AP - 91

STAGE 2 REPORT

Date 5-16-13

PLAINS
PIPELINE, L.P.

May 16, 2013

Mr. Edward Hansen
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Plains Pipeline, L.P. 8-inch Moore to Jal #1 Site
NMOCD Reference # AP-91
Unit Letter F of Section 16, Township 17 South, Range 37 East
Lea County, New Mexico

Dear Mr. Hansen:

Plains Pipeline, L.P. is pleased to submit the attached *2012 Field Activity Report*, dated May 2013, for the 8-inch Moore to Jal #1 release site located in Section 16 of Township 17 South, and Range 37 East of Lea County, New Mexico. This document summarizes the activities performed at the site related to the installation of an automated system for disposing of impacted ground water.

Should you have any questions or comments, please contact me at (575) 441-1099.

Sincerely,

Jason Henry
Remediation Coordinator
Plains Pipeline, L.P.

CC: Geoffrey R. Leking, NMOCD, Hobbs Office

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2012 FIELD ACTIVITY REPORT
AUTOMATED WATER DISPOSAL SYSTEM INSTALLATION

8" MOORE TO JAL #1
LEA COUNTY, NEW MEXICO
PLAINS SRS #2002-10270
NMOCD REF. # AP-091

Prepared for:

PLAINS PIPELINE, L.P.
333 Clay Street, Suite 1600
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Prepared by:

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DISTRIBUTION:
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May, 2013

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2012 FIELD ACTIVITY REPORT
AUTOMATED WATER DIPOSAL SYSTEM INSTALLATION

8" MOORE TO JAL #1
LEA COUNTY, NEW MEXICO
PLAINS SRS #2002-10270
NMOCD REF. # AP-091

PLAINS PIPELINE, L.P.

333 CLAY STREET, SUITE 1600

HOUSTON, TEXAS

TALON/LPE PROJECT NO. 700376.044.01

Prepared by:

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May, 2013

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NMOCD - New Mexico Oil Conservation Division
NMSLO - New Mexico State Land Office

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1.0 INTRODUCTION AND OBJECTIVE

1.1 Site Background

Talon/LPE, on behalf of Plains Pipeline, L.P. (Plains), is submitting this Addendum to the 2008 Stage 1 and Stage 2 Abatement Plan to the New Mexico Oil Conservation Division (NMOCD) regarding the remediation of the Plains 8-inch Moore to Jal #1 (Moore to Jal #1) crude oil pipeline release site (NMOCD Ref. No. AP-91) in Lea County, New Mexico.

The Moore to Jal #1 release site is located approximately 9.2 miles southeast of Lovington, in Lea County, New Mexico in the SE1/4 of the NW ¼ of Section 16, Township 17 South, Range 37 East at Geographic Positioning System (GPS) coordinates Latitude 32° 50' 12.7" N, Longitude 103° 15' 25.2" W. The site is located within the West Lovington Oil Field on land owned by the State of New Mexico. No residences or surface water features are located within a 1,000-foot radius of the site.

In October 2002, a release of approximately two hundred (200) barrels of crude oil occurred at the site due to pipeline corrosion. Approximately eight thousand (8,000) square feet of surface area was impacted by the release. Surface soil saturated by the release was excavated and transported to a New Mexico Oil Conservation Division (NMOCD) approved land farm for treatment. Soil excavation and over-excavation activities were initiated in October 2002 and that activity is documented in the "Soil Over-Excavation Report and Backfill Work Plan", dated May 23, 2006.

Talon/LPE (Talon) has been retained by Plains to conduct quarterly groundwater monitoring activities and operation and maintenance of the phase-separated hydrocarbon (PSH) recovery system.

1.2 Objective

PSH recovery from groundwater has been conducted at the site since 2004, initially by hand bailing and then by using pneumatic pumps. In October of 2008, Talon installed a pneumatic skimmer pump and total fluids pump system at the site. Currently, there are a total of six (6) specific gravity skimmers and bladder pumps operating in monitor wells MW-1A, MW-2, MW-3, MW-10, MW-11 and MW-13. In addition, there are currently a total of fifteen (15) total fluids pumps operating. Seven (7) of these total fluids pumps are electronically timed and powered and are in monitor wells MW-5, MW-8, MW-16, MW-24, MW-25, MW-32, and MW-33. The remaining eight (8) total fluids pumps are pneumatically powered by onsite air compressors, and are located in monitor wells MW-4A, MW-6, MW-7, MW-9, MW-12, MW-15, MW-30 and MW-31. (see Figure 2).

Currently, the PSH recovered by the skimmer pump system and the total fluid pumps is expelled to an on-site 350 barrel (bbl) steel frac tank, which is monitored for the accumulation of water and PSH on a weekly basis. Currently, when the recovery tank is full, water is removed from the tank with an automated waste water transfer system, which will be explained in full in the sections following. Before this automated system, vacuum trucks were used for waste water disposal. This method proved to be inefficient and kept the system from running at its peak potential. During the year 2010, 8,915 bbls of water was removed from the recovery tank, which accounts for approximately 75 vacuum truck excursions. The system would idle during the times

the tank was full. With the water transfer system in place and operating, the site produced and disposed of over 8,500 bbls of waste water in April of 2013.

The Plains Moore to Jal 8-in steel pipeline is idle and remains in situ subsurface directly adjacent to the subject site. In 2011, Plains proposed that a 3-inch high density polyethylene (HDPE) line be installed (slip-lined) into the idle 8-in pipeline beginning at the Moore to Jal #2 (NMOCD Reference #AP-092) site to the Moore to Jal #1 (NMOCD Reference #AP-091) site and then to the 8-inch Sweet Vacuum C.S. Cayler (NMOCD Reference #AP-052) site (see Figure 3) and ultimately be disposed at Rocky Smith SWD Systems State 'E' #23 salt water disposal (SWD) (NMOCD # 307219) facility.

2.0 SITE ACTIVITIES

2.1 HDPE Line Installation

After a one-call utility clearance, the project commenced at the Moore to Jal #2 site. The existing Moore to Jal 8-inch steel pipeline was excavated with a backhoe at a point as close as possible to the active recovery system control center. A window was cold cut into multiple strategic locations on the pipeline, and after access to the steel pipeline was obtained, a 3-inch HDPE line was pulled from point to point along the pipeline, and later fused together making what is essentially one continuous HDPE line. For example, HDPE line was pulled from the Moore to Jal #1 site to link with the Moore to Jal #2 site, approximately 2,113 feet to the southeast.

It was expected that the HDPE line would periodically get stuck during the installation process. The distance to the sticking point was determined and the pipeline was excavated. A window was cold cut into the steel pipeline and HDPE line installation resumed. The HDPE line was fused at these access points.

The HDPE line installation procedure continued until the line arrived at the C.S. Cayler site, approximately 9,233 feet to the northwest of the Moore to Jal #1 site.

There is currently an active transfer pump at the Cayler site that discharges recovered groundwater to the Rocky Smith SWD Systems State 'E' #23 salt water disposal facility (SWD) (NMOCD # 307219) located approximately 5,288 feet to the west of the Cayler site. The newly installed 3-inch HDPE line was tied to the existing 4-inch line at the Cayler site. For details regarding flow line construction see Figures 3 and 4.

2.2 Disposal Procedure and Flow Path

Recovered groundwater is contained in an on-site 350 bbl frac tank. The water is then discharged from the recovery tank to the 3-inch HDPE transfer line using a 5 horsepower centrifugal transfer pump. There is a ball valve and 'Y' strainer installed between the pump and the frac tank. A flow meter with totalizer, vacuum break, pressure gauge and high pressure cut-off switch and another check valve were installed between the transfer pump and the 3-inch HDPE line. The 3-in HDPE line was equipped with a 'Y' and a 3-inch up-stream check valve to promote unidirectional flow towards Rocky Smith SWD Systems State 'E' #23 salt water disposal facility (SWD) (NMOCD # 307219) located approximately 5,288-feet to the west of the

Cayler site.

The 350-bbl frac tank is equipped with a pressure switch that will control the groundwater the transfer pump. A fluid level switch controls on/off electricity to the compressors and electric pumps. When the water level in the tank achieves a designated height in the recovery tank, the transfer pump will be activated to discharge the water to the disposal facility. When the water level has been depleted to a designated level, the switch will signal the pump to turn-off.

3.0 CONCLUSION

3.1 Conclusion

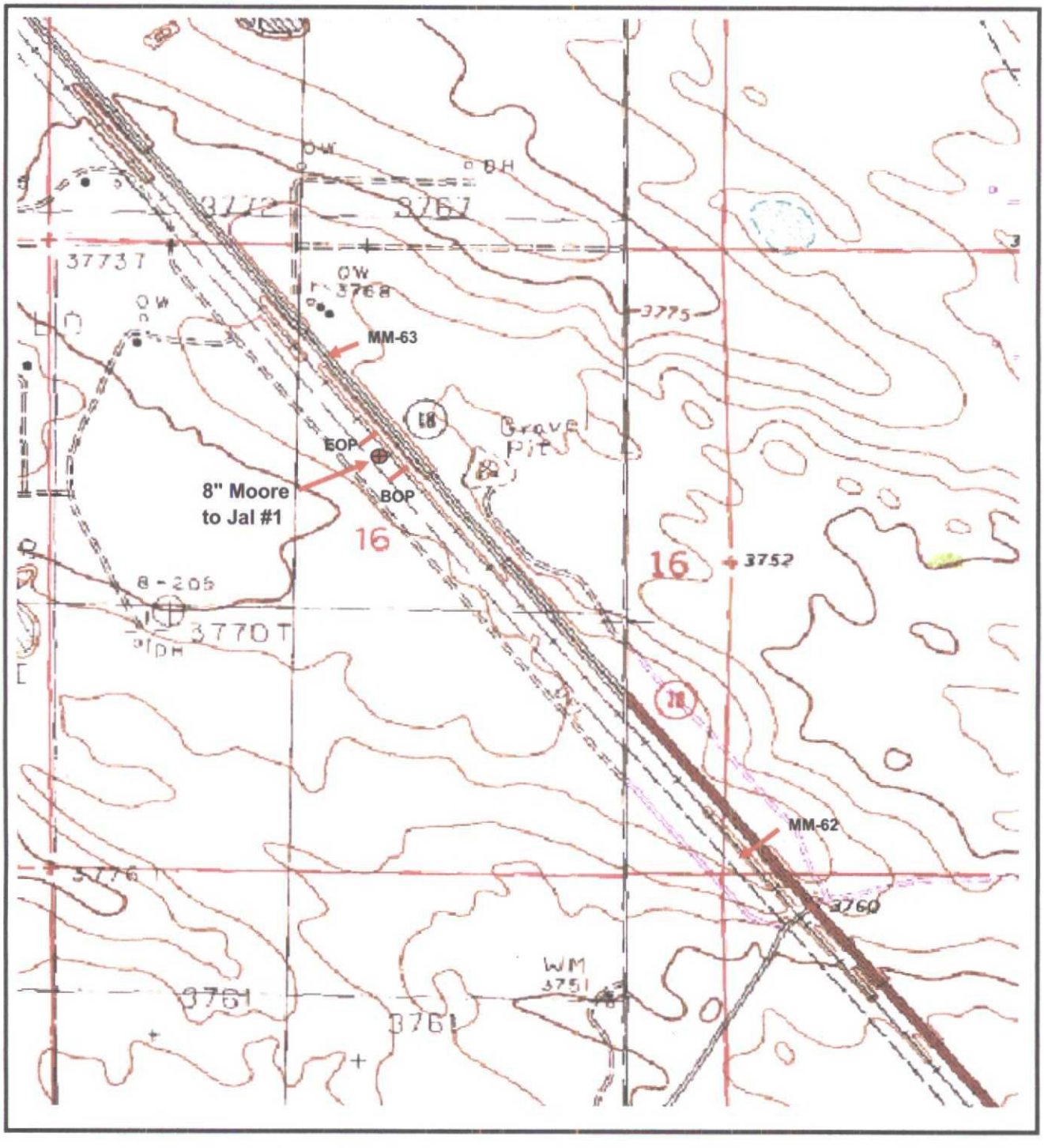
The benefit of continuously disposing recovered water, as proposed, is that it increases the run time for the PSH recovery system. A second benefit is that additional pneumatic and high volume electric total fluids pumps were able to be added to PSH impacted wells since water disposal delays will no longer impede the recovery process. The ultimate result will be enhanced PSH recovery and mitigation of plume expansion. Total volumes of oil and water recovered by the system will be included in future Annual Groundwater Monitoring reports.

APPENDIX A

Figures

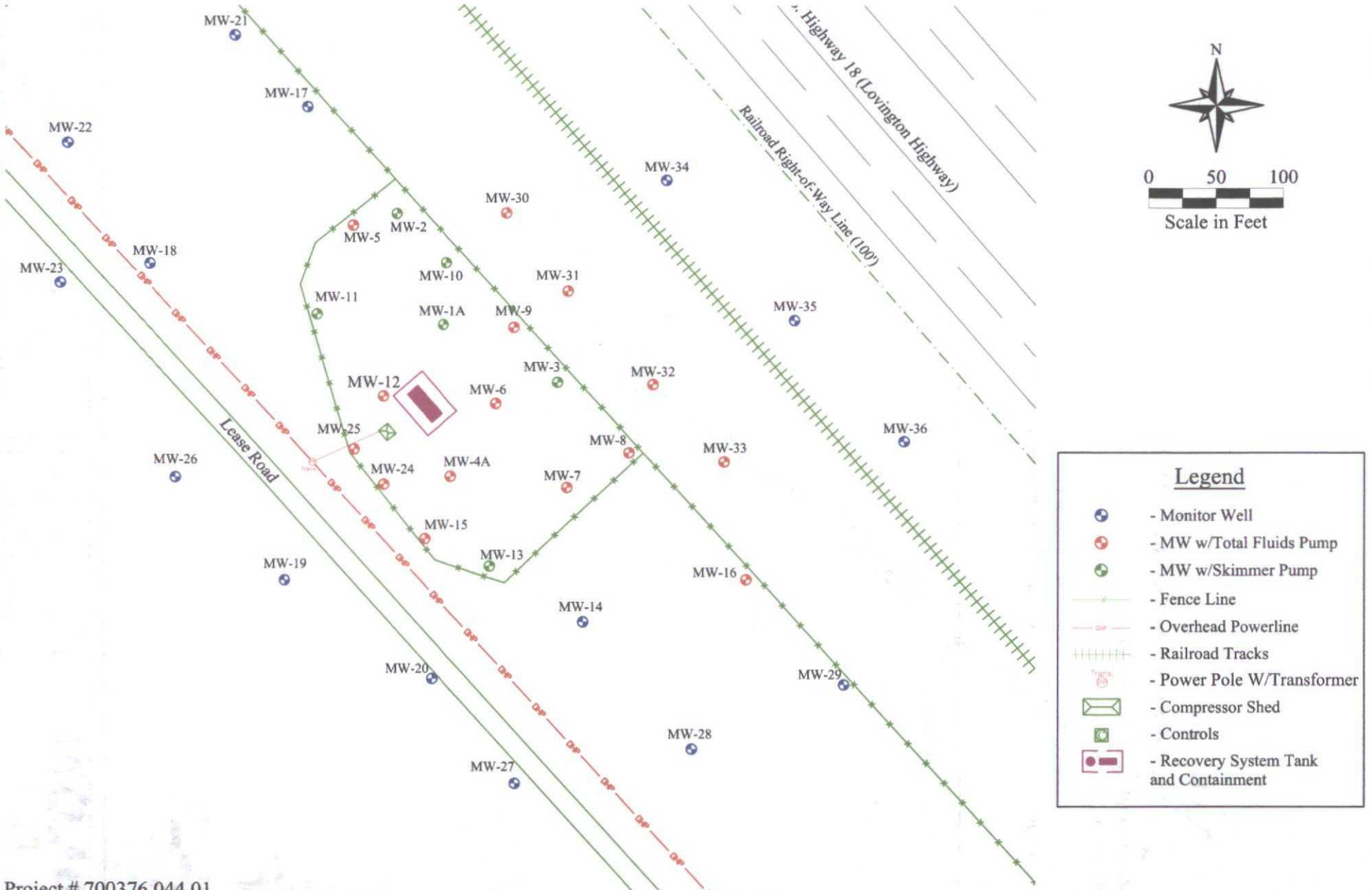
Figure 1 – Topographic Map
Figure 2 – Moore to Jal #1 Site Plan
Figure 3 – HDPE Transfer Line Layout Plan
Figure 4 – Flow Path Detail

8" Moore to Jal #1 #2
Topographic Map



Center: 32.50' 13.79"N 103.15' 25.39"W
Elevation at center: 3,763 feet (1,147 meters)
Quad: USGS Lovington SE
Drg Name: o32103g3
Drg Source Scale: 1:24,000

Plains Pipeline, LP



Project # 700376.044.01

TALON LPE

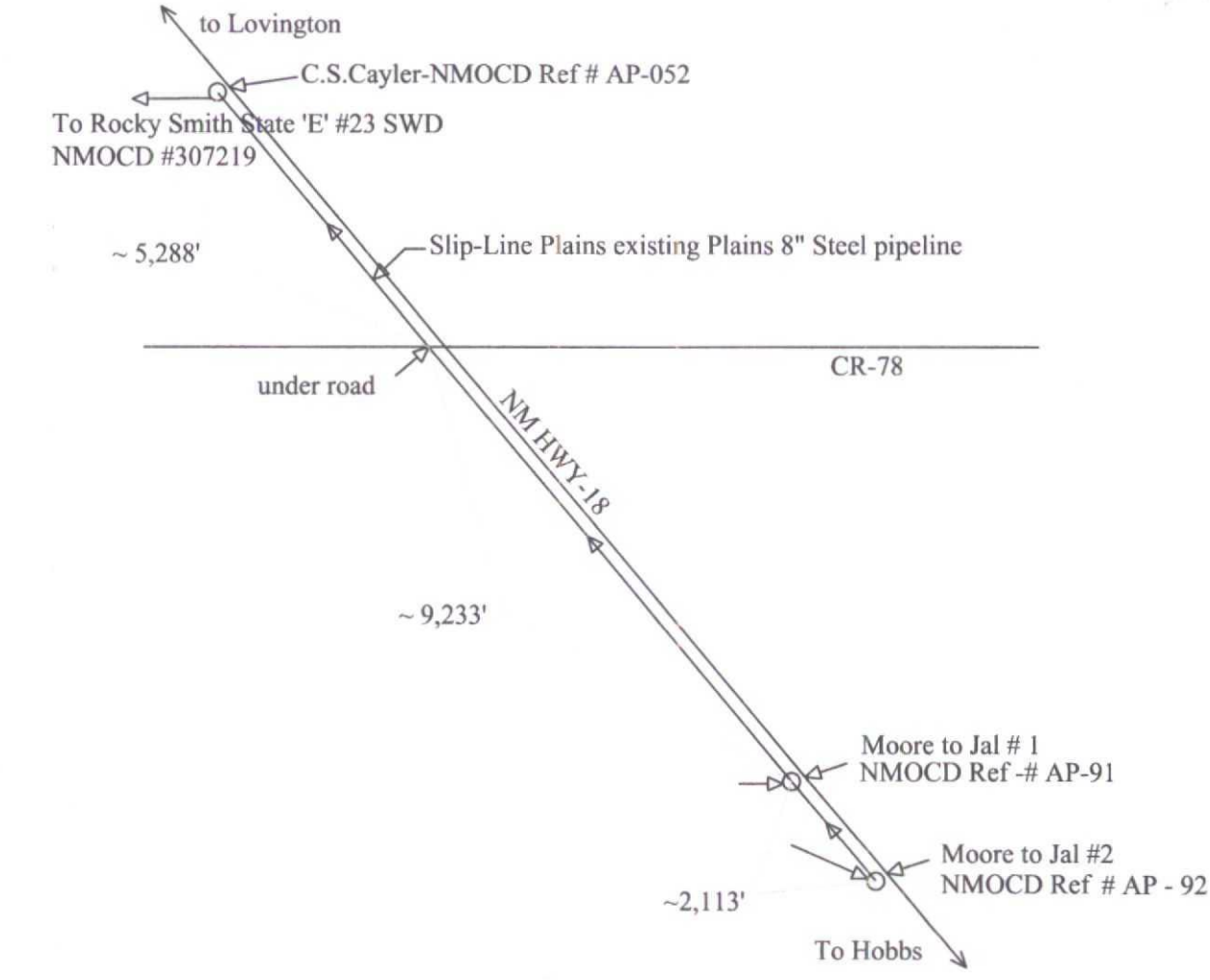
Date: 05/09/2013
Scale: 1" = 100'
Drawn By: TJS

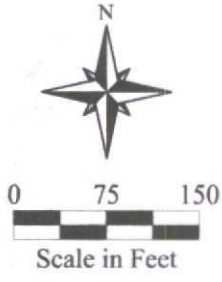
8" Moore to Jal #1

SRS # 2002-10270, NMOCD REF. # AP-91

9.2 Miles SE of Lovington, NM, Lea County, New Mexico

Figure 1 - Site Plan

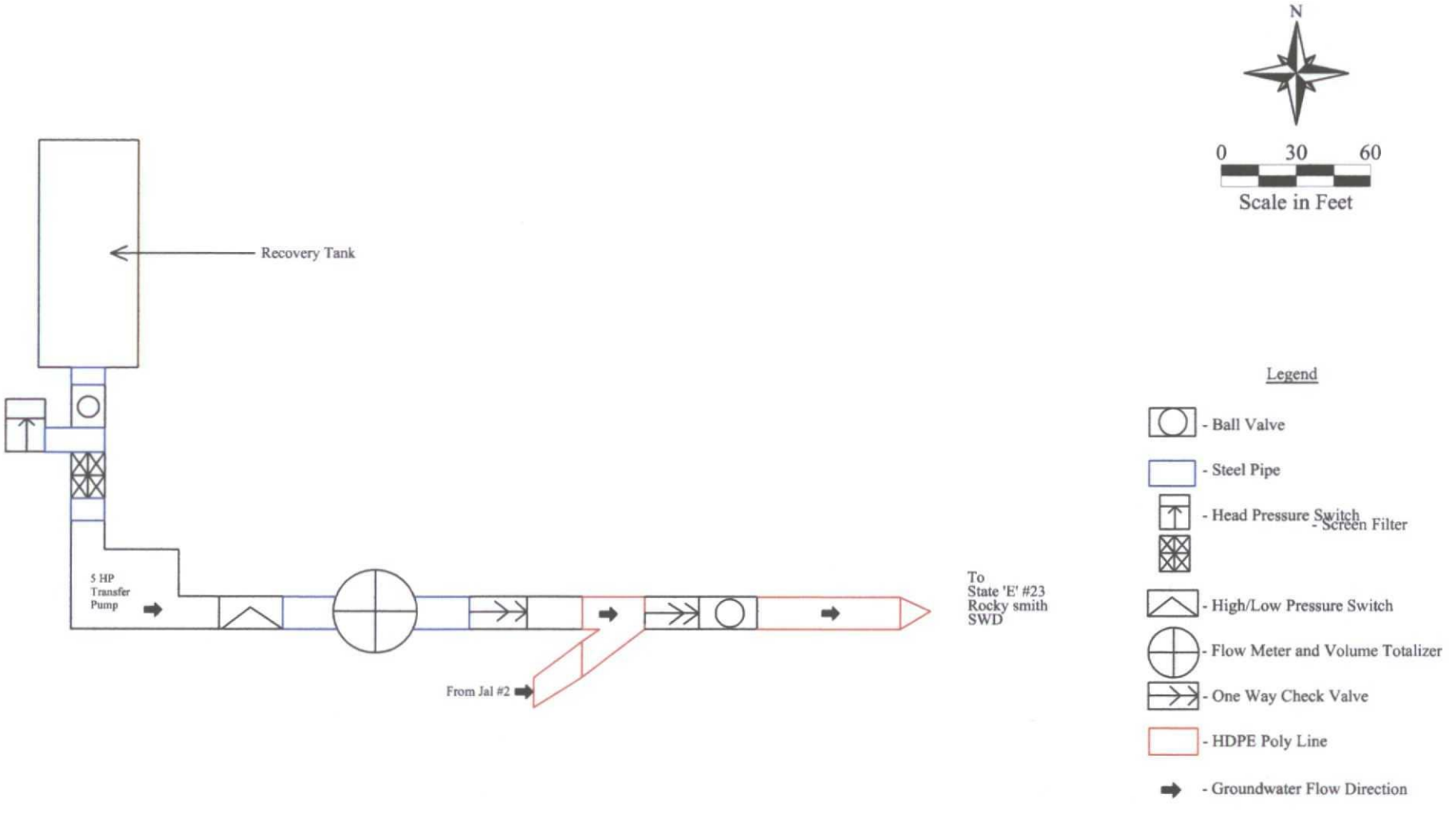




TALON LPE

Date:	03/02/2011
Scale:	1" = 150'
Drawn By:	TJS

Moore to Jal #1 & #2
SRS # 2002-10270 & 2002-10273
Hobbs, Lea County, New Mexico
Figure 3 - HDPE Transfer Line Layout Plan



TALON LPE

Date: 05/09/2013
Scale: 1" = 60'
Drawn By: TJS

Moore to Jal #1
SRS #2002-10270 & 2002-10273
Lea County, New Mexico
Figure 4 - Flow Line Detail