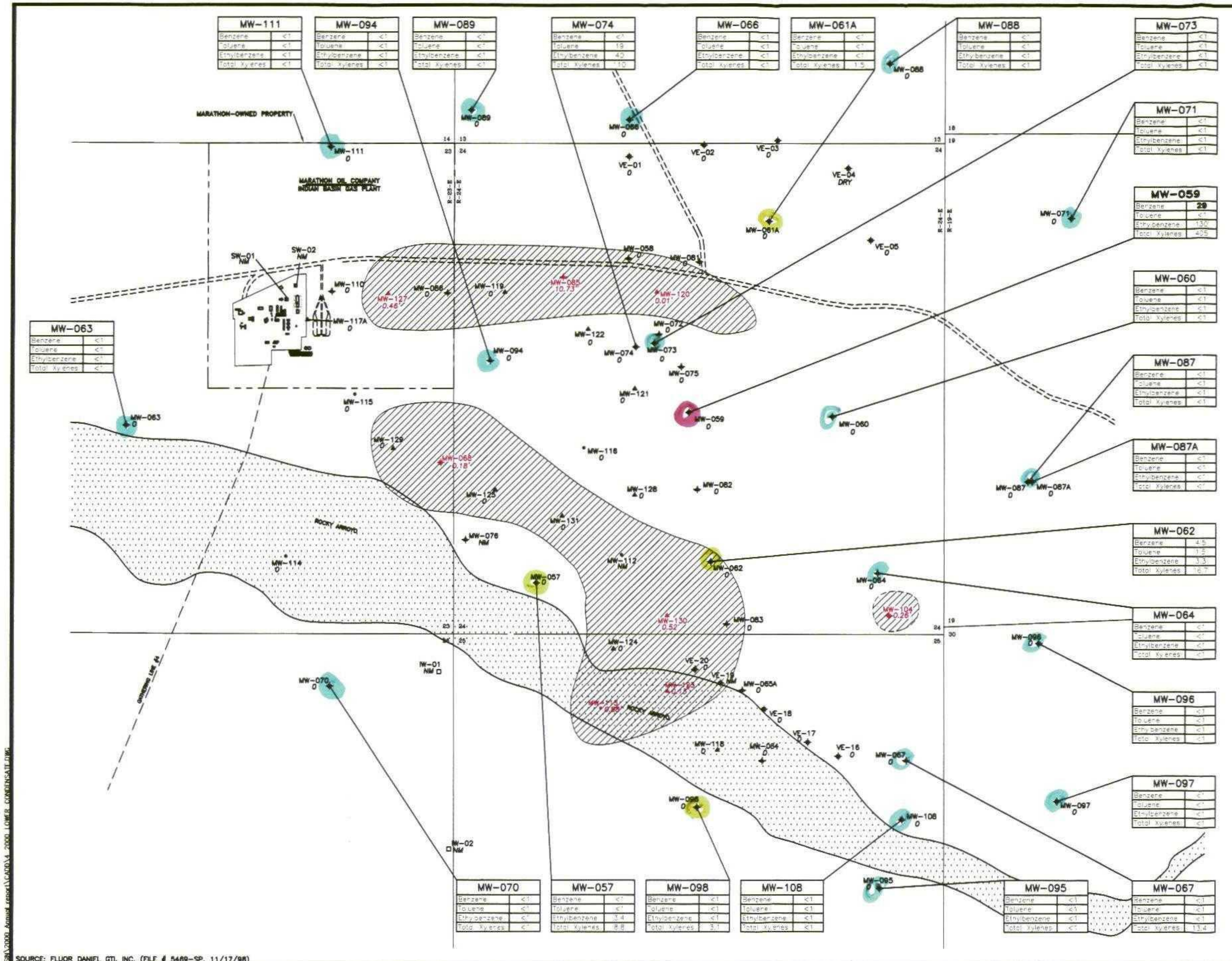
MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

LOWER QUEEN GROUNDWATER ELEVATION CONTOURS
OCTOBER 2000

DRAWN	DATE	PROJECT MANAGER	DEPARTMENT MANAGER
M. WASILEWSKI	02/07/00	M. HANSEN	A. HANNUM
		LEAD DESIGN PROF.	CHECKED J. HORST
		PROJECT NUMBER	DRAWING NUMBER
		NP000483.0003	8



Well	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-111	<1	<1	<1	<1
MW-094	<1	<1	<1	<1
MW-089	<1	<1	<1	<1
MW-074	<1	19	40	10
MW-066	<1	<1	<1	<1
MW-061A	<1	<1	<1	1.5
MW-088	<1	<1	<1	<1
MW-073	<1	<1	<1	<1
MW-071	<1	<1	<1	<1
MW-059	**29**	<1	130	405
MW-060	<1	<1	<1	<1
MW-087	<1	<1	<1	<1
MW-087A	<1	<1	<1	<1
MW-062	4.5	1.5	3.3	16.7
MW-064	<1	<1	<1	<1
MW-096	<1	<1	<1	<1
MW-097	<1	<1	<1	<1
MW-063	<1	<1	<1	<1
MW-070	<1	<1	<1	<1
MW-057	<1	<1	3.4	8.8
MW-098	<1	<1	<1	3.1
MW-108	<1	<1	<1	<1
MW-095	<1	<1	<1	<1
MW-067	<1	<1	<1	13.4

LEGEND

- 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
- COP — CONDENSATE ON PROBE AT TIME OF GAUGING
- 0.01 — THICKNESS OF SEPARATE-PHASE CONDENSATE IN FEET
- DRY — INDICATES WELL WAS DRY AT TIME OF GAUGING
- NM — WELL NOT GAUGED; NOT ACCESSIBLE, OR NOT PART OF GAUGING PLAN
- INFERRED BOUNDARY OF CONDENSATE PLUME

MW-059	
Benzene	**29**
Toluene	<1
Ethylbenzene	130
Total Xylenes	405

- WELL ID
- BOLD INDICATES BTEX CONSTITUENTS PRESENT AT CONCENTRATIONS ABOVE REGULATORY LIMITS.
- INDICATES CONSTITUENT NOT DETECTED ABOVE NOTED LABORATORY DETECTION LIMIT (WITH LIMIT SHOWN).
- CONCENTRATION (ug/L)
- CONSTITUENT

OCD CLEANUP GOALS/REGULATORY LIMITS

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

NOTES:

OCD — NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, OIL CONSERVATION DIVISION

ug/L — MICROGRAMS PER LITER

SOURCE: FLUOR DANIEL GTI, INC. (FILE # 5469-SP, 11/17/98)

SCALE IN FEET: 0 500 1000 1500

SCALE VERIFICATION: THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

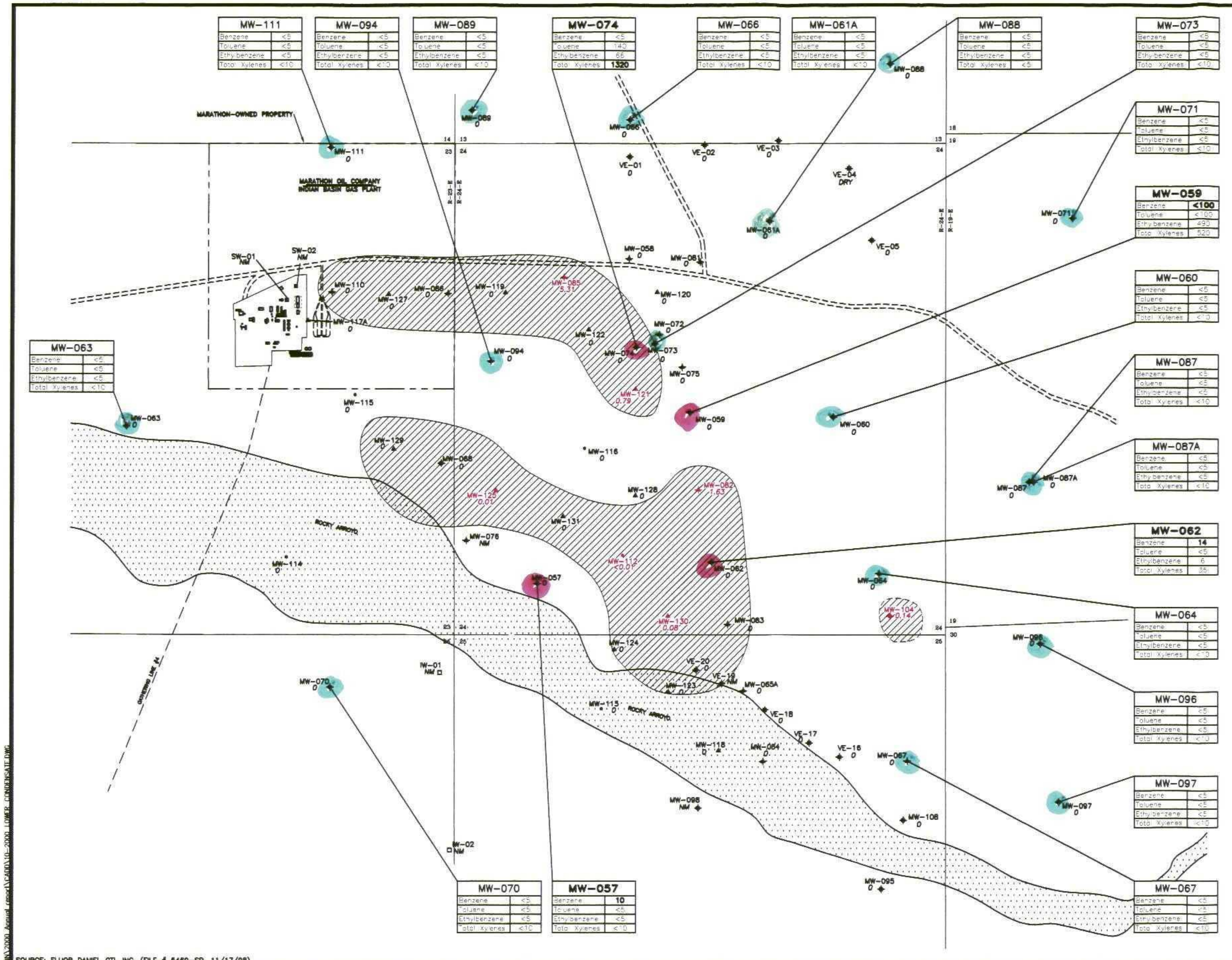
NO.	DATE	REVISION DESCRIPTION	BY / CKD

ARCADIS GERAGHTY & MILLER
3000 Cabot Blvd West, Suite 3004, Langhorne, Pa 19047
Tel: 215/752-6840 Fax: 215/752-6879

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

BTEX AND SEPARATE-PHASE CONDENSATE DISTRIBUTION
LOWER QUEEN, APRIL 2000

DRAWN: M. WASILEWSKI	DATE: 02/02/01	PROJECT MANAGER: M. HANSEN	DEPARTMENT MANAGER: A. HANNUM
		LEAD DESIGN PROF.: F. LENZO	CHECKED: J. HORST
		PROJECT NUMBER: NP000483.0003	DRAWING NUMBER: 9



LEGEND

- 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
- 0.01 THICKNESS OF SEPARATE-PHASE CONDENSATE IN FEET
- DRY INDICATES WELL WAS DRY AT TIME OF GAUGING
- NM WELL NOT GAUGED; NOT ACCESSIBLE
- INFERRED BOUNDARY OF CONDENSATE PLUME

MW-062	
Benzene	14
Toluene	<5
Ethylbenzene	6
Total Xylenes	35

- WELL ID
- BOLD INDICATES BTEX CONSTITUENTS PRESENT AT CONCENTRATIONS ABOVE REGULATORY LIMITS.
- INDICATES CONSTITUENT NOT DETECTED ABOVE NOTED LABORATORY DETECTION LIMIT (WITH LIMIT SHOWN).
- CONCENTRATION (ug/L)
- CONSTITUENT

OCD CLEANUP GOALS/REGULATORY LIMITS

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

NOTES:

OCD NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT, OIL CONSERVATION DIVISION

ug/L MICROGRAMS PER LITER

SCALE IN FEET 0 500 1000 1500

SCALE VERIFICATION: THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

NO.	DATE	REVISION DESCRIPTION	BY	CKD

ARCADIS GERAGHTY & MILLER
3000 Cabot Blvd West
Suite 3004, Langhorne, Pa 19047
Tel: 215/752-6840 Fax: 215/752-6879

MARATHON OIL COMPANY
INDIAN BASIN REMEDIATION PROJECT
EDDY COUNTY, NEW MEXICO

BTEX AND SEPARATE-PHASE CONDENSATE DISTRIBUTION LOWER QUEEN OCTOBER 2000

DRAWN: M. WASILEWSKI	DATE: 02/02/01
PROJECT MANAGER: M. HANSEN	DEPARTMENT MANAGER: A. HANNUM
LEAD DESIGN PROF.:	CHECKED: J. HORST
PROJECT NUMBER: NP000483.0003	DRAWING NUMBER: 10

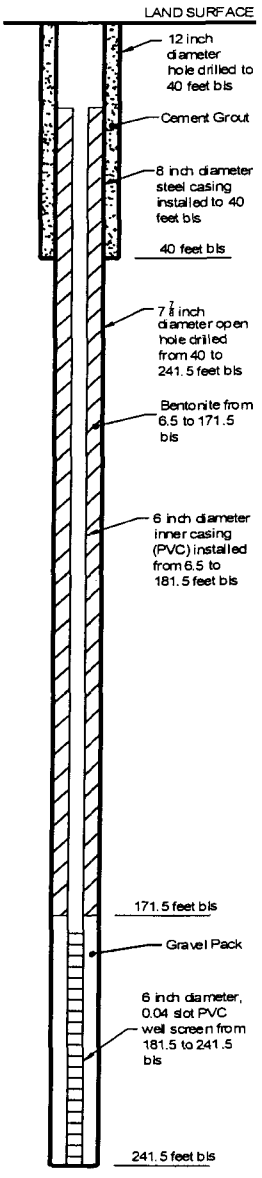
Appendix A

Modified Well Completion Details

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-72

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): August 1993 (modified April 19, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: No fractures.

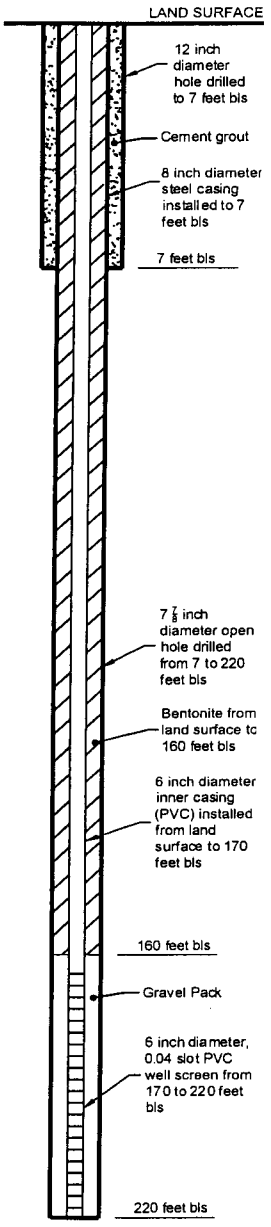
Remarks: In August 1993, MW-72 was completed as an open hole to a depth of 241.5 feet bls. On April 19, 2000, MW-72 was completed with 60 feet of 6" diameter PVC 0.04 inch slot screen and 175 feet of 6" diameter PVC riser to 6.5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-74

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): November 1994 (modified April 20, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 50-60 ft, 80-90 ft, 100-110 ft, 130-140 ft, 160-200 ft

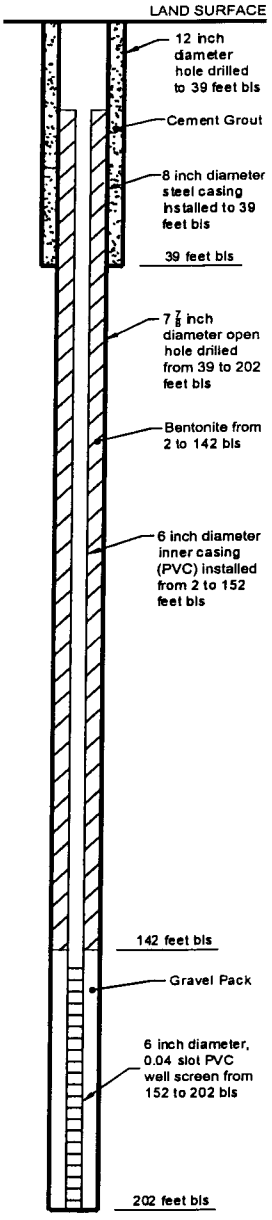
Remarks: In November 1994, MW-74 was completed as an open hole to a depth of 220 feet bls. On April 20, 2000, MW-74 was completed with 50 feet of 6" diameter PVC 0.04 inch slot screen and 170 feet of 6" diameter PVC riser to the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-83

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): September 1995 (modified April 18, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: No fractures.

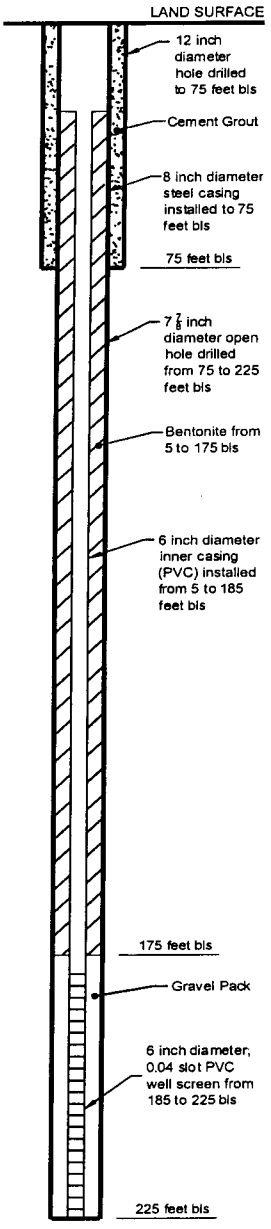
Remarks: In Septeber 1995, MW-83 was completed as an open hole to a depth of 202 feet bls. On April 18, 2000, MW-120 was completed with 50 feet of 6" diameter PVC 0.04 inch slot screen and 150 feet of 6" diameter PVC riser to 2 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-86

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): June 1996 (modified October 1996 and October 18, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 85-95 ft, 120-125 ft, 195-200 ft, 210-215 ft

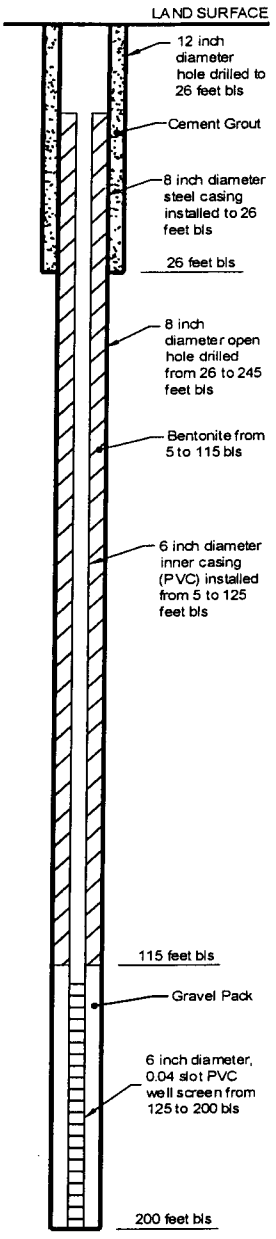
Remarks: In June 1996, MW-86 was completed as an open hole to 120 feet then deepened to 225 feet in October 1996. On October 17, 2000, MW-86 was completed with 40 feet of 6" diameter PVC 0.04 inch slot screen and 180 feet of 6" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-113

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s):

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 65-70 ft,

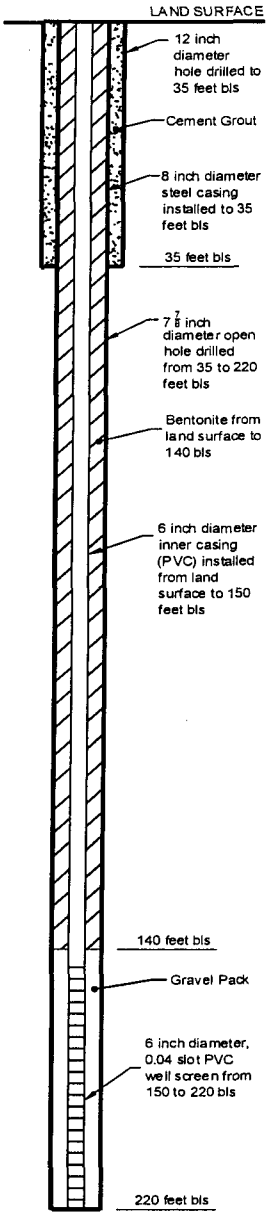
Remarks: In 1999, MW-113 was completed as an open hole to a depth of 200 feet bls. In 2000, MW-113 was completed with 75 feet of 6" diameter PVC 0.04 inch slot screen and 120 feet of 6" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project	Marathon Oil Company	Well	MW-116
	Indian Basin Remediation Project		
Town/City	Carlsbad	State	NM
County	Eddy County		
Permit No.	NA		

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s)	July 1999 (modified August 29, 2000)
Drilling Method	Mud/Air Rotary
Drilling Contractor	West Texas Water Well Service
Drilling Fluid	Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling	NA	gallons
Water Removed During Development	NA	gallons
Static Depth to Water	NA	feet below M.P.
Pumping Depth to Water	NA	feet below M.P.
Pumping Duration	NA	hours
Yield	NA gpm	Date NA
Specific Capacity	NA gpm/ft	

Well Purpose	Monitor groundwater quality in the bedrock.
Fracture Zones	27-32 ft, 55-70 ft, 80-85 ft, 107-115 ft

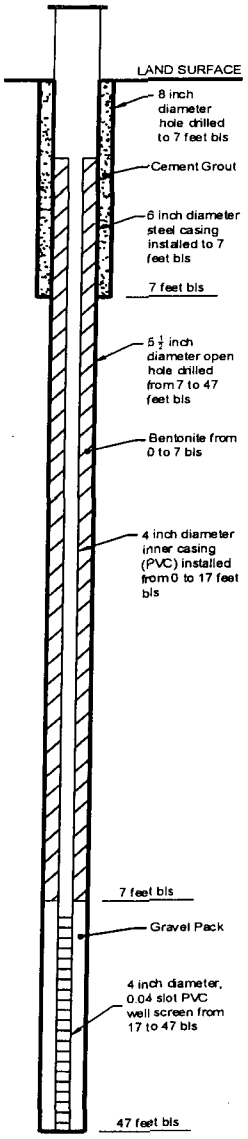
Remarks: In July 1999, MW-116 was completed as an open hole to a depth of 220 feet bls. On August 29, 2000, MW-116 was completed with 70 feet of 6" diameter PVC 0.04 inch slot screen and 150 feet of 6" diameter PVC riser to the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-117

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): September 1999 (modified March 29, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: Rhino Environmental

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 35-45 ft, 110-120 ft, 225-240 ft

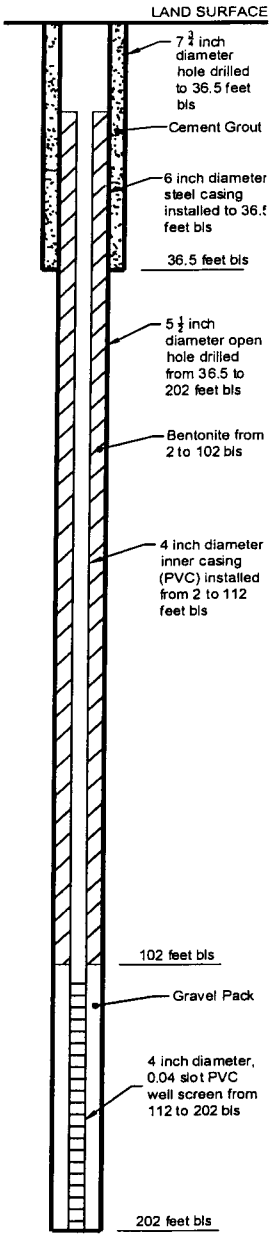
Remarks: In September 1999, MW-117 was completed as an open hole to a depth of 240 feet bls. On March 29, 2000, MW-117 was over-drilled and grouted to 47 feet. MW-117 was then completed with 30 feet of 4" diameter PVC 0.04 inch slot screen and 17 feet of 4" diameter PVC riser to 6 inches above the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-118

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): September 17, 1999 (modified February 28, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 70-83 ft, 105-120 ft

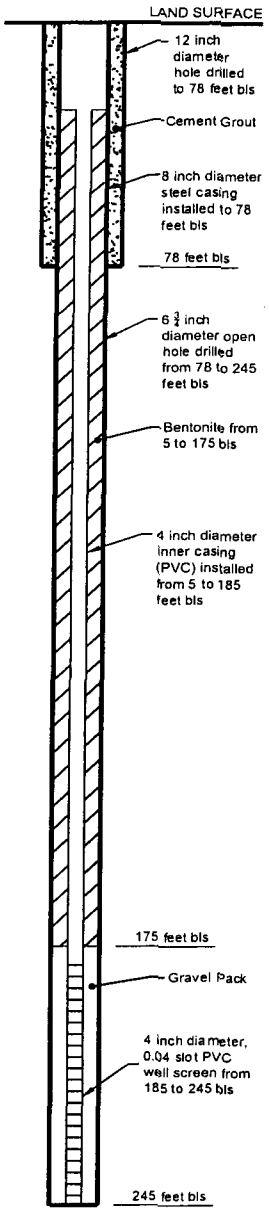
Remarks: On September 17, 1999, MW-118 was completed as an open hole to a depth of 202 feet bls. On February 28, 2000, MW-118 was completed with 90 feet of 4" diameter PVC 0.04 inch slot screen and 110 feet of 4" diameter PVC riser to 2 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-119

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified October 16, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 145-165 ft

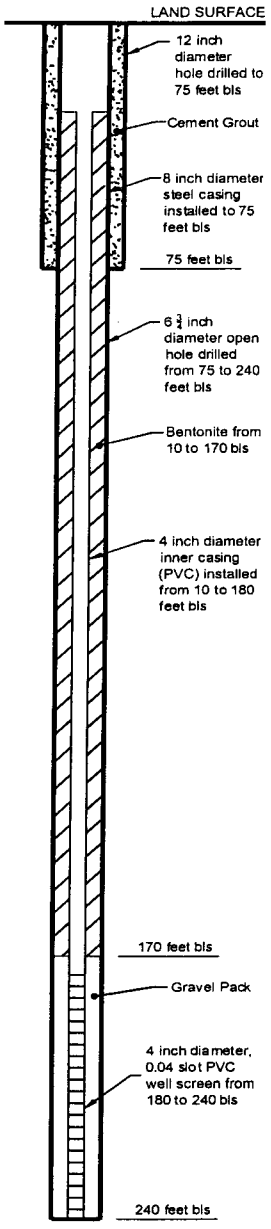
Remarks: In December 1999, MW-119 was completed as an open hole to a depth of 245 feet bls. On October 16, 2000, MW-119 was completed with 60 feet of 4" diameter PVC 0.04 inch slot screen and 180 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-120

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified February 23, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 100-105 ft

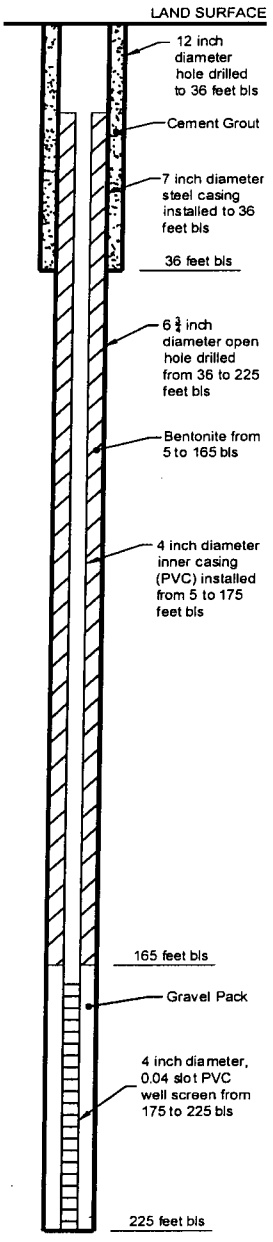
Remarks: In December 1999, MW-120 was completed as an open hole to a depth of 240 feet bls. On February 23, 2000, MW-120 was completed with 60 feet of 4" diameter PVC 0.04 inch slot screen and 170 feet of 4" diameter PVC riser to10 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-121

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified April 27, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 65-75 ft, 100-105 ft

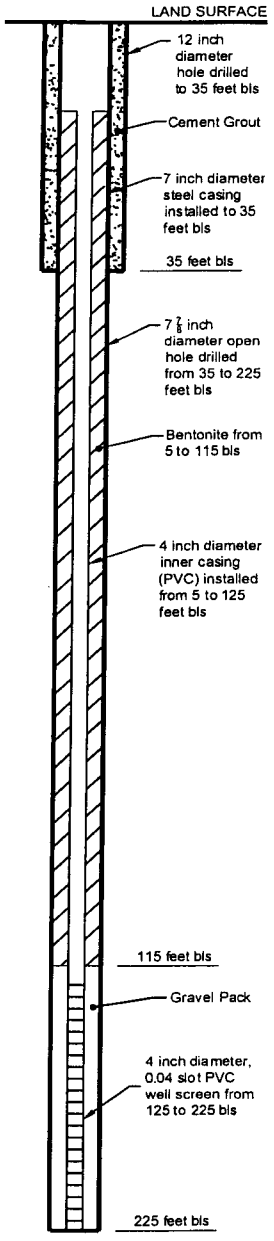
Remarks: In December 1999, MW-121 was completed as an open hole to a depth of 225 feet bls. On April 27, 2000, MW-121 was completed with 50 feet of 4" diameter PVC 0.04 inch slot screen and 170 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-123

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified February 22, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 60-65 ft

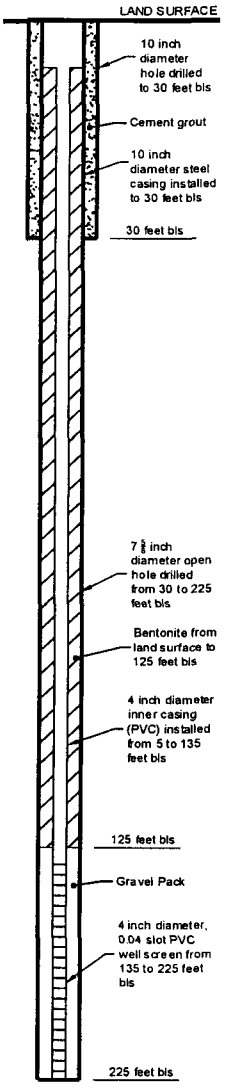
Remarks: In December 1999, MW-123 was completed as an open hole to a depth of 225 feet bls. On February 22, 2000, MW-123 was completed with 100 feet of 4" diameter PVC 0.04 inch slot screen and 120 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-125

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified February 28, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 85-110 ft

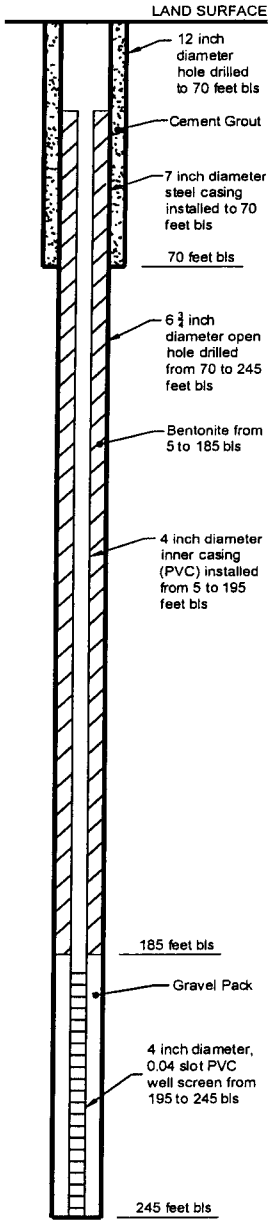
Remarks: In December 1999, MW-125 was completed as an open hole to a depth of 225 feet bls. On February 28, 2000, MW-125 was completed with 90 feet of 4" diameter PVC 0.04 inch slot screen and 130 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-127

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified August 28, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 105-110 ft, 150-170 ft, 195 ft

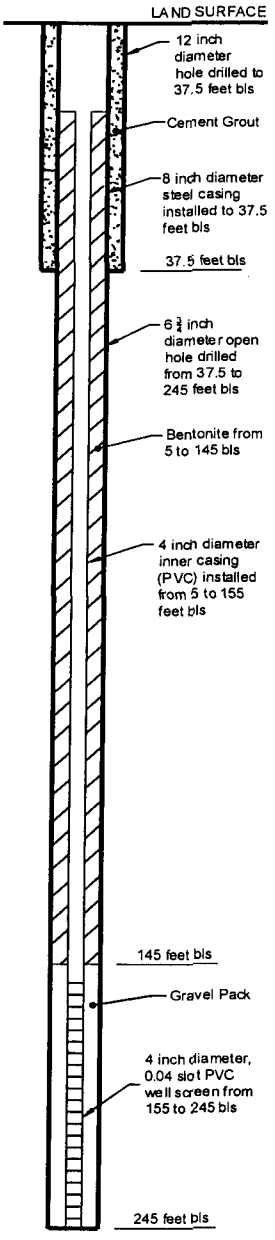
Remarks: In December 1999, MW-127 was completed as an open hole to a depth of 245 feet bls. On August 28, 2000, MW-127 was completed with 50 feet of 4" diameter PVC 0.04 inch slot screen and 190 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-129

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified February 28, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: No fractures.

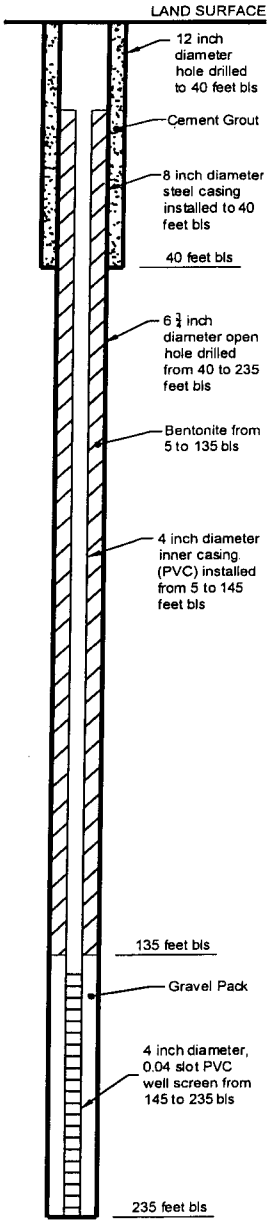
Remarks: In December 1999, MW-129 was completed as an open hole to a depth of 245 feet bls. On February 28, 2000, MW-120 was completed with 90 feet of 4" diameter PVC 0.04 inch slot screen and 150 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is Top of Well Casing Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-130

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified February 22, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: No fractures.

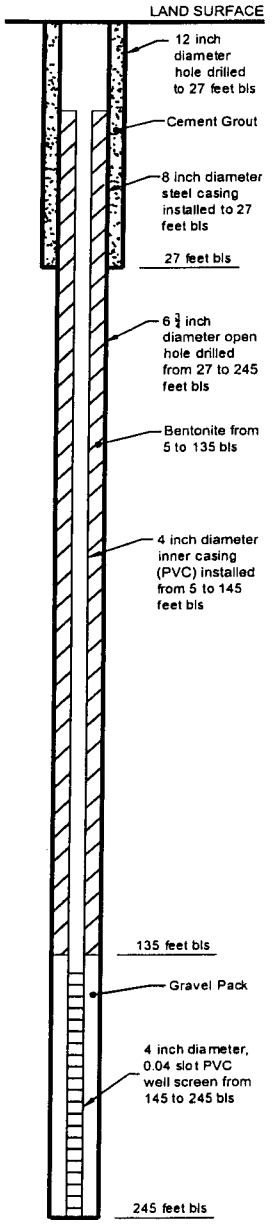
Remarks: In December 1999, MW-130 was completed as an open hole to a depth of 225 feet bls. On February 22, 2000, MW-130 was completed with 90 feet of 4" diameter PVC 0.04 inch slot screen and 140 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

ARCADIS GERAGHTY & MILLER

Well Construction Log

(Bedrock)



Measuring Point is
Top of Well Casing
Unless Otherwise Noted.

bls = Depth below land surface

Project: Marathon Oil Company — Well: MW-131

Indian Basin Remediation Project

Town/City: Carlsbad — State: NM

County: Eddy County

Permit No.: NA

Land-Surface Elevation and Datum:

NA feet ☐ Surveyed ☐ Estimated

Installation Date(s): December 1999 (modified October 17, 2000)

Drilling Method: Mud/Air Rotary

Drilling Contractor: West Texas Water Well Service

Drilling Fluid: Air

Development Technique(s) and Date(s)

NA

Fluid Loss During Drilling: NA gallons

Water Removed During Development: NA gallons

Static Depth to Water: NA feet below M.P.

Pumping Depth to Water: NA feet below M.P.

Pumping Duration: NA hours

Yield: NA gpm — Date: NA

Specific Capacity: NA gpm/ft

Well Purpose: Monitor groundwater quality in the bedrock.

Fracture Zones: 20-35 ft

Remarks: In December 1999, MW-131 was completed as an open hole to a depth of 245 feet bls. On October 17, 2000, MW-131 was completed with 100 feet of 4" diameter PVC 0.04 inch slot screen and 140 feet of 4" diameter PVC riser to 5 feet below the surface.

Prepared by: ARCADIS Geraghty and Miller

Appendix B

Historical Fluid Level Data

Appendix B

Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

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	9.68	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-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-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-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-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-6	01/16/96	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-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	--	--

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-14	12/01/91	3803.61	9.68	0	3793.93
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-15	12/01/91	3803.59	9.68	0	3793.91
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-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-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-18	12/01/91	3795.82	9.68	0	3786.14
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	--	--

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-20	12/01/91	3797.59	9.68	0	3787.91
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-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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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-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-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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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-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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-43	10/01/92	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-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

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-46	10/01/93	3805.54	19.87	0	3785.67
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-49	12/01/91	3805.61	16.60	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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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	--	--

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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

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Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-61	01/27/99	3816.20	36.06	0	3780.14
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-65	12/01/91	3763.31	56.90	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-69	12/01/91	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

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-79	01/27/99	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-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-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-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

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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-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-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-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

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-103	02/04/97	3743.14	D	--	--
MW-103	04/29/97	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-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

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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	3632.61
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-107	02/04/97	3726.27	D	--	--
MW-107	04/29/97	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-109	06/17/98	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-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
STOCK WELL	01/01/94	3779.76	19.61	0	3760.15
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	--	--

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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	--	--
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

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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-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-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-59	07/16/91	3819.59	193.98	0	3625.61
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-62	08/21/91	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-63	08/21/91	3826.16	193.73	0	3632.43
MW-63	09/18/91	3826.16	190.65	0	3635.51

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-71	10/01/93	3778.05	149.68	0	3628.37
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-72	10/01/93	3819.32	190.55	0.5	3629.14
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-73	12/01/94	3820.09	202.90	6.12	3621.65
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-75	12/01/94	3816.12	228.96	23.04	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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

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	3623.26
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

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-84	07/16/96	3759.60	131.60	0.39	3628.38
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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

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	3.64	3626.96
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-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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-88	08/01/96	3789.70	163.59	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

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-97	04/29/97	3750.16	122.82	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-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	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-108	07/15/97	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-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-111	06/19/98	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

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
MW-112	01/05/00	3780.11	154.98	0	3625.13
MW-112	04/26/00	3780.11	NR	--	--
MW-112	09/27/00	3780.11	155.39	0	3624.72
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-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-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-116	04/26/00	3792.11	167.45	0	3624.66
MW-116	09/27/00	3792.11	168.18	0	3623.93
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-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-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-120	01/05/00	3820.65	195.61	1.17	3625.89
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-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-122	01/05/00	3822.79	197.61	0	3625.18
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-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-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-125	01/05/00	3790.61	166.64	1.27	3624.90
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-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-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-129	01/05/00	3800.82	176.48	0.84	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

Appendix B
Historic Fluid Level Data, May 1991 - January 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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
IW-1	07/16/96	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-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	--	--
SW-01	02/04/97	3808.19	D	--	--
SW-01	05/28/98	3808.19	198.00	0	3610.19
SW-01	06/17/98	3808.19	198.05	0	3610.14
SW-01	04/26/00	3808.19	NR	--	--
SW-01	09/27/00	3808.19	NR	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
SW-02	08/21/91	3808.79	180.53	0	3628.26
SW-02	09/18/91	3808.79	180.53	0	3628.26
SW-02	10/22/91	3808.79	179.74	0	3629.05
SW-02	11/15/91	3808.79	179.44	0	3629.35
SW-02	03/01/92	3808.79	180.12	0	3628.67
SW-02	04/01/92	3808.79	180.00	0	3628.79
SW-02	05/01/92	3808.79	176.52	0	3632.27
SW-02	06/01/92	3808.79	176.06	0	3632.73
SW-02	07/01/92	3808.79	176.06	0	3632.73
SW-02	08/01/92	3808.79	176.99	0	3631.80
SW-02	09/01/92	3808.79	177.57	0	3631.22
SW-02	10/01/92	3808.79	178.02	0	3630.77
SW-02	11/01/92	3808.79	178.31	0	3630.48
SW-02	12/01/92	3808.79	179.06	0	3629.73
SW-02	01/01/93	3808.79	178.88	0	3629.91
SW-02	02/01/93	3808.79	179.08	0	3629.71
SW-02	03/01/93	3808.79	179.31	0	3629.48
SW-02	04/01/93	3808.79	179.04	0	3629.75
SW-02	05/01/93	3808.79	179.22	0	3629.57
SW-02	06/01/93	3808.79	179.39	0	3629.40
SW-02	07/01/93	3808.79	179.76	0	3629.03
SW-02	08/01/93	3808.79	179.76	0	3629.03
SW-02	09/01/93	3808.79	179.86	0	3628.93
SW-02	10/01/93	3808.79	179.63	0	3629.16
SW-02	11/01/93	3808.79	180.39	0	3628.40
SW-02	12/01/93	3808.79	179.62	0	3629.17
SW-02	01/01/94	3808.79	180.41	0	3628.38
SW-02	02/01/94	3808.79	181.55	0	3627.24
SW-02	03/01/94	3808.79	180.10	0	3628.69
SW-02	04/01/94	3808.79	180.58	0	3628.21
SW-02	05/01/94	3808.79	181.13	0	3627.66
SW-02	07/01/94	3808.79	181.00	0	3627.79
SW-02	08/01/94	3808.79	180.61	0	3628.18
SW-02	09/01/94	3808.79	180.52	0	3628.27
SW-02	10/01/94	3808.79	181.56	0	3627.23
SW-02	12/01/94	3808.79	184.89	0	3623.90
SW-02	01/01/95	3808.79	181.26	0	3627.53
SW-02	04/01/95	3808.79	181.50	0	3627.29
SW-02	07/01/95	3808.79	181.62	0	3627.17
SW-02	10/01/95	3808.79	181.70	0	3627.09
SW-02	01/16/96	3808.79	182.21	0	3626.58
SW-02	04/17/96	3808.79	182.25	0	3626.54
SW-02	07/15/96	3808.79	182.24	0	3626.55
SW-02	10/01/96	3808.79	180.89	0	3627.90
SW-02	01/01/97	3808.79	182.21	0	3626.58
SW-02	02/04/97	3808.79	182.31	0	3626.48
SW-02	04/28/97	3808.79	182.80	0	3625.99
SW-02	07/15/97	3808.79	183.04	0	3625.75
SW-02	10/14/97	3808.79	183.89	0	3624.90
SW-02	01/27/98	3808.79	183.74	0	3625.05
SW-02	04/27/98	3808.79	185.05	0	3623.74
SW-02	05/28/98	3808.79	185.13	0	3623.66
SW-02	06/17/98	3808.79	185.15	0	3623.64
SW-02	10/09/98	3808.79	185.65	0	3623.14
SW-02	01/27/99	3808.79	185.94	0	3622.85
SW-02	04/19/99	3808.79	185.62	0	3623.17
SW-02	04/26/00	3808.79	NR	--	--
SW-02	09/27/00	3808.79	NR	--	--

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
SW-03	07/15/96	3842.29	215.52	0	3626.77
SW-03	10/01/96	3842.29	213.51	0	3628.78
SW-03	02/03/97	3842.29	215.63	0	3626.66
SW-03	04/28/97	3842.29	216.14	0	3626.15
SW-03	07/14/97	3842.29	216.74	0	3625.55
SW-03	10/14/97	3842.29	217.51	0	3624.78
SW-03	01/27/98	3842.29	217.54	0	3624.75
SW-03	04/27/98	3842.29	217.80	0	3624.49
SW-03	05/28/98	3842.29	217.98	0	3624.31
SW-03	06/15/98	3842.29	218.50	0	3623.79
SW-03	10/09/98	3842.29	218.58	0	3623.71
SW-03	01/27/99	3842.29	D	--	--
SW-03	04/19/99	3842.29	219.03	0	3623.26
SW-03	01/05/00	3842.29	218.96	0	3623.33
SW-03	04/26/00	3842.29	219.20	0	3623.09
SW-03	09/27/00	3842.29	219.45	0	3622.84
VE-01	06/15/98	--	204.78	0	--
VE-01	01/05/00	--	205.54	0	--
VE-01	04/26/00	3829.73	205.80	0	3623.93
VE-01	09/27/00	3829.73	206.05	0	3623.68
VE-02	06/15/98	--	200.67	0	--
VE-02	01/05/00	--	201.48	0	--
VE-02	04/26/00	3825.93	201.71	0	3624.22
VE-02	09/27/00	3825.93	202.10	0	3623.83
VE-03	06/15/98	--	191.32	0	--
VE-03	01/05/00	--	192.13	0	--
VE-03	04/26/00	3816.75	192.32	0	3624.43
VE-03	09/27/00	3816.75	192.78	0	3623.97
VE-04	06/15/98	--	179.89	0	--
VE-04	01/05/00	--	D	--	--
VE-04	04/26/00	3805.45	D	--	--
VE-04	09/27/00	3805.45	D	--	--
VE-05	06/15/98	--	164.48	0	--
VE-05	04/26/00	3790.10	165.51	0	3624.59
VE-05	09/27/00	3790.10	165.98	0	3624.12

Appendix B

Historic Fluid Level Data, May 1991 - January 2000

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

Well ID	Date	Measuring Point Elevation (feet amsl)	Depth to Water (feet bmp)	Condensate Thickness (feet)	Corrected Water-Level Elevation (feet amsl)
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-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-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-19	10/29/97	3761.18	136.05	2.05	3626.62
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-20	06/16/98	3768.41	142.26	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

Appendix C

Historical Analytical Data

Historical BTEX Analytical Data

Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
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

Notes:
Concentrations listed in micrograms per liter (ug/L)
<5 Constituent not detected above noted laboratory detection limit
-- Indicates parameter was not analyzed

Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
LYMAN	10/06/94	<0.5	<0.5	<0.5	<0.5
LYMAN	11/30/94	<0.5	<0.5	<0.5	<0.5
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

Notes:

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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-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	--	--	--

Notes:

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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-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

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Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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-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

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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-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

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Appendix C

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Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-49	09/01/91	35	--	--	--
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-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
MW-50	04/30/98	<0.5	<0.5	<0.5	<0.5

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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-55	06/01/91	<50	--	--	--
MW-55	06/22/91	--	<50	<50	100
MW-55	09/01/91	940	--	--	--
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

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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

Notes:

Concentrations listed in micrograms per liter (ug/L)

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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-60	05/28/91	--	--	--	<0.2
MW-60	07/01/91	<0.2	--	--	--

Notes:

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-61	09/01/91	<1	--	--	--
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

Notes:
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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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-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

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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-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

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Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
MW-65	10/02/00	<5	<5	<5	<10
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

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-66	10/01/92	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
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-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

Notes:
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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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-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

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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
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-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-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

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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-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-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-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
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

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Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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-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-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-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

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-90	02/10/97	17	0.5	15	1.4
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-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-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-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
MW-95	12/14/99	<5	<5	<5	<10
MW-95	05/02/00	<1	<1	<1	<1
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-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-98	04/30/97	5.8	3.5	1.5	26
MW-98	06/29/98	<1	7.1	20	1010

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Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-98	12/15/99	<5	13.2	<5	63.1
MW-98	05/02/00	<1	<1	<1	3.1
MW-104	07/17/97	<0.5	0.5	<0.5	0.7
MW-104	07/01/98	<1	<1	<1	<1
MW-105	06/28/98	<1	<1	<1	<1
MW-105	12/09/99	<5	<5	<5	<10
MW-105	10/02/00	<5	<5	<5	<10
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-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-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-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
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

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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

Notes:

Concentrations listed in micrograms per liter (ug/L)

<5 Constituent not detected above noted laboratory detection limit

-- Indicates parameter was not analyzed

Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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
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

Notes:
Concentrations listed in micrograms per liter (ug/L)
<5 Constituent not detected above noted laboratory detection limit
-- Indicates parameter was not analyzed

Appendix C

Historical BTEX Analytical Data, May 1991 - December 2000

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

Well ID	Sample Date	Analytical Results			
		Benzene	Toluene	Ethylbenzene	Total Xylenes
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

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Historical General Chemistry
Analytical Data

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	BIEBBLE 7/1/91	BIEBBLE 4/1/92	BIEBBLE 7/1/92	BIEBBLE 10/1/92	BIEBBLE 1/1/93	BIEBBLE 4/15/93	BIEBBLE 7/15/93	BIEBBLE 10/14/93	BIEBBLE 1/13/94	BIEBBLE 4/5/94	BIEBBLE 7/21/94	BIEBBLE 10/6/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	14	13.5	7.8	10.1	10.6	11.4	13.3	10.4	11	10.5	15	13
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	1.4	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	250	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	1000	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	BIEBBLE 1/11/95	BIEBBLE 4/7/95	BIEBBLE 7/21/95	BIEBBLE 10/12/95	BIEBBLE 1/19/96	BIEBBLE 4/17/96	BIEBBLE 7/1/96	BIEBBLE 10/1/96	BIEBBLE 2/10/97	IW-02 8/1/96	IW-02 8/22/96	LOWER-QUEEN-MAX 4/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	8	10.8	10	13	9	10.5	11	11	10	--	7	218
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	370	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	LOWER-QUEEN-MAX 7/1/92	LOWER-QUEEN-MAX 10/1/92	LOWER-QUEEN-MAX 1/1/93	LOWER-QUEEN-MAX 4/1/93	LOWER-QUEEN-MAX 7/1/93	LOWER-QUEEN-MAX 10/1/93	LOWER-QUEEN-MAX 1/1/94	LOWER-QUEEN-MAX 4/1/94	LOWER-QUEEN-MAX 7/1/94	LOWER-QUEEN-MAX 10/1/94	LOWER-QUEEN-MAX 1/1/95	LOWER-QUEEN-MAX 4/1/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	236	285	344	363	459	181	160	139	129	130	152	152
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	LYMAN 7/1/91	LYMAN 4/1/92	LYMAN 7/1/92	LYMAN 10/1/92	LYMAN 1/1/93	LYMAN 4/15/93	LYMAN 5/12/93	LYMAN 6/28/93	LYMAN 7/15/93	LYMAN 8/3/93	LYMAN 9/21/93	LYMAN 10/14/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	20	12.6	14.6	15.5	13.2	13	13	12.5	15	13.1	12.4	14.6
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	1.3	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	450	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	980	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	LYMAN 11/10/93	LYMAN 12/6/93	LYMAN 1/12/94	LYMAN 2/9/94	LYMAN 3/16/94	LYMAN 4/5/94	LYMAN 5/19/94	LYMAN 6/23/94	LYMAN 7/21/94	LYMAN 8/24/94	LYMAN 9/20/94	LYMAN 10/6/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	482	14	13	12.6	13	12.5	12.1	12	12	11.5	11	14
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
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Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	LYMAN 11/30/94	LYMAN 12/16/94	LYMAN 1/11/95	LYMAN 3/9/95	LYMAN 4/7/95	LYMAN 5/18/95	LYMAN 7/21/95	LYMAN 10/12/95	LYMAN 1/19/96	LYMAN 4/18/96	LYMAN 7/1/96	LYMAN 10/1/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	12.1	11.8	11	12	13	10	11	12	9	11.1	9	10
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	LYMAN 2/10/97	LYMAN 4/30/98	LYMAN 6/29/98	LYMAN 12/18/00	MW-001 4/1/91	MW-001 5/1/91	MW-001 12/1/91	MW-010 5/1/91	MW-010 9/1/91	MW-010 12/1/91	MW-010 4/1/92	MW-010 7/1/92	MW-010 10/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	11	15	13	15	2000	310	152	60	--	323	319	240	312
Cyanide	--	--	<0.005	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	0.6	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	7.4	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	<0.005	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	670	--	--	--	--	--	<10	--	--	--	--
Total dissolved solids (TDS)	--	--	1000	--	--	820	--	1600	1440	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-010 1/1/94	MW-010 2/11/97	MW-011 12/1/91	MW-011 4/1/92	MW-011 7/1/92	MW-011 10/1/92	MW-011 1/1/93	MW-011 10/5/94	MW-011 7/21/95	MW-011 1/20/96	MW-011 4/19/96	MW-011 7/1/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	0	120	790	653	270	239	544	130	260	120	120	37
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-011 10/1/96	MW-011 2/7/97	MW-013 9/1/91	MW-013 12/1/91	MW-013 4/1/92	MW-013 7/1/92	MW-013 10/1/96	MW-013 2/7/97	MW-013 3/21/97	MW-013 6/21/98	MW-014 6/22/98	MW-016 4/15/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	16	46	--	780	1240	269	45	70	--	230	330	246
Cyanide	--	--	--	--	--	--	--	--	--	<0.005	<0.005	--
Fluoride	--	--	--	--	--	--	--	--	0.4	0.3	0.4	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	7	7	--
Phenols, total	--	--	--	--	--	--	--	--	--	0.023	0.008	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	<10	--	--	--	--	--	<10	<5	<5	--
Total dissolved solids (TDS)	--	--	2790	--	--	--	--	--	770	1000	1400	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-017 4/15/93	MW-018 5/1/91	MW-018 4/1/92	MW-018 7/1/92	MW-018 10/1/92	MW-019 5/1/91	MW-019 5/22/91	MW-019 7/1/91	MW-019 9/1/91	MW-019 4/1/92	MW-019 7/1/92	MW-019 10/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	306	310	464	109	408	320	--	466	--	463	90	420
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	<0.1	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	<10	--	--	--
Total dissolved solids (TDS)	--	--	1580	--	--	--	--	--	1460	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-019 10/1/96	MW-019 2/7/97	MW-021 5/1/91	MW-021 12/1/91	MW-021 4/15/93	MW-024 7/1/92	MW-026 5/1/91	MW-026 12/1/91	MW-026 7/1/92	MW-026 10/1/92	MW-026 1/1/93	MW-031 7/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	96	240	230	343	283	455	440	356	164	222	177	337
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	1220	--	--	--	1650	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-031 10/1/92	MW-037 6/1/91	MW-037 6/25/91	MW-037 7/14/93	MW-038 5/1/91	MW-038 5/22/91	MW-038 6/1/91	MW-038 6/25/91	MW-038 12/1/91	MW-038 4/1/92	MW-038 7/1/92	MW-038 10/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	296	52	--	173	60	--	38	--	111	127	147	128
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	<0.1	--	--	<0.1	--	<0.1	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	<10	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	790	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-038 10/1/96	MW-038 2/7/97	MW-039 5/1/91	MW-039 6/1/91	MW-039 6/25/91	MW-039 1/1/93	MW-039 4/15/93	MW-039 7/15/93	MW-039 10/14/93	MW-039 1/13/94	MW-039 4/7/94	MW-039 7/20/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	280	310	9.6	244	--	231	83	296	277	260	220	198
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	<0.1	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-039 1/10/95	MW-039 10/1/96	MW-039 2/7/97	MW-039 7/18/97	MW-041 6/1/91	MW-041 6/25/91	MW-041 7/1/91	MW-041 12/1/91	MW-041 7/15/93	MW-041 10/14/93	MW-041 1/13/94	MW-041 4/6/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	194	140	160	160	29	--	38	108	242	264	370	290
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	0.1	0.1	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	41	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	758	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-041 7/20/94	MW-041 10/6/94	MW-041 1/11/95	MW-041 4/6/95	MW-041 7/21/95	MW-041 10/12/95	MW-041 1/20/96	MW-041 4/19/96	MW-041 7/1/96	MW-041 10/1/96	MW-041 2/7/97	MW-041 3/20/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	259	300	326	300	270	240	270	260	250	250	180	--
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	1.5
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	98
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	1500

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-041 7/18/97	MW-041 6/19/98	MW-041 4/20/99	MW-042 12/1/91	MW-043 6/1/91	MW-043 6/25/91	MW-043 9/1/91	MW-043 7/15/93	MW-043 10/14/93	MW-043 1/13/94	MW-043 4/6/94	MW-043 7/20/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	140	120	56	571	138	--	--	232	230	260	250	266
Cyanide	--	<0.005	--	--	--	--	--	--	--	--	--	--
Fluoride	--	1.5	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	<0.1	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	7.5	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	0.024	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	190	--	--	47	--	370	--	--	--	--	--
Total dissolved solids (TDS)	--	1200	810	--	1300	--	1600	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-043 10/6/94	MW-043 1/11/95	MW-043 4/6/95	MW-043 7/21/95	MW-043 10/12/95	MW-043 1/20/96	MW-043 4/19/96	MW-043 7/1/96	MW-043 10/1/96	MW-043 2/7/97	MW-043 7/18/97	MW-043 6/22/98
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	270	280	280	270	220	280	280	270	380	330	230	210
Cyanide	--	--	--	--	--	--	--	--	--	--	--	<0.005
Fluoride	--	--	--	--	--	--	--	--	--	--	--	0.8
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	7.3
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	0.007
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	53
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	1500

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-043 4/20/99	MW-043 4/28/00	MW-044 6/1/91	MW-044 6/25/91	MW-044 4/1/92	MW-044 7/1/92	MW-044 10/1/92	MW-044 1/1/93	MW-044 4/15/93	MW-044 7/15/93	MW-044 10/14/93	MW-044 1/13/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	130	68.9	33	--	660	263	356	300	365	445	543	490
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	<0.1	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	33	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	1100	627	641	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-044 4/6/94	MW-044 7/20/94	MW-044 10/5/94	MW-044 1/11/95	MW-044 4/6/95	MW-044 7/21/95	MW-044 10/12/95	MW-044 1/20/96	MW-044 4/19/96	MW-044 7/1/96	MW-044 10/1/96	MW-044 2/7/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	440	430	360	360	410	400	520	580	530	480	32	180
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-044 7/18/97	MW-044 6/22/98	MW-044 4/20/99	MW-045 6/1/91	MW-045 6/25/91	MW-045 9/1/91	MW-045 12/1/91	MW-045 7/15/93	MW-045 10/14/93	MW-045 1/13/94	MW-045 4/6/94	MW-045 7/20/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	310	260	94	507	--	--	354	434	408	440	430	429
Cyanide	--	<0.005	--	--	--	--	--	--	--	--	--	--
Fluoride	--	0.8	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	3.9	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	7.2	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	0.04	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	66	--	2940	--	2090	--	--	--	--	--	--
Total dissolved solids (TDS)	--	1000	910	5440	--	3920	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-046 6/1/91	MW-046 6/25/91	MW-046 7/1/91	MW-046 10/1/96	MW-046 2/11/97	MW-046 5/29/97	MW-046 7/18/97	MW-046 12/10/97	MW-046 6/21/98	MW-046 4/20/99	MW-046 4/28/00	MW-047 6/1/91	MW-047 6/25/91
Bicarbonate Alkalinity	--	--	--	--	--	990	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	3	--	--	--	--	--	--	--
Chloride	152	--	45	170	220	132	180	--	140	31	25.8	51	--
Cyanide	--	--	--	--	--	--	--	--	<0.005	--	--	--	--
Fluoride	--	--	--	--	--	1.3	1.3	1.3	1.1	--	--	--	--
Hydroxide	--	--	--	--	--	<1	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	62	--	--	--	--	--	--	--
Nitrate	--	0.1	0.1	--	--	--	--	--	--	--	--	--	<0
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	7.5	--	--	7.2	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	1200	--	--	--	--	--	--	--
Sulfate	20	--	--	--	--	106	--	--	22	--	--	23	--
Total dissolved solids (TDS)	1220	NA/R	--	--	--	1300	--	--	940	580	565	652	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-047 12/1/91	MW-047 10/1/96	MW-048 12/1/91	MW-048 7/1/92	MW-048 10/1/96	MW-049 6/1/91	MW-049 6/25/91	MW-049 7/15/93	MW-049 10/14/93	MW-049 1/13/94	MW-049 4/6/94	MW-049 7/20/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	433	700	400	431	200	365	--	399	397	400	380	368
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	<0.1	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	1800	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	3910	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-049 10/5/94	MW-049 1/11/95	MW-049 4/6/95	MW-049 7/21/95	MW-049 10/12/95	MW-049 1/20/96	MW-049 4/19/96	MW-049 7/1/96	MW-049 10/1/96	MW-049 2/7/97	MW-049 3/20/97	MW-049 7/18/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	380	389	390	380	350	410	400	360	36	410	--	350
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	1.4	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	1000	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	3100	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-049 6/21/98	MW-049 4/20/99	MW-049 4/27/00	MW-050 6/1/91	MW-050 6/25/91	MW-050 12/1/91	MW-050 4/1/92	MW-050 7/1/92	MW-050 10/1/92	MW-050 1/1/93	MW-050 4/15/93	MW-050 7/15/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	630	410	379	388	--	380	397	379	370	337	955	347
Cyanide	0.05	--	--	--	--	--	--	--	--	--	--	--
Fluoride	1.3	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	1.5	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	7	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	0.012	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	780	--	--	3420	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	2800	3000	3320	6070	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-050 10/14/93	MW-050 1/13/94	MW-050 4/6/94	MW-050 7/20/94	MW-050 10/5/94	MW-050 1/11/95	MW-050 4/6/95	MW-050 7/21/95	MW-050 10/12/95	MW-050 1/20/96	MW-050 4/19/96	MW-050 7/1/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	292	320	290	290	290	314	320	310	240	290	330	310
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-050 10/1/96	MW-050 2/7/97	MW-050 3/20/97	MW-050 7/18/97	MW-050 6/19/98	MW-050 4/20/99	MW-050 5/2/00	MW-051 12/1/91	MW-052 7/1/92	MW-054 12/1/91	MW-054 4/1/92	MW-054 7/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	360	360	--	330	340	360	345	38	3	87	151	80
Cyanide	--	--	--	--	<0.005	--	--	--	--	--	--	--
Fluoride	--	--	1.2	--	1.2	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	8.2	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	<0.005	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	3600	--	3800	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	5900	--	5900	6200	6510	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-054 10/1/92	MW-054 1/1/93	MW-054 4/14/93	MW-054 7/14/93	MW-054 10/14/93	MW-054 1/12/94	MW-054 4/6/94	MW-054 7/20/94	MW-054 10/5/94	MW-054 1/10/95	MW-054 4/6/95	MW-054 7/21/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	55	134	145	146	122	140	102	135	130	32	102	95
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-054 10/11/95	MW-054 1/20/96	MW-054 4/18/96	MW-054 7/1/96	MW-054 10/1/96	MW-054 2/10/97	MW-054 7/16/97	MW-054 6/25/98	MW-054 4/22/99	MW-054 5/2/00	MW-055 6/1/91	MW-055 12/1/91	MW-055 4/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	110	120	140	110	110	180	160	110	180	138	200	501	385
Cyanide	--	--	--	--	--	--	--	<0.005	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	1.8	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	7.1	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	<0.005	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	1300	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	2200	3400	3230	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-055 7/1/92	MW-055 10/1/92	MW-055 1/1/93	MW-055 4/14/93	MW-055 7/14/93	MW-055 10/14/93	MW-055 1/12/94	MW-055 4/8/94	MW-055 7/20/94	MW-055 10/5/94	MW-055 1/11/95	MW-055 4/11/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	273	292	300	301	312	287	320	310	299	390	321	320
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-055 7/20/95	MW-055 10/11/95	MW-055 1/19/96	MW-055 4/18/96	MW-055 7/1/96	MW-055 10/1/96	MW-055 2/10/97	MW-055 7/16/97	MW-055 6/25/98	MW-055 7/16/97	MW-055 5/2/00	MW-056 6/1/91
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	300	250	370	310	350	210	270	300	300	160	138	100
Cyanide	--	--	--	--	--	--	--	--	<0.005	--	--	--
Fluoride	--	--	--	--	--	--	--	--	1.5	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	7	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	0.016	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	55	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	1500	1000	1020	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-056 7/1/91	MW-056 9/1/91	MW-056 12/1/91	MW-056 7/1/92	MW-056 10/1/92	MW-056 1/1/93	MW-056 10/1/96	MW-056 2/11/97	MW-056 3/20/97	MW-057 6/1/91	MW-057 7/1/91	MW-057 12/1/91
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	102	--	197	248	183	269	270	170	--	15.2	21	32
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	1.5	--	<1	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	2.7	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	<10	--	--	--	--	--	--	<10	--	60	--
Total dissolved solids (TDS)	--	1220	--	--	--	--	--	--	1200	--	460	--

Notes:
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* Measured in micro-mhos per centimeter (umho/cm)
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< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-057 4/1/92	MW-057 7/1/92	MW-057 10/1/92	MW-057 1/1/93	MW-057 4/14/93	MW-057 7/14/93	MW-057 10/13/93	MW-057 1/12/94	MW-057 4/7/94	MW-057 7/19/94	MW-057 10/5/94	MW-057 1/11/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	117	63	67	131	80	72	73.6	64	58	48	60	35
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-057 4/8/95	MW-057 7/20/95	MW-057 10/11/95	MW-057 1/19/96	MW-057 4/18/96	MW-057 7/1/96	MW-057 10/1/96	MW-057 2/10/97	MW-057 7/15/97	MW-057 6/25/98	MW-057 4/20/99	MW-057 5/4/00
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	31	37	47	44	44	30	30	32	36	50	44	43.1
Cyanide	--	--	--	--	--	--	--	--	--	<0.005	--	--
Fluoride	--	--	--	--	--	--	--	--	--	0.5	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	7.3	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	0.006	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	110	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	490	500	515

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

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-058 12/1/91	MW-058 4/1/92	MW-058 7/1/92	MW-058 10/1/92	MW-058 1/1/93	MW-058 4/13/93	MW-058 7/13/93	MW-058 10/13/93	MW-058 4/5/94	MW-058 7/19/94	MW-058 10/6/94	MW-058 1/11/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	124	156	149	155	175	133	133	59	48	38	36	26
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-058 4/8/95	MW-058 4/18/96	MW-058 10/1/96	MW-058 6/22/98	MW-059 12/1/91	MW-059 4/1/92	MW-059 7/1/92	MW-059 10/1/92	MW-059 1/1/93	MW-059 4/13/93	MW-059 10/13/93	MW-059 4/5/94	MW-059 7/19/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	39	29	38	42	149	52	55	69	46	29	56	30	<5
Cyanide	--	--	--	<0.005	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	0.9	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	7.4	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	<0.005	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	<5	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	760	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-059 10/6/94	MW-059 1/11/95	MW-059 2/9/97	MW-059 6/24/98	MW-059 5/4/00	MW-060 7/1/91	MW-060 12/1/91	MW-060 4/1/92	MW-060 7/1/92	MW-060 10/1/92	MW-060 1/1/93	MW-060 4/14/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	25	12	29	560	196	13	10	10	10	14	6	9
Cyanide	--	--	--	<0.005	--	--	--	--	--	--	--	--
Fluoride	--	--	--	0.6	--	2	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	0.4	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	7.5	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	0.022	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	2300	--	383	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	4100	3300	860	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-060 7/14/93	MW-060 10/13/93	MW-060 1/12/94	MW-060 4/7/94	MW-060 7/19/94	MW-060 10/5/94	MW-060 1/10/95	MW-060 4/7/95	MW-060 7/19/95	MW-060 10/11/95	MW-060 1/19/96	MW-060 4/18/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	10.7	13.5	9.5	9	<5	9.1	20	8.8	9	9	16	12.7
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-060 7/1/96	MW-060 10/1/96	MW-060 10/19/96	MW-060 2/9/97	MW-060 3/19/97	MW-060 5/6/97	MW-060 7/15/97	MW-060 10/16/97	MW-060 6/21/98	MW-060 4/20/99	MW-060 5/1/00	MW-061 12/1/91
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	0.07	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	12	12	16	9	--	10	11	--	12	--	8.61	413
Cyanide	--	--	--	--	--	--	--	--	<0.005	--	--	--
Fluoride	--	--	--	--	0.8	--	--	--	1.4	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	0.28	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	<0.2	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	0.06	--	--	--	--
pH*	--	--	--	--	--	--	--	--	7.3	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	<0.005	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	280	--	--	--	390	--	--	--
Total dissolved solids (TDS)	--	--	--	--	760	--	--	--	720	--	790	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-061 1/13/94	MW-061 4/7/94	MW-061 7/20/94	MW-061 10/4/94	MW-061 1/11/95	MW-061 4/11/95	MW-061 7/21/95	MW-061 10/10/95	MW-061 1/20/96	MW-061 4/18/96	MW-061 7/1/96	MW-061 10/1/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	420	450	387	400	439	420	400	300	420	450	370	420
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-061 2/10/97	MW-061 7/17/97	MW-061 6/18/98	MW-061 4/20/99	MW-061 5/3/00	MW-061A 7/1/91	MW-061A 9/1/91	MW-061A 12/1/91	MW-061A 4/1/92	MW-061A 7/1/92	MW-061A 10/1/92	MW-061A 1/1/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	410	390	480	370	379	16	--	12	12	12	13	12
Cyanide	--	--	<0.005	--	--	--	--	--	--	--	--	--
Fluoride	--	--	2.2	--	--	1.6	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	0.1	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	6.9	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	<0.005	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	1600	--	--	347	335	--	--	--	--	--
Total dissolved solids (TDS)	--	--	3200	2900	3290	805	755	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-061A 4/13/93	MW-061A 4/5/94	MW-061A 7/19/94	MW-061A 10/4/94	MW-061A 1/10/95	MW-061A 1/20/96	MW-061A 4/19/96	MW-061A 7/1/96	MW-061A 2/6/97	MW-061A 5/7/97	MW-061A 6/26/97	MW-061A 7/15/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	266	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	<0.3	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	<1	--	--	--
Chloride	15	10.7	8	11	32	9	10.2	7	13	11	12	10
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	0.85	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	<1	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	7.5	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	1020	--	--	--
Sulfate	--	--	--	--	--	--	--	--	340	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	840	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-061A 10/15/97	MW-061A 6/18/98	MW-061A 4/20/99	MW-061A 5/3/00	MW-062 9/1/91	MW-062 12/1/91	MW-062 4/1/92	MW-062 7/1/92	MW-062 10/1/92	MW-062 1/1/93	MW-062 4/13/93	MW-062 7/14/93	MW-062 10/13/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	0.08	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	--	4	11	8.61	--	247	218	236	285	202	207	459	181
Cyanide	--	0.025	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	0.8	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	<0.06	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	0.4	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	<2.5	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	7.3	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	<0.005	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	300	--	--	19	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	690	730	811	1120	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-062 1/11/94	MW-062 4/5/94	MW-062 7/19/94	MW-062 10/6/94	MW-062 1/11/95	MW-062 4/8/95	MW-062 2/11/97	MW-062 7/18/97	MW-062 6/26/98	MW-062 4/21/99	MW-062 5/3/00	MW-063 12/1/91
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	160	139	129	130	152	128	150	100	91	82	99.9	8
Cyanide	--	--	--	--	--	--	--	--	<0.005	--	--	--
Fluoride	--	--	--	--	--	--	--	--	0.8	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	7.1	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	<0.005	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	140	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	650	550	695	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-063 4/1/92	MW-063 7/1/92	MW-063 10/1/92	MW-063 1/1/93	MW-063 4/13/93	MW-063 7/13/93	MW-063 10/12/93	MW-063 1/11/94	MW-063 4/6/94	MW-063 7/18/94	MW-063 10/4/94	MW-063 1/9/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	14	7	1	3	5.6	3	4	5.7	5.5	<5	6.2	9
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-063 4/7/95	MW-063 7/18/95	MW-063 10/10/95	MW-063 1/18/96	MW-063 4/17/96	MW-063 7/1/96	MW-063 10/1/96	MW-063 2/5/97	MW-063 7/15/97	MW-063 10/15/97	MW-063 6/25/98	MW-063 10/11/98
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	<0.03	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	6.9	7	12	10	10.2	10	7	7	9	--	10	--
Cyanide	--	--	--	--	--	--	--	--	--	--	<0.005	--
Fluoride	--	--	--	--	--	--	--	--	--	--	0.4	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	6.6	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	<0.2	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	0.25	--	--
pH*	--	--	--	--	--	--	--	--	--	--	7.4	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	0.005	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	39	28.1
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	370	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-063 10/11/98	MW-063 4/27/00	MW-064 12/1/91	MW-064 4/1/92	MW-064 7/1/92	MW-064 10/1/92	MW-064 1/1/93	MW-064 4/13/93	MW-064 7/13/93	MW-064 10/13/93	MW-064 1/12/94	MW-064 4/6/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	15	10.3	18	13	13	12	10.2	10	12	8	10	10
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	340	395	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-064 7/19/94	MW-064 10/5/94	MW-064 1/10/95	MW-064 4/7/95	MW-064 7/19/95	MW-064 10/11/95	MW-064 1/19/96	MW-064 4/18/96	MW-064 2/11/97	MW-064 7/16/97	MW-064 6/23/98	MW-064 4/21/99
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	<5	10.2	20	12	11	12	12	11.6	11	12	15	11
Cyanide	--	--	--	--	--	--	--	--	--	--	<0.005	--
Fluoride	--	--	--	--	--	--	--	--	--	--	0.7	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	7.3	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	<0.005	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	<5	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	600	530

Notes:
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* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
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May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-064 5/3/00	MW-065 12/1/91	MW-065 7/15/93	MW-065 10/5/94	MW-065 7/1/96	MW-065 10/1/96	MW-065 2/11/97	MW-065 5/7/97	MW-065A 12/1/91	MW-065A 4/1/92	MW-065A 7/1/92	MW-065A 10/1/92
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	13.8	3	4	5.9	5	3	1.3	2	22	33	18	35
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	611	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-065A 1/1/93	MW-065A 4/13/93	MW-065A 7/13/93	MW-065A 10/13/93	MW-065A 1/11/94	MW-065A 4/5/94	MW-065A 7/19/94	MW-065A 10/6/94	MW-065A 1/11/95	MW-065A 4/8/95	MW-065A 1/20/96	MW-065A 4/18/96	MW-065A 6/25/98
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	35	26	19	17	18	15	10	18	12	13	93	12.6	24
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--	<0.005
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--	0.7
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--	7.2
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--	0.005
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--	250
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--	550

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-066 12/1/91	MW-066 4/1/92	MW-066 7/1/92	MW-066 10/1/92	MW-066 1/1/93	MW-066 4/13/93	MW-066 7/13/93	MW-066 10/12/93	MW-066 1/11/94	MW-066 4/7/94	MW-066 7/19/94	MW-066 10/4/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	9	8	8	8	12	8	15	7	9	8.7	<5	8.8
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-066 1/9/95	MW-066 4/11/95	MW-066 7/19/95	MW-066 10/10/95	MW-066 1/19/96	MW-066 4/17/96	MW-066 7/1/96	MW-066 10/1/96	MW-066 2/5/97	MW-066 5/6/97	MW-066 7/16/97	MW-066 10/15/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	<0.03
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	6	8.9	8	9	10	9.6	6	7	9	9	8	--
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	0.33
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	<0.2
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	0.22
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in Micro-mhos per centimeter (unho/cm)
-- Not analyzed or not reported
< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-066 6/17/98	MW-066 4/21/99	MW-066 4/27/00	MW-067 12/1/91	MW-067 4/1/92	MW-067 7/1/92	MW-067 10/1/92	MW-067 1/1/93	MW-067 4/13/93	MW-067 7/13/93	MW-067 10/13/93	MW-067 1/12/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	13	10	8.61	7	6	3	9	4	8	6	9.5	8.6
Cyanide	0.761	--	--	--	--	--	--	--	--	--	--	--
Fluoride	0.8	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	7.2	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	<0.005	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	430	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	760	730	848	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-067 4/7/94	MW-067 7/19/94	MW-067 10/5/94	MW-067 1/11/95	MW-067 4/7/95	MW-067 7/21/95	MW-067 10/11/95	MW-067 1/19/96	MW-067 4/18/96	MW-067 7/1/96	MW-067 2/10/97	MW-067 7/16/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	7.6	<5	7.9	<5	13	6	6	11	7.4	7	9	7
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-067 6/24/98	MW-067 4/22/99	MW-067 5/2/00	MW-068 12/1/91	MW-068 4/1/92	MW-068 7/1/92	MW-068 10/1/92	MW-068 1/1/93	MW-068 4/13/93	MW-068 7/13/93	MW-068 10/13/93	MW-068 1/11/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	11	6.8	8.61	39	82	15	30	27	27	28	27	31
Cyanide	<0.005	--	--	--	--	--	--	--	--	--	--	--
Fluoride	0.7	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	7.3	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	0.005	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	140	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	480	460	537	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-068 4/5/94	MW-068 7/19/94	MW-068 10/6/94	MW-068 1/11/95	MW-068 10/17/97	MW-068 6/26/98	MW-068 10/12/98	MW-069 12/1/91	MW-069 7/1/92	MW-069 10/1/92	MW-069 2/7/97	MW-069 7/18/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	<0.03	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	30	29	32	34	--	29	--	154	15	43	70	64
Cyanide	--	--	--	--	--	<0.005	--	--	--	--	--	--
Fluoride	--	--	--	--	--	0.6	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	0.08	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	1.8	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	0.41	--	--	--	--	--	--	--
pH*	--	--	--	--	--	7.3	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	0.025	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	100	70	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	480	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-069 6/29/98	MW-070 12/1/91	MW-070 4/1/92	MW-070 7/1/92	MW-070 10/1/92	MW-070 1/1/93	MW-070 4/14/93	MW-070 7/13/93	MW-070 10/12/93	MW-070 1/11/94	MW-070 4/6/94	MW-070 7/18/94	MW-070 10/4/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	120	10	8	9.2	17	8	8	8	11	10	9.5	8	9.5
Cyanide	<0.005	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	0.3	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	6.9	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	0.015	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	<5	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	860	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-070 1/9/95	MW-070 4/5/95	MW-070 7/18/95	MW-070 10/10/95	MW-070 1/18/96	MW-070 4/17/96	MW-070 7/1/96	MW-070 10/1/96	MW-070 2/5/97	MW-070 10/15/97	MW-070 6/16/98	MW-070 4/22/99
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	<0.03	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	9	9.7	9	10	11	9.7	8	10	10	--	12	11
Cyanide	--	--	--	--	--	--	--	--	--	--	<0.005	--
Fluoride	--	--	--	--	--	--	--	--	--	--	0.6	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	2.7	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	<0.2	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	0.3	--	--
pH*	--	--	--	--	--	--	--	--	--	--	7.5	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	<0.005	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	80	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	370	310

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-070 4/28/00	MW-071 9/1/93	MW-071 10/12/93	MW-071 1/11/94	MW-071 4/6/94	MW-071 7/18/94	MW-071 10/4/94	MW-071 1/10/95	MW-071 6/23/95	MW-071 7/18/95	MW-071 10/10/95	MW-071 1/18/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	8.61	9	15	18	17	<5	22	<5	16	22	21	18
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	385	--	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-071 4/17/96	MW-071 7/1/96	MW-071 10/1/96	MW-071 2/9/97	MW-071 5/6/97	MW-071 7/17/97	MW-071 10/16/97	MW-071 6/19/98	MW-071 10/11/98	MW-071 4/21/99	MW-071 4/28/00	MW-072 4/5/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	0.63	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	23	26	30	24	17	16	--	4	--	22	36.2	32
Cyanide	--	--	--	--	--	--	--	<0.005	--	--	--	--
Fluoride	--	--	--	--	--	--	--	2.2	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	0.06	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	0.6	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	0.18	--	--	--	--	--
pH*	--	--	--	--	--	--	--	7.2	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	<0.005	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	650	550	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	1100	--	1100	1240	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-072 7/19/94	MW-072 1/11/95	MW-072 6/30/98	MW-073 6/30/98	MW-073 5/4/00	MW-074 7/18/97	MW-074 6/24/98	MW-074 5/4/00	MW-075 6/30/98	MW-076 6/29/98	MW-077 7/21/95	MW-077 1/20/96
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	32	52	49	320	176	260	340	146	54	23	110	120
Cyanide	--	--	<0.005	<0.005	--	--	<0.005	--	<0.005	<0.005	--	--
Fluoride	--	--	0.8	1.3	--	--	1.1	--	1.2	0.5	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	6.9	6.9	--	--	7	--	7.3	7.3	--	--
Phenols, total	--	--	0.015	<0.005	--	--	0.025	--	0.077	0.008	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	530	2800	--	--	13	--	390	51	--	--
Total dissolved solids (TDS)	--	--	890	3700	1570	--	1500	466	870	400	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-077 4/19/96	MW-077 7/1/96	MW-077 10/1/96	MW-077 5/7/97	MW-077 7/18/97	MW-078 10/1/96	MW-078 2/10/97	MW-078 5/7/97	MW-078 7/17/97	MW-078 6/19/98	MW-078 4/22/99	MW-079 1/11/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	120	100	140	150	150	31	75	59	48	47	42	36
Cyanide	--	--	--	--	--	--	--	--	--	<0.005	--	--
Fluoride	--	--	--	--	--	--	--	--	--	<0.2	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	7.1	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	<0.005	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	<5	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	490	470	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-079 4/6/95	MW-079 7/21/95	MW-079 10/10/95	MW-079 1/18/96	MW-079 4/19/96	MW-079 7/1/96	MW-079 10/1/96	MW-079 2/10/97	MW-079 5/7/97	MW-079 7/17/97	MW-079 5/2/00	MW-081 6/29/98
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	33	31	30	23	30	17	20	24	24	24	39.6	16
Cyanide	--	--	--	--	--	--	--	--	--	--	--	<0.005
Fluoride	--	--	--	--	--	--	--	--	--	--	--	0.7
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	7.4
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	<0.005
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	450
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	563	800

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-082 10/11/95	MW-082 6/25/98	MW-082 10/12/98	MW-083 6/25/98	MW-084 6/23/98	MW-085 6/23/98	MW-086 10/17/97	MW-086 6/26/98	MW-087 8/1/96	MW-087 8/22/96	MW-087 10/1/96	MW-087 2/9/97	MW-087 5/6/97
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	222	--
Ammonia (as N)	--	--	--	--	--	--	2.77	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	<0.3	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	<1	--
Chloride	76	72	--	49	7	120	--	330	--	11	12	11	13
Cyanide	--	<0.005	--	<0.005	<0.005	<0.005	--	<0.005	--	--	--	--	--
Fluoride	--	0.7	--	0.7	0.5	1.3	--	1.1	--	--	--	0.63	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	<1	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	1.91	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	14	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	0.5	--	--	--	--	--	--
pH*	--	7.1	--	7.2	7.5	7.5	--	7	--	--	--	7.8	--
Phenols, total	--	0.006	--	<0.005	0.008	0.034	--	0.068	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	814	--
Sulfate	--	390	190	270	<5	<5	--	29	--	--	--	230	--
Total dissolved solids (TDS)	--	730	--	640	370	1100	--	1500	810	--	--	580	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-087 10/16/97	MW-087 6/19/98	MW-087 10/12/98	MW-087 4/20/99	MW-087 5/1/00	MW-087A 10/1/96	MW-087A 2/9/97	MW-087A 5/7/97	MW-087A 10/16/97	MW-087A 5/1/00	MW-088 2/5/97	MW-088 4/30/97
Bicarbonate Alkalinity	--	--	--	--	--	--	352	--	--	--	--	--
Ammonia (as N)	<0.03	--	--	--	--	--	--	--	0.17	--	--	--
Bromide	--	--	--	--	--	--	1.2	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	<1	--	--	--	--	--
Chloride	--	13	--	10	10.3	110	150	140	--	127	30	26
Cyanide	--	<0.005	--	--	--	--	--	--	--	--	--	--
Fluoride	--	0.9	--	--	--	--	1.9	--	--	--	1.13	--
Hydroxide	--	--	--	--	--	--	<1	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	0.52	--	--	--	--	--	--	--	<0.06	--	--	--
Nitrogen, Kjeldahl, total (as N)	<0.2	--	--	--	--	--	--	--	0.9	--	--	--
Orthophosphate	0.06	--	--	--	--	--	--	--	0.09	--	--	--
pH*	--	7.4	--	--	--	--	7.2	--	--	--	--	--
Phenols, total	--	<0.005	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	3350	--	--	--	--	--
Sulfate	--	360	260	--	--	--	1900	--	--	--	390	--
Total dissolved solids (TDS)	--	710	--	680	690	--	3200	--	--	3290	970	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-088 10/15/97	MW-088 6/18/98	MW-088 4/21/99	MW-088 4/28/00	MW-089 8/1/96	MW-089 8/22/96	MW-089 10/1/96	MW-089 2/5/97	MW-089 4/30/97	MW-089 10/15/97	MW-089 6/17/98	MW-089 4/21/99
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	1.2	--	--	--	--	--	--	--	--	<0.03	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	--	22	24	43.1	--	63	63	60	58	--	61	55
Cyanide	--	<0.005	--	--	--	--	--	--	--	--	0.247	--
Fluoride	--	1.1	--	--	--	--	--	0.8	--	--	0.7	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	<0.06	--	--	--	--	--	--	--	--	<0.06	--	--
Nitrogen, Kjeldahl, total (as N)	1.1	--	--	--	--	--	--	--	--	<0.2	--	--
Orthophosphate	<0.5	--	--	--	--	--	--	--	--	0.24	--	--
pH*	--	7.2	--	--	--	--	--	--	--	--	7.1	--
Phenols, total	--	<0.005	--	--	--	--	--	--	--	--	<0.005	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	450	--	--	--	--	--	250	--	--	340	--
Total dissolved solids (TDS)	--	840	800	876	900	--	--	840	--	--	780	710

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-089 4/27/00	MW-090 2/10/97	MW-090 5/7/97	MW-090 7/17/97	MW-090 6/17/98	MW-090 4/23/99	MW-090 5/2/00	MW-091 2/11/97	MW-091 4/23/99	MW-094 10/17/97	MW-094 6/26/98	MW-094 6/26/98
Bicarbonate Alkalinity	--	370	--	--	--	--	--	510	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	<0.03	--	--
Bromide	--	--	--	--	--	--	--	0.5	--	--	--	--
Carbonate Alkalinity	--	<1	--	--	--	--	--	<1	--	--	--	--
Chloride	50	26	25	19	35	51	17.2	80	58	--	24	20
Cyanide	--	--	--	--	<0.005	--	--	--	--	--	<0.005	--
Fluoride	--	0.36	--	--	0.5	--	--	0.19	--	--	0.7	--
Hydroxide	--	<1	--	--	--	--	--	<1	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	2.4	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	<0.2	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	<0.05	--	--
pH*	--	7.4	--	--	7.5	--	--	7.5	--	--	7.3	--
Phenols, total	--	--	--	--	<0.005	--	--	--	--	--	0.008	--
Specific conductivity**	--	749	--	--	--	--	--	1010	--	--	--	--
Sulfate	--	25	--	--	130	--	--	<5	--	--	240	--
Total dissolved solids (TDS)	850	460	--	--	530	740	422	590	640	--	600	530

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

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Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-094 5/3/00	MW-095 4/30/97	MW-095 6/22/98	MW-095 10/12/98	MW-095 4/22/99	MW-095 5/2/00	MW-096 4/30/97	MW-096 10/16/97	MW-096 6/21/98	MW-096 4/22/99	MW-096 5/1/00	MW-097 4/30/97
Bicarbonate Alkalinity	--	310	--	--	--	--	300	--	--	--	--	270
Ammonia (as N)	--	--	--	--	--	--	--	<0.03	--	--	--	--
Bromide	--	<0.3	--	--	--	--	<0.3	--	--	--	--	<0.3
Carbonate Alkalinity	--	1	--	--	--	--	<1	--	--	--	--	1
Chloride	<10	--	5	--	5.6	3.45	--	--	14	13	12.1	--
Cyanide	--	--	<0.005	--	--	--	--	--	<0.005	--	--	--
Fluoride	--	0.4	0.4	--	--	--	0.8	--	0.4	--	--	0.5
Hydroxide	--	<1	--	--	--	--	<1	--	--	--	--	<1
Carbon Dioxide	--	31	--	--	--	--	48	--	--	--	--	27
Nitrate	--	--	--	--	--	--	--	0.38	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	<0.2	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	0.08	--	--	--	--
pH*	--	7.3	7.5	--	--	--	7.1	--	7.2	--	--	7.3
Phenols, total	--	--	<0.005	--	--	--	--	--	<0.005	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	19	21	19	--	--	160	--	210	--	--	150
Total dissolved solids (TDS)	<1	370	360	--	340	349	560	--	560	520	600	550

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-097 10/17/97	MW-097 6/21/98	MW-097 10/12/98	MW-097 10/12/98	MW-097 5/2/00	MW-098 4/30/97	MW-098 6/29/98	MW-098 5/2/00	MW-104 7/17/97	MW-104 6/21/98	MW-106 2/11/97	MW-106 5/7/97
Bicarbonate Alkalinity	--	--	--	--	--	240	--	--	268	--	315	--
Ammonia (as N)	<0.03	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	<0.3	--	--	<0.3	--	<0.3	--
Carbonate Alkalinity	--	--	--	--	--	1	--	--	<1	--	<1	--
Chloride	--	8	--	6.7	5.17	--	14	12.1	11.6	14	10	4
Cyanide	--	<0.005	--	--	--	--	<0.005	--	--	<0.005	--	--
Fluoride	--	0.7	--	--	--	0.4	0.3	--	0.8	1.4	0.24	--
Hydroxide	--	--	--	--	--	<1	--	--	<1	--	<1	--
Carbon Dioxide	--	--	--	--	--	19	--	--	--	--	--	--
Nitrate	1.71	--	--	--	--	--	--	--	0.72	--	--	--
Nitrogen, Kjeldahl, total (as N)	<0.2	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	0.43	--	--	--	--	--	--	--	--	--	--	--
pH*	--	7.2	--	--	--	7.4	7.6	--	7.6	7.3	7.4	--
Phenols, total	--	<0.005	--	--	--	--	0.01	--	--	<0.005	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	815	--	636	--
Sulfate	--	190	200	--	--	25	32	--	200	230	37	--
Total dissolved solids (TDS)	--	520	--	530	533	330	310	324	580	560	430	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	MW-106 7/18/97	MW-106 6/18/98	MW-106 4/29/99	MW-106 5/1/00	MW-108 7/17/97	MW-108 6/22/98	MW-108 4/22/99	MW-108 5/4/00	MW-110 6/30/98	MW-111 6/29/98	MW-111 4/21/99	MW-111 4/27/00
Bicarbonate Alkalinity	--	--	--	--	297	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	<0.3	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	<1	--	--	--	--	--	--	--
Chloride	5	4	12	3.45	3.2	5	4.3	3.45	54	100	120	103
Cyanide	--	<0.005	--	--	--	<0.005	--	--	<0.005	<0.005	--	--
Fluoride	--	0.3	--	--	0.4	0.4	--	--	0.7	0.7	--	--
Hydroxide	--	--	--	--	<1	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	2.6	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	7.3	--	--	7.6	7.4	--	--	7.2	7.2	--	--
Phenols, total	--	<0.005	--	--	--	<0.005	--	--	0.01	<0.005	--	--
Specific conductivity**	--	--	--	--	585	--	--	--	--	--	--	--
Sulfate	--	33	--	--	33	35	--	--	130	310	--	--
Total dissolved solids (TDS)	--	380	--	350	360	340	340	370	600	900	760	994

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	PIPELINE_4 5/1/91	SUMP-16A 5/1/91	SUMP-16A 7/1/91	SUMP-16A 9/1/91	SUMP-16A 12/1/91	SUMP-16A 4/1/92	SUMP-16A 7/1/92	SUMP-16A 10/1/92	SUMP-16A 1/1/93	SUMP-16A 4/14/93	SUMP-16A 10/5/94	SUMP-16A 1/11/95	SUMP-16 10/12/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	9000	190	49	--	683	522	82	225	229	218	128	90	63
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	1860	--	--	<10	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	18500	876	--	263	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
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Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	SUMP-16A 7/1/96	SHAL-ZONE- 4/1/92	SHAL-ZONE- 7/1/92	SHAL-ZONE- 10/1/92	SHAL-ZONE- 1/1/93	SHAL-ZONE- 4/1/93	SHAL-ZONE- 7/1/93	SHAL-ZONE- 10/1/93	SHAL-ZONE- 1/1/94	SHAL-ZONE- 4/1/94	SHAL-ZONE- 7/1/94	SHAL-ZONE- 10/1/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	14	1240	455	420	544	955	445	543	490	450	430	400
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	SHAL-ZONE-1/1/95	SHAL-ZONE-4/1/95	SUMP-A10 4/1/91	SUMP-A10 5/1/91	SUMP-A10 10/5/94	SUMP-A10 10/12/95	SW-01 7/1/91	SW-01 4/1/92	SW-01 7/1/92	SW-01 10/1/92	SW-01 4/15/93	SW-01 5/12/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	439	439	17000	3750	4.2	3	19	16	19	25	20	19.5
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	1.3	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	3	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	164	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	583	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

** Measured in Micro-mhos per centimeter (unho/cm)

-- Not analyzed or not reported

< Constituent not detected above noted laboratory detection limit

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	SW-01 4/23/99	SW-02 5/12/93	SW-02 1/11/95	SW-02 6/24/98	SW-02 4/23/99	SW-03 7/1/96	SW-03 10/1/96	SW-03 6/24/98	SW-03 4/23/99	TH-21A 5/1/91	TH-21A 7/1/91	TH-A11 4/1/91
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	22	522	81	150	44	24	11	9	24	8250	636	12800
Cyanide	--	--	--	<0.005	--	--	--	<0.005	--	--	--	--
Fluoride	--	--	--	0.5	--	--	--	0.7	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	7.2	--	--	--	7.5	--	--	--	--
Phenols, total	--	--	--	<0.005	--	--	--	<0.005	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	120	--	--	--	110	--	--	--	613
Total dissolved solids (TDS)	530	--	--	730	670	--	380	410	--	16000	--	26200

Notes:
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* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
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Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	TH-A11 7/1/91	TH-A11 9/1/91	TH-A11 12/1/91	TH-A11 4/1/92	TH-A11 7/1/92	TH-A11 10/1/92	UIHS_ ARROYO 4/1/92	UIHS_ ARROYO 7/1/92	UIHS_ ARROYO 10/1/92	UIHS_ ARROYO 1/1/93	UIHS_ ARROYO 4/15/93	UIHS_ ARROYO 5/12/93
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	1470	--	670	433	60	124	16.2	8.5	13.5	11.4	13.5	11
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	<10	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	1050	--	--	--	--	--	--	--	--	--	--

Notes:

Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.

* Measured in standard units (su)

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

-- Not analyzed or not reported.

< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	UIHS_ ARROYO 6/28/93	UIHS_ ARROYO 7/15/93	UIHS_ ARROYO 8/3/93	UIHS_ ARROYO 9/21/93	UIHS_ ARROYO 10/14/93	UIHS_ ARROYO 11/10/93	UIHS_ ARROYO 12/6/93	UIHS_ ARROYO 1/13/94	UIHS_AR ROYO 2/9/94	UIHS_ ARROYO 3/16/94	UIHS_ ARROYO 4/5/94	UIHS_ ARROYO 5/19/94
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	11.4	12.9	11.8	11.5	10.3	493	10.7	11	11.6	13	14	12.2
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
* Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	UIHS_ ARROYO 6/23/94	UIHS_ ARROYO 7/21/94	UIHS_ ARROYO 8/24/94	UIHS_ ARROYO 9/20/94	UIHS_ ARROYO 10/6/94	UIHS_ ARROYO 11/30/94	UIHS_ ARROYO 12/16/94	UIHS_ ARROYO 1/11/95	UIHS_ ARROYO 3/9/95	UIHS_ ARROYO 4/7/95	UIHS_ ARROYO 5/18/95	UIHS_ ARROYO 7/21/95
Bicarbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	13	8	12.7	11	13	11.1	12.2	10	11.5	13	9	12
Cyanide	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	--	--	--	--	--	--	--	--	--	--	--	--
Hydroxide	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	--	--	--	--	--	--
Phenols, total	--	--	--	--	--	--	--	--	--	--	--	--
Specific conductivity**	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--	--	--
Total dissolved solids (TDS)	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix C

Historical General Chemistry Analytical Data
May 1991 - December 2000
Marathon Oil Company, Indian Basin Remediation Project, Eddy County, New Mexico

Parameter / Well ID / Date Sampled	UIHS_ ARROYO 10/12/95	UIHS_ ARROYO 1/19/96	UIHS_ ARROYO 4/24/96	UIHS_ ARROYO 7/1/96	UIHS_ ARROYO 10/1/96	UIHS_ ARROYO 2/10/97	UIHS_ ARROYO 6/26/98
Bicarbonate Alkalinity	--	--	--	--	--	--	--
Ammonia (as N)	--	--	--	--	--	--	--
Bromide	--	--	--	--	--	--	--
Carbonate Alkalinity	--	--	--	--	--	--	--
Chloride	14	10	10.9	10	8	11	13
Cyanide	--	--	--	--	--	--	<0.005
Fluoride	--	--	--	--	--	--	0.7
Hydroxide	--	--	--	--	--	--	--
Carbon Dioxide	--	--	--	--	--	--	--
Nitrate	--	--	--	--	--	--	--
Nitrogen, Kjeldahl, total (as N)	--	--	--	--	--	--	--
Orthophosphate	--	--	--	--	--	--	--
pH*	--	--	--	--	--	--	7.2
Phenols, total	--	--	--	--	--	--	0.006
Specific conductivity**	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	590
Total dissolved solids (TDS)	--	--	--	--	--	--	940

Notes:
Concentrations listed in milligrams per liter (mg/L), except where noted otherwise.
* Measured in standard units (su)
** Measured in micro-mhos per centimeter (umho/cm)
-- Not analyzed or not reported.
< Constituent not detected above noted laboratory detection limit.

Appendix D

Laboratory Analytical Reports (CD-ROM)

- Monthly Air Stripper Sampling, 2000
- April 2000 Groundwater Sampling Event
- October 2000 Groundwater Sampling Event