# **AP-113**

# GENERAL CORRESPONDENCE

2014



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### **Annual Site Status Report**

Holly Energy Partners Hobbs Tank 5201 Release Ap 113 NW 1/4 of the NW 1/4 of Section 22 Township 19 South, Range 38 East Lea County, New Mexico

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### **Section 1.0** Introduction

This annual status report is submitted by Conestoga-Rovers Associates (CRA) on behalf of Holly Energy Partners (HEP) for the Hobbs Tank 5201 Release Site (AP-113) located in Lea County, New Mexico (Figure 1). The C-141 notification of the pipeline release was submitted to the New Mexico Oil Conservation District (NMOCD) on July 22, 2004. This report covers activities at the Site for the period from December 2013 to June 2014. This report contains information on the status of the crude oil found on groundwater in the area of the release, groundwater monitoring activities and crude oil recovery.

The Stage 1/Stage 2 Abatement Plan was submitted to NMOCD on October 19, 2012. The public comment period was completed on April 12, 2013 and the NMOCD approved the plan as a Stage 1/ Stage 2 Abatement Plan on April 20, 2013. An access agreement for the site with Enterprise Products was completed on March 27, 2013. Approval to proceed with the installation of the four recovery/monitor wells by the New Mexico Office of the State Engineer was received on May 2, 2013. The four recovery wells were installed during the week of June 21, 2013. The installation of the crude oil recovery system with the pump in well RW-1, recovered crude oil storage tank and containment and telemetry was completed in September 2013.

### 1.1 Site Background

On July 22, 2004, a leak of an unknown volume was discovered in a 6-inch pipeline from the crude oil truck unloading rack to the 5201 storage tank. The line was exposed and clamped and the section was eventually replaced. Petroleum stained soil in an area covered approximately 4 feet by 20 feet by 18 feet deep and was immediately excavated from the release area. Additional staining observed close to the tank was not excavated due to the proximity of the tank and fear of compromising the 1930-vintage tank's structural integrity. No fluid was observed in the excavation. The Site is located on the HEP tank farm, which is owned by Enterprise Products.

### 1.2 Site Setting

The Site is located approximately 3.5 miles south of Hobbs, New Mexico in the NW ¼ of the NW ¼ of Section 22, Township 19 South, and Range 38 East in Lea County, New Mexico (32° 39.079 'N, 103°8.530' W) on County Road 61. The topography at the Site is relatively flat and the average elevation is 3,595 feet mean sea level (Figure 1). The surrounding area contains crude oil storage tanks and open range land.



### 1.3 Summary of Previous Investigations

Safety and Environmental Solutions Inc. (SES) installed six groundwater monitoring wells, one recovery well and advanced seven boreholes, in order to characterize the release and to initially recover the released crude oil in the area of the tank. Five boreholes and two monitor wells were installed inside of the berm area in 2004. The first borehole was completed as a 2-inch monitor well (MW-1) adjacent to the leak location when crude oil was observed in the borehole. One monitor well was installed by Teppco in 2004 and was used to establish groundwater flow direction. Two monitor wells, MW-2 and MW-3, were installed outside the bermed area in 2004. A 4-inch recovery well (RW-1) was installed in the area near the tank and MW-1 in 2004. In 2010, two additional monitoring wells were installed, MW-4 outside the bermed area and MW-5 inside the bermed area (Figure 2). The Teppco well was abandoned in 2010.

SES monitored groundwater conditions and recovered crude oil from 2004 to 2011. In 2004 crude oil was initially measured in MW-1 at approximately 6 feet thick. In the recovery well, RW-1, the initial product thickness was measured at 2.75 feet. Crude oil and impacted soil was not found in any other areas of the Site. Four 4-inch recovery/monitor wells were installed inside the berm area and down-gradient of the release in June 2013. A scavenger pump system which recovers crude oil only was installed in September 2013 and used to recover crude oil from well RW-1.

Outside the tank berm area and approximately 200 feet southeast from the release point, benzene was the only dissolved phase hydrocarbon detected in the down-gradient area in monitor well MW-2 and had a concentration above the New Mexico Water Quality Control Commission (NMWQCC) standard of 10  $\mu$ g/L. Benzene concentrations in this well were 26  $\mu$ g/L in 2004 and 72  $\mu$ g/L in 2005. There have been no detections of hydrocarbons above the NMWQCC standards in any of these wells since 2005.

### 1.4 Site Conceptual Model

The primary chemicals of concern are hydrocarbon constituents that originated from the crude oil. The Site is located in an area of multiple crude oil gathering lines and is about 2 miles west of Highway 18, south of Hobbs, New Mexico. The closest residences are approximately 0.5 miles northeast from the Site. A water well search was conducted to identify wells within a one mile radius of the Site. A well is located approximately 500 feet to the southeast and upgradient of the Site. This well was sampled for hydrocarbons following the discovery of the release and was found to be un-impacted (Stage 1 Abatement Plan, November 2012, CRA).

The monitor wells located within close proximity to the release contained crude oil. Monitor wells located in close proximity to the release and within the bermed area of the tank also



showed hydrocarbon concentrations above state standards for benzene and toluene. Monitor wells located outside the bermed area and down-gradient of the release have shown concentrations below the state standards since 2005, indicating initial impacts have been mitigated in the area of the release.

In December 2004, MW-1 had a measured thickness of 2.82 feet, in August 2012 the thickness in MW-1 was 3.62 feet, in December 2012 the thickness was 3.23 feet and in June 2013 the thickness was 2.82 feet. RW-1 also had measurable crude oil. In December 2004, RW-1 had a measured thickness of 2.90 feet, in August 2012 the thickness was 2.95 feet, in December 2012 the thickness was 3.01 feet and in June 2013 the thickness was 2.76 feet. Four HTRW wells were installed in June 2013. Two of the four HTRW wells (HTRW-1 and HTRW-3) had a measured crude oil thicknesses of 0.01 feet each in June 2013 and December 2013. The crude oil from the release has diminished since the time of the release in 2004. Presently wells MW-1 and RW-1 contain less than 0.03 feet of crude oil and wells HTRW-1 and HTRW-3 do not contain any measurable crude oil.

Groundwater at the Site is found at approximately 44 to 49 feet-below ground surface (ft-bgs) and the groundwater flow direction is towards the east. The dissolved phase hydrocarbon concentrations in groundwater have been below the NMWQCC standards for benzene, toluene, ethylbenzene and total xylenes (BTEX) since 2005 in the down-gradient direction from the release and outside the immediate area of the release. The impacts to groundwater appear to be limited to the immediate area of the leak.

The NMOCD recommended remediation action levels for soil are dependent upon site specific ranking criteria outlined in the Guidelines for Remediation of Leaks, Spill, and Releases (August 1993). These criteria are:

- depth to groundwater;
- proximity of the wellhead to water sources or private domestic wells; and
- distance to surface water bodies to include but not limited to perennial rivers, streams, creeks, irrigation canals and ditches, lakes, ponds and playas.

The depth to groundwater at the Site is approximately 45 ft-bgs. The closest water well 500 feet southeast of the Site. There is a drainage ditch approximately 300 feet to the west of the Site. This ditch only contains water after a hard rainfall, due to climate and drought, this ditch rarely holds any water. Due to the current drought in the area, it is unlikely that there are any perennial rivers near the impacted area.



At the Site, groundwater is less than 50 feet, the closest domestic well is less than 1,000 feet from the release and the distance to a surface-water body is less than 1,000 feet from the Site. Based on these ranking criteria and the Guidelines for Remediation of Leaks, Spills and Releases (August 1993), the ranking score for groundwater is 20, for the domestic well it is 20 and for the surface-water body it is 10, for a total ranking score of 50. With the total ranking score of over 19, the NMOCD recommended remediation action levels for hydrocarbons in soil for the Site are:

- 10 milligrams per kilogram (mg/kg) for benzene;
- 50 mg/kg for total BTEX;
- 100 mg/kg for TPH; and

The NMWQCC standards for hydrocarbons in groundwater are as follows:

- 0.01 milligrams per liter (mg/L) for benzene;
- 0.75 mg/L for toluene;
- 0.75 mg/L for ethylbenzene; and
- 0.62 mg/L for total xylenes.

There appears to be no immediate threat to the environment or to drinking water wells located in the area, caused by the release and any remaining impacts. The crude oil has a very low mobility and does not readily desorb nor dissolve and therefore, the crude oil impacts have remained in the immediate area of the release. The crude oil first measured at the Site in 2004 has not migrated from the area, suggesting that soil impacts have been mitigated and supporting the conclusion that the released crude oil has a low mobility rate and has only impacted the area of the release.

### Section 2.0 Site Activities

An evaluation of existing wells was conducted in August 2012 and presented in the August 2013 Site Status Report. Groundwater monitoring was conducted at the Site by CRA in December 2012, June 2013, December 2013 and June 2014. The groundwater monitoring included acquisition of groundwater samples for laboratory analysis for BTEX and measurement of fluid levels in all monitor wells and the recovery wells. In June 2013, four 4-inch recovery wells were installed for use in the recovery of the crude oil and groundwater monitoring. Crude oil has been recovered from well RW-1 since September 2013 using the scavenger pump system, which recovers only crude oil. In July 2014, the scavenger pump system was removed



and replaced with a skimmer pump system, which recovers only crude oil. This system can more readily recover the crude oil at rate equal to the recharge rate crude oil, which is at rate of approximately 2 gallons/week.

### Section 3.0 Groundwater Monitoring Procedures and Results

For this reporting period, groundwater monitoring was conducted at the Site by CRA in December 2013 and June 2014. For the December 2013 and June 2014 monitoring, fluid levels were measured in all monitor wells and recovery wells. In December 2013, groundwater samples were collected from wells that did not contain crude oil and included four monitor wells (MW-2, MW-3, MW-4 and MW-5) and two recovery wells (HTRW-2 and HTRW-4). For the June 2014 groundwater sampling event, the sampled wells included MW-2, MW-3, MW-4, MW-5, HTRW-1, HTRW-2, HTRW-3 and HTRW-4.

Prior to purging of the wells and obtaining groundwater samples, fluid levels were measured in the wells using an oil/water level indicator. The wells were purged at a rate of 160 ml/min or less, and groundwater samples were collected using the low flow purging technique following stabilization of the field parameters. The meters used for the field parameters were calibrated prior to use. Field parameters obtained during purging included temperature, specific conductance, pH, dissolved oxygen and oxidation reduction potential (ORP) and are shown in Appendix B. The wells were sampled for BTEX analysis by Method 8260. Groundwater samples were immediately placed into the appropriate laboratory provided containers following field parameter measurements and placed in an ice-chilled cooler for transport to the DHL laboratory under chain-of-custody procedures.

#### December 2013

Historically, the crude oil has been found in the central portion of the Site and in the immediate area adjacent to and east of Tank 5201. The crude oil thickness in well RW-1 was measured at 2.90 feet in August 2013 and measured in well MW-1 at 2.57 feet in October 2013. In December 2013, the crude oil was measured in monitor well MW-1 at 2.40 feet and in recovery well RW-1 at 0.01 feet in RW-1. The crude oil thickness in wells HTRW-1 and HTRW-3 was 0.01 feet in both of the wells. The crude oil thicknesses for December 2013 are shown in Figure 3 and detailed in Appendix A.

Water levels measured in December 2013 were approximately 1.0 feet lower than the water levels that were measured in December 2012. For the December monitoring period, the depth to groundwater across the Site was approximately 45 ft-bgs. The groundwater flow in



December was towards the east and the groundwater gradient is relatively flat with a gradient of 0.001 feet/foot (Figure 4).

Table 1 summarizes the analytical results for December 2013 and June 2014. The December 2013 hydrocarbon concentrations for each monitor well are shown in Figure 4 and summarized in Appendix B. The December 2013 laboratory report is contained Appendix C. Concentrations of dissolved BTEX in groundwater during December 2013 were not detected above the NMWQCC standards outside the berm area (Figure 4). The analytical results for these wells are summarized as follows:

- Of the four monitor wells sampled in December 2013, none of the BTEX constituents were detected above the lower laboratory reporting limits in three monitor wells; MW-3, MW-4 and MW-5; and
- Only benzene (1.02 μg/L) was detected at a concentration above the lower laboratory reporting limit in monitor well MW-2.

Within the berm area of the site and near the point of the release, BTEX constituents were detected above the lower laboratory reporting limits in December 2013 in wells HTRW-2 and HTRW-4. The analytical results for these wells are summarized as follows:

- Benzene was detected above the NMWQCC standard in HTRW-2 at 530  $\mu$ g/L and in HTRW-4 at 951  $\mu$ g/L; and
- Toluene, ethylbenzene and total xylenes were detected in these wells above the lower laboratory reporting limit, but below the NMWQCC standards.

#### June 2014

Crude oil was measured in monitor well MW-1 at 1.94 feet and in recovery well RW-1 at 0.01 feet in June 2014. There was no measureable crude oil at the Site in any other wells. The crude oil thicknesses for June 2014 are shown in Figure 5 and detailed in Appendix A.

Water levels measured in June 2014 were lower than water levels measured in June 2013. For the June 2014 monitoring period, the depth to groundwater across the Site was approximately 45.5 ft-bgs. The groundwater flow in June was towards the east and the groundwater gradient is relatively flat with a gradient of 0.001 feet/foot (Figure 6).

The June 2014 hydrocarbon concentrations for each monitor well are shown in Figure 6 and summarized in Appendix A. The June 2014 laboratory report is contained Appendix C.



Concentrations of dissolved BTEX in groundwater during June 2014 were not detected above the NMWQCC standards outside the berm area (Figure 6). The analytical results for these wells are summarized as follows:

- Of the three monitor wells sampled in June 2014, none of the BTEX constituents were detected above the lower laboratory reporting limits in three monitor wells; MW-3, MW-4 and MW-5; and
- Only benzene (1.07 μg/L) was detected above the lower laboratory reporting limit in monitor well MW-4.

Within the berm area of the Site and near the point of the release BTEX constituents were detected above the lower laboratory reporting limits in June 2014 in wells HTRW-1, HTRW-2 HTRW-3 and HTRW-4. The analytical results for these wells are summarized as follows:

- Benzene was detected above the NMWQCC standard in wells HTRW-1 at 910 μg/L,
   HTRW-2 at 748 μg/L, HTRW-3 at 3,090 μg/L and in HTRW-4 at 1,720 μg/L;
- Toluene was not detected above the NMWQCC standard in three of the four recovery wells. Toluene was detected above the NMWQCC standard in HTRW-3 at 1,220 µg/L; and
- Ethylbenzene and total xylenes were detected in these wells above the lower laboratory reporting limit, but below the NMWQCC standards.

Additionally, analytical samples were collected for total metal analyses for chloride, nitrate, total bicarbonate, sodium, potassium, calcium, magnesium, arsenic, barium cadmium chromium, lead, mercury, selenium, silver and total dissolved solids (TDS), as requested by the NMOCD. These samples were collected from down-gradient well, MW-2, and an up-gradient well, MW-5, in June 2014. The analytical results for these wells are summarized as follows:

 None of the constituents (Table 2) were detected in these wells above the NMWQCC groundwater standards.

A review of these results showed a decrease in chloride of approximately 15 mg/L in concentration across the Site from the up-gradient well MW-5 to down-gradient well MW-2.



### Section 4.0 Product Recovery Status

The crude oil recovery system is monitored on-site on a monthly basis to assess the amount of recovered crude oil, the effectiveness of the pump and equipment maintenance. The fluid levels are measured in the recovery tank and in wells RW-1 and MW-1. The recovered crude oil will be scheduled for recycling when the tank is at 80% of capacity.

From September 2013 to June 2014, the system recovered 30 gallons of crude oil from recovery well RW-1. During this period, the crude oil thickness in RW-1 was lowered from 2.90 feet to 0.0 feet. The crude oil thickness in MW-1 was lowered from 2.82 feet to 2.40 feet. The system will continue to recover crude oil automatically, if present at a rate equal to the recharge rate of the crude oil. Currently there is no recoverable crude oil remaining in recovery well RW-1. The skimmer pump was moved to well MW-1 on July 7, 2014 and as of August 12, 2014, there was no measurable crude oil remaining in this well.

### Section 5.0 QA/QC Results

Quality Assurance/Quality Control (QA/QC) measures were followed according to the abatement plan. QA/QC samples for groundwater sampling in December 2013 and June 2014 included one trip blank sample and one duplicate groundwater sample per sample event. The results of the QA/QC samples for groundwater are summarized in Table 3. The cooler containing groundwater samples were shipped to the laboratory with a temperature blank and a laboratory prepared groundwater trip blank. The groundwater duplicate samples and the trip blank samples were analyzed for BTEX by Method 8260. The duplicate groundwater samples from December 2013 showed no variation in the results. The duplicate groundwater sample from June 2014 showed a less than 1 percent difference in the analytical results. There were no detections above the lower laboratory reporting limit for BTEX in the trip blank samples for December 2013 and June 2014.

#### Section 6.0 Conclusion and Recommendations

Groundwater hydrocarbon concentrations have remained stable since 2005 and have decreased due to removal of the crude oil by pumping. The measured thicknesses of the crude oil have decreased since the release in 2004. There has been no increase in thickness of the crude oil in any of the wells located near the release area indicating that there is no significant crude oil remaining in the area or in the vadose zone.



CRA will continue to monitor groundwater at the Site on a semi-annual basis. The next groundwater sampling event is scheduled to occur in December 2014. For the next monitoring period in December 2014, groundwater samples will be collected from all site wells that do not contain crude oil and analyzed for BTEX and other site closure parameters as needed.

The remedial strategy for site closure is based on the current NMOCD requirements. To close the Site with no further action, the crude oil would first have to be removed separately from groundwater (19.15.17.13 NMAC). The remedial technology for the Site to attain closure uses a crude oil only skimming system that does not depress the groundwater table to remove the crude oil. This system is designed to shut down automatically when water is encountered in the pump and can be restarted remotely without visiting the Site.

This crude oil removal system has been in operation since September 2013 in recovery well RW-1. Crude oil was not measured in this well in June 2014. This system was replaced by a skimmer pump controller and a 2-inch skimmer pump in July 2014 and the pump was placed in the two-inch well MW-1. As of August 12, 2014, there was no crude oil measured in wells MW-1, RW-1 and any other wells at the site. The pump will continue to be operated automatically and when necessary moved between wells RW-1 and MW-1 based on the presence of crude oil.

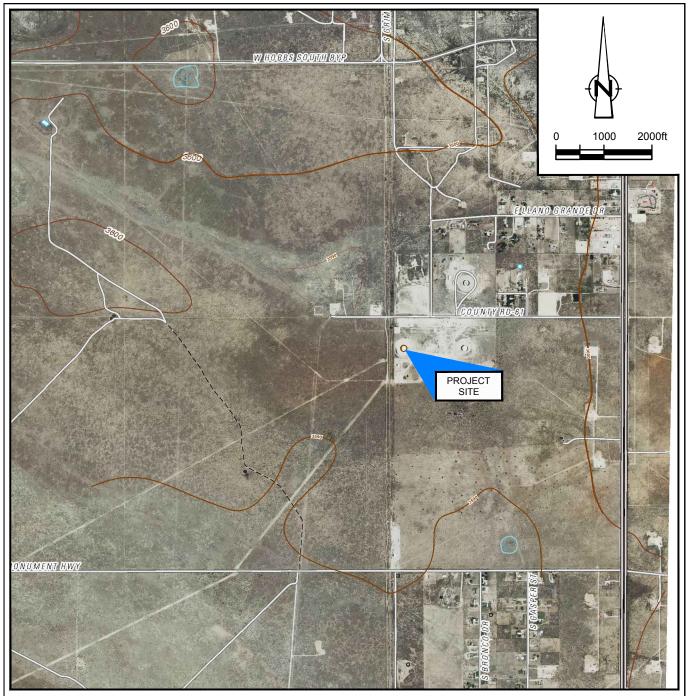
The accumulated sum of crude oil thickness present on site has decreased since August 2012 to *de minimis* thickness. The total thicknesses for these wells was 6.51 feet in August 2012, 6.24 feet in December 2012, 5.58 feet in June 2013, 2.41 feet in December 2013, 1.95 feet ion June 2014 and as of August 7, 2014 the sum thickness was 0.00 feet.

It appears that the crude oil has been removed to a *de minimis* thickness, the Site will continue to be monitored for crude oil thickness and the crude oil recovery system will be operated for the next three months. If crude oil is no longer recoverable at the Site, site closure will be requested from NMOCD. Based on existing site conditions and the removal of the crude oil, the site closure will meet State standards.



### **Figures**





SOURCE USGS 7.5 MINUTE QUAD "HOBBS WEST AND HOBBS EAST, NEW MEXICO" DATED 2010

LAT/LONG: 32.6549° NORTH, 103.1382° WEST COORDINATE NAD83 DATUM, U.S. FOOT STATE PLANE ONE - NEW MEXICO EAST

### figure 1

SITE LOCATION MAP HOBBS STATION TANK 5201 HOBBS, NEW MEXICO Holly Energy Partners



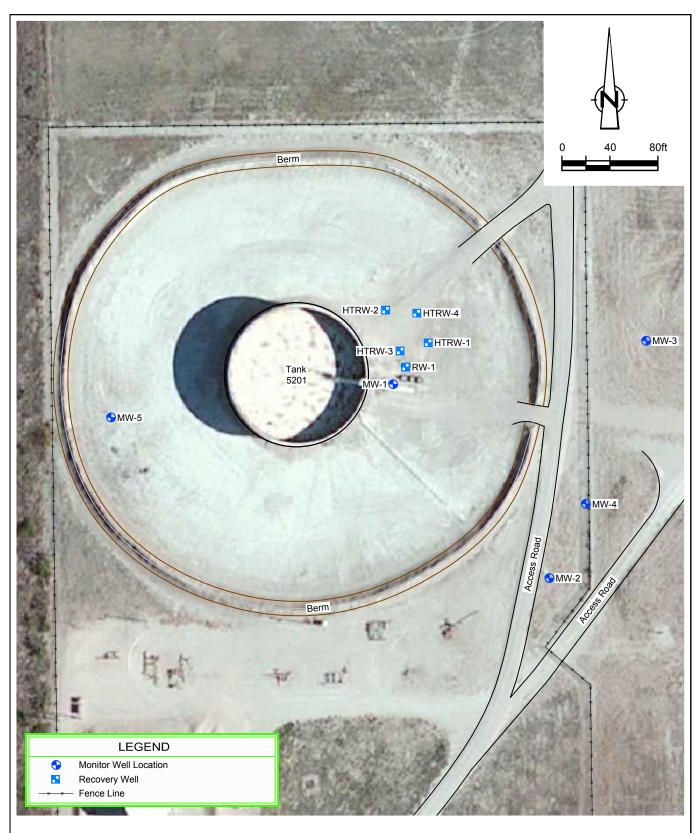
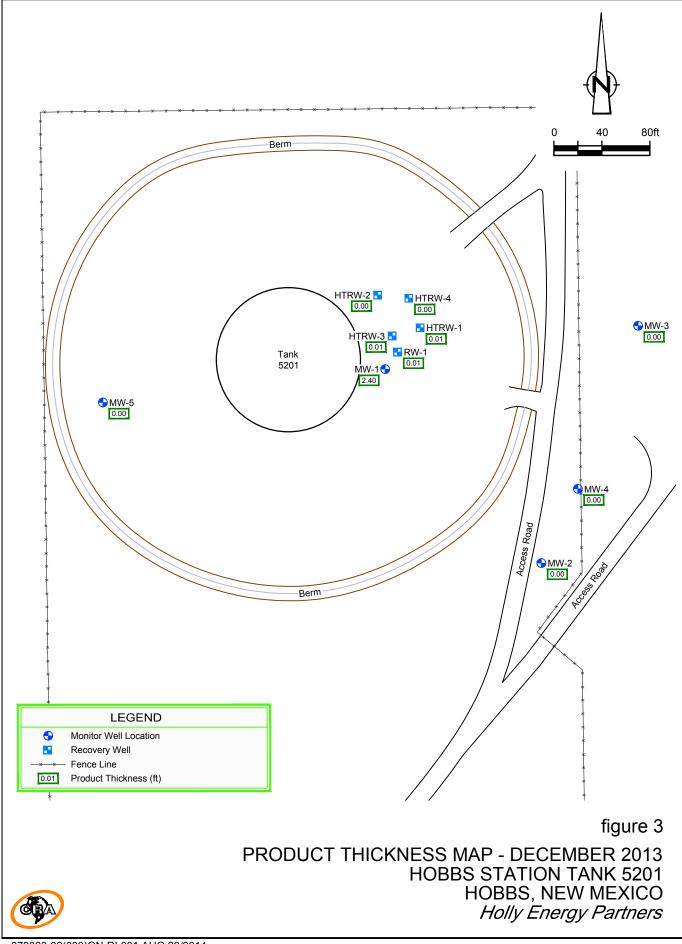
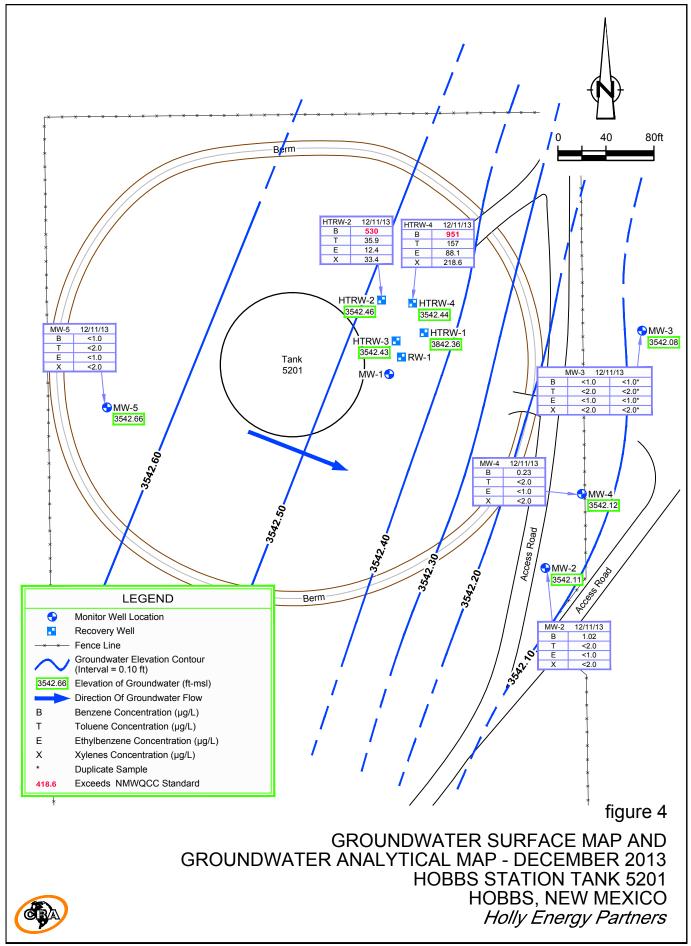
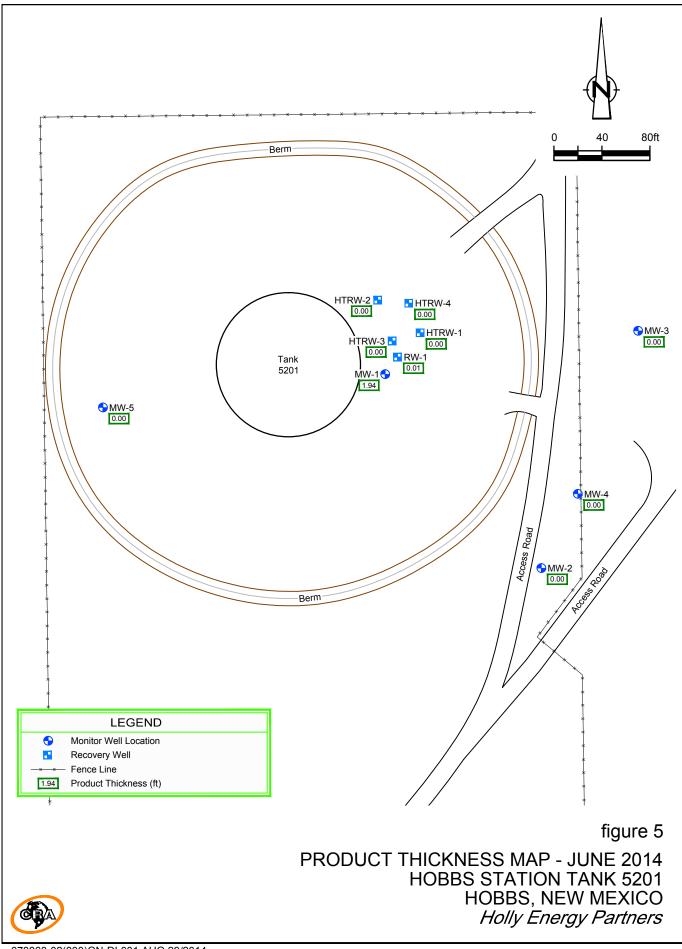


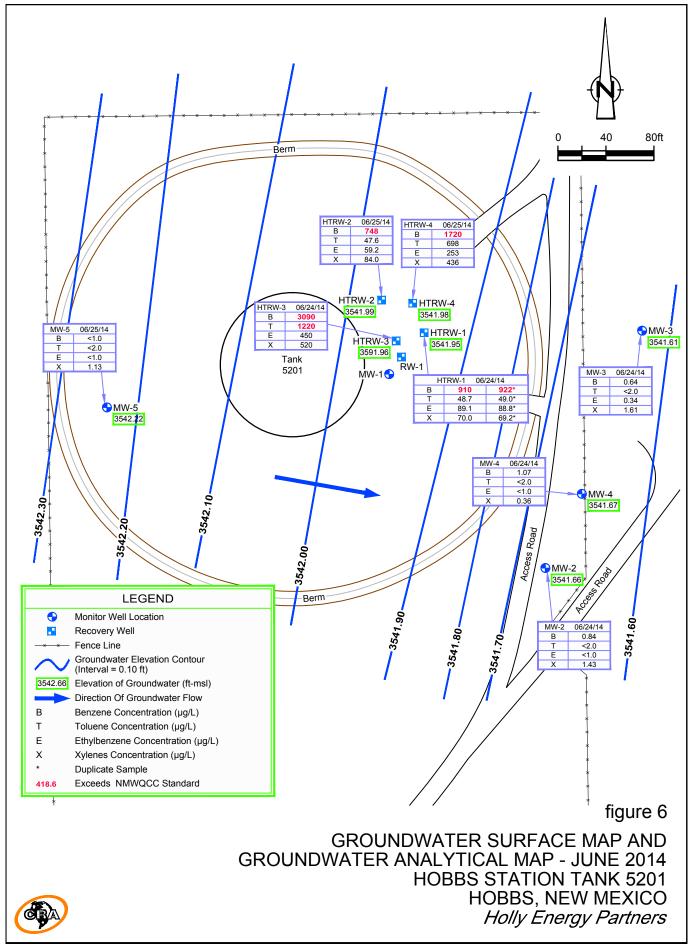
figure 2 SITE MAP HOBBS STATION TANK 5201 HOBBS, NEW MEXICO Holly Energy Partners











### **Tables**



Table 1 Summary of Groundwater Hydrocarbon Analytical Results for August 2012 to June 2014
Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl-benzene (µg/L)	Xylenes (total, µg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft- msl)
NMWQCC Groundwater							
Standards		10	750	750	620		
MW-2	08/07/12	0.88	< 5.0	< 5.0	< 15	47.44	3,543.41
	12/20/12	0.83	<2.0	<1.0	<2.0	47.90	3,542.95
	06/25/13	0.88	<2.0	<1.0	<2.0	48.27	3,542.58
	12/11/13	1.02	<2.0	<1.0	<2.0	48.74	3,542.11
	06/25/14	0.84	<2.0	<1.0	1.43	49.70	3,541.66
MW-3	08/07/12	< 5.0	< 5.0	< 5.0	< 15	47.43	3,543.38
	12/20/12	<1.0	<2.0	<1.0	<2.0	47.87	3,542.94
duplicate	12/20/12	<1.0	<2.0	<1.0	<2.0	47.87	3,542.94
•	06/25/13	<1.0	<2.0	<1.0	<2.0	48.28	3,542.53
	12/11/13	<1.0	<2.0	<1.0	<2.0	48.73	3,542.08
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0	48.73	3,542.08
-	06/24/14	0.64	<2.0	0.34	1.61	49.20	3,541.61
MW-4	08/07/12	< 5.0	< 5.0	< 5.0	< 15	47.44	3,543.41
	12/20/12	<1.0	<2.0	<1.0	<2.0	47.89	3,542.96
	06/25/13	0.29	<2.0	<1.0	<2.0	48.27	3,542.58
	12/11/13	0.23	<2.0	<1.0	<2.0	48.72	3,542.13
	06/24/14	1.07	<2.0	<1.0	0.36	49.18	3,541.67
MW-5	08/07/12	< 5.0	< 5.0	< 5.0	< 15	48.83	3,543.92
	12/20/12	<1.0	<2.0	<1.0	<2.0	49.26	3,543.49
	06/25/13	<1.0	<2.0	<1.0	<2.0	49.64	3,543.11
	12/11/13	<1.0	<2.0	<1.0	<2.0	50.09	3,542.66
	06/25/14	<1.0	<2.0	<1.0	1.13	50.53	3,542.22
HTRW-1	06/25/13	NSP	NSP	NSP	NSP	45.28	3,542.87
	12/11/13	NSP	NSP	NSP	NSP	45.79	3,542.36
	6/24/14	910	48.7	89.1	70.0	46.19	3,541.95
duplicate	6/24/14	922	49.0	88.8	69.2	46.19	3,541.95
HTRW-2	6/25/13	62.3	21.4	4.4	13.0	44.60	3,542.88
	12/11/13	530	35.9	12.4	33.4	45.05	3,542.42
	6/24/14	748	47.6	59.2	84.0	45.52	3,541.96
HTRW-3	6/25/13	NSP	NSP	NSP	NSP	45.88	3,542.88
	12/11/13	NSP	NSP	NSP	NSP	46.33	3,542.42
	6/24/14	3090	1220	450	520	46.79	3,541.96
HTRW-4	6/25/13	87.4	49.4	32.5	52.8	45.68	3,542.89
	12/11/13	951	157	88.1	219	46.13	3,542.44
	6/24/14	1720	698	253	436	46.59	3,541.98

### Notes:

**BOLD = Exceeds New Mexico Water Quality Commission (NMWQC) Standard** 

μg/L = microgram per liter

< = Not detected above indicated level

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

BTEX analyzed by Method SW8260C

ft-bmp - feet-below measuring point

ft-msl - feet-mean sea level

NSP - Not Sampled Product

Table 2 Summary of Groundwater Inorganic Analytical Results

Sample ID	Date Sampled	Chloride	Nitrate	Sulfate	Total Bicarbonate	Sodium	Potassium	Calcium	Magnesium	TDS	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
NMWQCC Gr	oundwater Standards	250	10	600		-		-	-	1000	0.1	1	0.01	0.05	0.05	0.002	0.05	0.05
MW-2	6/25/2014	30.6	<0.1	1.43	673	98.1	1.80	96.4	76.2	729	0.0212	0.447	<0.001	< 0.006	0.000312	< 0.0002	<0.006	< 0.002
MW-5	6/25/2014	44.9	2.68	139	280	40.3	1.92	125	24.6	545	0.0066	0.132	<0.001	0.00273	0.000338	< 0.0002	0.00410	< 0.002

NOTES:

mg/L = milligrams per liter

< = analyte not detected above indicated value

**BOLD** = Exceeds NMWQCC Groundwater Cleanup Level

TDS = Total Disolved Solids
Mercury analyzed by Method SW7470A
Chloride, Nitrate and Sulfate analyzed by Method E300
Bicarbonate analyzed by Method M2320B
TDS analyzed by Method M2540C
All other metals analyzed by Method SW6020A

Table 3 Summary of Groundwater QA/QC Results for December 2013 to June 2014 Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

		Lab	oratory An	alytical Res	sults
				Ethyl-	Total
		Benzene	Toluene	benzene	Xylenes
Well No.	Date Sampled	(µg/L)	(µg/L)	(µg/L)	(µg/L)
NMWQC Gro	oundwater Standard	10	750	750	620
MW-3	12/11/13	<1.0	<2.0	<1.0	<2.0
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0
Trip Blank	12/11/13	<1.0	<2.0	<1.0	<2.0
HTRW-1	6/24/14	910	48.7	89.1	70.0
duplicate	6/24/14	922	49.0	88.8	69.2
Trip Blank	6/24/14	<1.0	<2.0	<1.0	<1.0

 $(\mu g/L)$  = micrograms per liter

< = Not detected above indicated level

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

BTEX analyzed by Method EPA 8260

### Appendix A

**Summary of Fluid Levels** 



Well ID/MP						Groundwater	Corrected Groundwater	
Elevation	Date	DTP	DTW	Prod. Thick	TD	Elevation	Elevation <sup>1</sup>	Totalize
Licration	Duto	(ft-bmp)	(ft-bmp)	(ft)	(ft-bmp)	(ft-msl)	(ft-msl)	(gals)
RW-1	08/07/12	48.06	51.01	2.95	58.19	3538.08	3,540.23	(94.0)
3589.09	12/20/12	48.47	51.48	3.01	00.10	3537.61	3,539.81	
0000.00	06/20/13	48.89	51.65	2.76		3537.44	3,539.45	
	08/23/13	49.05	51.95	2.90		3537.14	3,539.26	0
		49.05	51.95	2.90			· · · · · ·	U
	10/30/13					0.00	3,589.09	
	11/02/13							9.7
	11/13/13							9.9
	12/11/13	49.69	49.70	0.01		3539.39	3,539.40	10.0
	01/21/14							10.1
	03/13/14							11.1
	03/18/14		49.92	0.00		3539.17	3,539.17	11.1
	06/19/14	50.19	50.20	0.01		3538.89	3,538.90	13.1
MW-1	08/07/12	47.88	51.50	3.62	51.59	3540.55	3,543.19	
3592.05	12/20/12	48.32	51.55	3.23	01.00	3540.50	3,542.86	
	06/20/13	48.68	51.50	2.82		3540.55	3,542.61	
	10/30/13	48.96	51.53	2.57		3540.52	3.542.40	
	11/02/13	49.04	51.54	2.50		3540.51	3,542.34	
	11/13/13	49.04	51.54	2.52		3540.51	3,542.31	
	-						· · · · · · · · · · · · · · · · · · ·	
	12/11/13	49.15	51.55	2.40		3540.50	3,542.25	
	06/19/14	49.65	51.59	1.94		3540.46	3,541.88	
MW-2	08/07/12		47.44	0.00	52.42	3543.41		
3590.85	12/20/12		47.90	0.00		3542.95		
	06/25/13		48.27	0.00		3542.58		
	12/11/13		48.74	0.00		3542.11		
	06/19/14		49.19	0.00		3541.66		
MW-3	08/07/12		47.43	0.00	53.20	3543.38		
3590.81	12/20/12		47.87	0.00		3542.94		
	06/25/13		48.28	0.00		3542.53		
	12/11/13		48.73	0.00		3542.08		
	06/19/14		49.20	0.00		3541.61		
MW-4	08/07/12		47.44	0.00	62.58	3543.40		
3590.84	12/20/12		47.89	0.00	02.00	3542.95		
	06/25/13		48.27	0.00		3542.57		
	12/11/13		48.72	0.00		3542.12		
	06/19/14		49.18	0.00		3541.66		
MW-5	08/07/12		48.83	0.00	58.82	3543.92		
3592.75	12/20/12		49.26	0.00		3543.49		
	06/25/13		49.64	0.00		3543.11		
	12/11/13		50.09	0.00		3542.66		
	06/19/14		50.53	0.00		3542.22		
HTRW-1	06/25/13	45.27	45.28	0.01	60.10	3542.86	3,542.87	
3588.14	12/11/13	45.78	45.79	0.01		3542.35	3,542.36	
	06/19/14		46.19	0.00		3541.95	3,541.95	
HTRW-2	06/25/13		44.60	0.00	60.14	3542.91		
3587.51	12/11/13		45.05	0.00	55.17	3542.46		
	06/19/14		45.52	0.00		3541.99		
HTRW-3	06/25/13	45.87	45.88	0.01	60.14	3542.87	3,542.88	
3588.75	12/11/13	45.87	45.88	0.01	00.14	3542.87	3,542.88	
3300.73	06/19/14	40.3∠	46.79	0.00		3542.42	3,542.43	
	00/5-111				20.:-	0=1		
HTRW-4	06/25/13		45.68	0.00	60.16	3542.89 3542.44		
3588.57	12/11/13 06/19/14		46.13 46.59	0.00		3542.44 3541.98		
	00/13/14		₩0.08	0.00		JJ41.30		

Notes:
DTP - depth to product
DTW - depth to water
TD - total depth

ft - feet

ft-bmp - feet-below measuring point ft-msl - feet-mean sea level gals - gallons <sup>1</sup> groundwater elevation corrected for 0.73 specific gavity

## **Appendix B**

**Summary of Groundwater Analytical Results and Field Parameters** 

# Appendix B Summary of Groundwater Analytical Results and Field Parameters Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC														
Groundwater														
Standard		10	750	750	620								250	1.000
MW-2	08/23/04	26	4	5	14	43.45	3.547.40						124	835
3590.85	01/11/05	72	<2	<2	15	43.02	3,547.83						56	1,198
	03/08/06	<2	<2	<2	<6	43.44	3,547.41						48	852
	07/11/06	7.0	<2	<2	16	43.69	3,547,16						40	910
	09/07/06	4.2	1.9	<0.5	3.2	43.64	3,547.21						27	830
	12/19/06	2.1	1.0	0.9	4.3	43.83	3,547.02						28	810
	03/13/07	<0.5	0.6	1.2	2.3	44.04	3,546.81						28	840
	06/21/07	0.8	0.7	<0.5	3.8	44.11	3,546.74						23	810
	09/21/07	1.4	1.1	<0.5	3.2	43.87	3,546.98						17	790
	12/07/07	1.4	1.0	0.9	3.5	44.17	3,546.68						30	780
	03/04/08	1.4	0.8	1.8	3.3	44.27	3,546.58						12	800
	06/03/08	1.7	0.9	1.5	2.1	44.42	3,546.43						76	800
	09/23/08	1.2	<0.5	0.6	3.8	44.69	3,546.16						17	860
	12/18/08	1.0	0.8	< 0.5	1.2	45.82	3,545.03						17	840
	03/16/09	0.9	0.7	<0.5	2.9	44.98	3,545.87						19	900
	06/23/09	1.2	<1.0	<1.0	<2.0	45.12	3,545.73						25	890
	09/08/09	<1.0	<1.0	<1.0	<2.0	45.29	3,545.56						26	892
	12/17/09	<1.0	<1.0	<1.0	<2.0	45.50	3,545.35						22	870
	03/09/10	<1.0	<1.0	<1.0	<1.5	45.70	3,545.15						21	838
	06/16/10	<1.0	<1.0	<1.0	2.5	45.85	3,545.00						17	860
	09/01/10	1.0	<1.0	<1.0	<2.0	45.82	3,545.03						17	788
	12/06/10	1.6	<1.0	<1.0	<2.0	46.05	3,544.80						18	806
	03/18/11	1.3	<1.0	14	2.9	46.18	3,544.67						23	844
	06/23/11	1.1	<1.0	26	3.2	46.40	3,544.45						32	870
	10/07/11	1.2	<1.0	14	<2.0	46.75	3,544.10						37	1,020
	12/08/11	1.4	<1.0	5.7	3.6	46.91	3,543.94						51	966
	08/07/12	0.88	< 5.0	< 5.0	< 15	47.44	3,543.41	30.34	1.615	0.05	6.48	-125.9		
	12/20/12	0.83	<2.0	<1.0	<2.0	47.90	3,542.95	17.51	1.094	0.74	6.85	-254.0		
	06/25/13	0.88	<2.0	<1.0	<2.0	48.27	3,542.58	22.10	1.249	0.30	6.76	-60.6		
	12/11/13	1.02	<2.0	<1.0	<2.0	48.74	3,542.11	21.11	1.27	1.51	7.14	-117.0		
	06/25/14	0.84	<2.0	<1.0	1.43	49.19	3,541.66	19.94	1.078	1.19	6.89	-66.5		

# Appendix B Summary of Groundwater Analytical Results and Field Parameters Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID/ MP Elevation	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC														
Groundwater														
Standard		10	750	750	620								250	1,000
MW-3	08/23/04	<2	<2	<2	<6	43.50	3.547.31						88	574
3590.81	01/11/05	<2	<2	<2	<6	42.93	3,547.88						108	882
	03/08/06	<2	<2	<2	<6	43.35	3,547.46						176	755
	07/11/06	<2	<2	<2	<6	43.63	3,547.18						192	868
	09/07/06	<0.5	<0.5	<0.5	<1	43.61	3,547.20						150	770
	12/19/06	<0.5	<0.5	<0.5	<1	43.76	3,547.05						160	860
	03/13/07	<0.5	<0.5	<0.5	<1.0	43.97	3,546.84						160	850
	06/21/07	<0.5	<0.5	<0.5	<1.0	44.03	3,546.78						160	760
	09/21/07	<0.5	<0.5	<0.5	<1.0	43.83	3,546.98						120	750
	12/07/07	<0.5	<0.5	<0.5	<1.0	44.11	3,546.70						180	830
	03/04/08	<0.5	<0.5	<0.5	<1.0	44.32	3,546.49						160	780
	06/03/08	<0.5	<0.5	<0.5	<1.0	44.35	3,546.46						170	990
	09/23/08	< 0.5	<0.5	<0.5	<1.0	44.65	3,546.16						160	860
	12/18/08	<0.5	<0.5	<0.5	<1.0	44.77	3,546.04						130	840
	03/16/09	< 0.5	<0.5	<0.5	<1.0	44.92	3,545.89						150	880
	06/23/09	<1.0	<1.0	<1.0	<2.0	45.08	3,545.73						170	900
	09/08/09	<1.0	<1.0	<1.0	<2.0	45.24	3,545.57						150	906
	12/17/09	<1.0	<1.0	<1.0	<2.0	45.44	3,545.37						160	905
	03/09/10	<1.0	<1.0	<1.0	<1.5	45.66	3,545.15						150	905
	06/16/10	<1.0	<1.0	<1.0	<2.0	45.80	3,545.01						140	904
	09/01/10	<1.0	<1.0	<1.0	<2.0	45.80	3,545.01						140	873
	12/06/10	<1.0	<1.0	<1.0	<2.0	46.00	3,544.81						130	899
	03/18/11	<1.0	<1.0	<1.0	<2.0	46.14	3,544.67						120	897
	06/23/11	<1.0	<1.0	<1.0	<2.0	46.38	3,544.43						110	878
	10/07/11	<1.0	<1.0	<1.0	<2.0	46.72	3,544.09						110	886
	12/08/11	<1.0	<1.0	<1.0	<2.0	46.87	3,543.94						110	901
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	47.43	3,543.38	30.29	1.875	0.72	5.80	109.3		
	12/20/12	<1.0	<2.0	<1.0	<2.0	47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0		
duplicate	12/20/12	<1.0	<2.0	<1.0	<2.0	47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0		
	06/25/13	<1.0	<2.0	<1.0	<2.0	48.28	3,542.53	20.80	1.453	1.98	6.60	204.9		
	12/11/13	<1.0	<2.0	<1.0	<2.0	48.73	3,542.08	19.80	1.54	4.40	6.76	152.0		
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0	48.73	3,542.08	19.80	1.54	4.40	6.76	152.0		
	06/24/14	0.64	<2.0	0.34	1.61	49.20	3,541.61	22.28	1.242	2.94	6.78	0.2		1

### Summary of Groundwater Analytical Results and Field Parameters Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico **Appendix B**

Monitor Well ID/ MP Elevation	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC Groundwater Standard		10	750	750	620								250	1,000
MW-4	06/16/10	<1.0	<1.0	<1.0	<2.0	45.82	3,545.03						30	505
3590.85	09/01/10	3.3	<1.0	<1.0	<2.0	45.81	3,545.04						24	584
	12/06/10	<1.0	<1.0	<1.0	<2.0	46.01	3,544.84						38	670
	03/18/11	<1.0	<1.0	<1.0	<2.0	46.16	3,544.69						62	932
	06/23/11	<1.0	<1.0	<1.0	<2.0	46.40	3,544.45						48	885
	10/07/11	<1.0	<1.0	<1.0	<2.0	46.74	3,544.11						46	853
	12/08/11	<1.0	<1.0	<1.0	<2.0	46.88	3,543.97						43	812
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	47.44	3,543.41	28.73	1.457	0.12	6.45	1.3		
	12/20/12	<1.0	<2.0	<1.0	<2.0	47.89	3,542.96	18.18	1.149	0.61	6.83	-238.0		
	06/25/13	0.29	<2.0	<1.0	<2.0	48.27	3,542.58	21.30	1.306	0.14	6.70	129.8		
	12/11/13	0.23	<2.0	<1.0	<2.0	48.72	3,542.13	20.75	1.32	1.26	7.20	-2.0		
	06/24/14	1.07	<2.0	<1.0	0.36	49.18	3,541.67	22.22	1.168	1.07	6.75	-13.3		
MW-5	03/18/11	<1.0	<1.0	<1.0	<2.0	47.61	3,545.14						33	510
3592.75	06/23/11	<1.0	<1.0	<1.0	<2.0	47.83	3,544.92						29	483
	10/07/11	<1.0	<1.0	<1.0	<2.0	48.17	3,544.58						32	543
	12/08/11	<1.0	<1.0	<1.0	<2.0	48.31	3,544.44						36	558
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	48.83	3,543.92	27.30	0.775	4.84	6.01	115.9		
	12/20/12	<1.0	<2.0	<1.0	<2.0	49.26	3,543.49	17.49	0.633	4.70	7.04	-187.0		
	06/25/13	<1.0	<2.0	<1.0	<2.0	49.64	3,543.11	22.20	0.848	4.60	6.63	181.1		
	12/11/13	<1.0	<2.0	<1.0	<2.0	50.09	3,542.66	19.35	0.801	4.79	7.37	86.0		
	06/25/14	<1.0	<2.0	<1.0	1.13	50.53	3,542.22	20.39	0.782	3.54	6.91	39.2		
HTRW-1	06/25/13	NSP	NSP	NSP	NSP	45.28	3,542.87							
3588.14	12/11/13	NSP	NSP	NSP	NSP	45.79	3,542.36							
	6/24/14	910	48.7	89.1	70.0	46.19	3,541.95	21.90	1.533	1.37	6.77	-108.5		
duplicate	6/24/14	922	49.0	88.8	69.2	46.19	3,541.95	21.90	1.533	1.37	6.77	-108.5		
HTRW-2	6/25/13	62.3	21.4	4.4	13.0	44.60	3,542.91	21.70	1.233	2.80	6.81	180.2		1
3587.51	12/11/13	530	35.9	12.4	33.4	45.05	3,542.46	20.08	1.43	1.07	7.34	-2.00		1
	6/24/14	748	47.6	59.2	84.0	45.52	3,541.99	19.88	1.536	0.68	6.86	-128.9		
HTRW-3	6/25/13	NSP	NSP	NSP	NSP	45.88	3,542.88							
3588.75	12/11/13	NSP	NSP	NSP	NSP	46.33	3,542.42							
	6/24/14	3090	1220	450	520	46.79	3,541.96	21.17	1.56	0.75	6.70	-160.1		
HTRW-4	6/25/13	87.4	49.4	32.5	52.8	45.68	3,542.89	22.30	0.96	2.04	6.87	190.9		
3588.57	12/11/13	951	157	88.1	219	46.13	3,542.44	20.41	1.44	0.95	7.5	-144		
	6/24/14	1720	698	253	436	46.59	3,541.98	21.9	1.751	1.16	7.01	-96.1		
					<u> </u>									l

BOLD = Exceeds New Mexico Water Quality Commission (NMWQC) Standard

μg/L = microgram per liter

mg/L= micrograms per liter

< = Not detected above indicated level

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

BTEX analyzed by Method EPA 8260

ft-bmp - feet-below measuring point

ft-msl - feet-mean sea level

deg-C - degrees-Celcius

mS/cm - milliSiemens per centimeter

mV - millivolts

NSP - Not Sampled Product

MP - Measuring Point

### **Appendix C**

Laboratory Reports (on disk)





14998 West 6th Avenue; Suite 800, Golden, Colorado 80401 Telephone: (720) 974-0935 Fax: (720) 974-0936

www.CRAworld.com

September 4, 2014

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Reference No. 078863

Carl J. Chavez, CHMM New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division, Environmental Bureau 1220 South St. Francis Drive, Santa Fe, New Mexico 87505

Re: Annual NMOCD Status Report - Hobbs Tank 5201-Hobbs, NM- AP-113 - Holly Energy Partners

Dear Carl:

Please find two copies with digital file copies of the Annual Status Report for the Hobbs Tank 5201 Release (AP-113). At your earliest convenience, we would like to discuss closure procedures for this site. I will call you next week to set up an appointment for this discussion.

If you would like any additional copies, please let me know. If any clarification is required, or if you have any questions, please contact me at 720-974-0942 or bstephenson@craworld.com.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Brad Stephenson, PG Senior Project Manager

BS/kp/1

Cc: Allison Stockweather

**Employment Opportunity** Employer



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### **Report**

### SITE STATUS REPORT

HOLLY ENERGY PARTNERS HOBBS TANK 5201 AP-113 NW 1/4 of the NW 1/4 of SECTION 22 TOWNSHIP 19 SOUTH, RANGE 38 EAST LEA COUNTY, NEW MEXICO

Prepared for: Allison Stockweather

### **Conestoga-Rovers & Associates**

14998 West 6th Avenue, Suite 800 Golden, Colorado 80401



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Appendix C		Well Survey Information	
Appendix D		Groundwater Laboratory Report	



#### 1.0 Introduction

This status report is submitted by Conestoga-Rovers Associates (CRA) on behalf of Holly Energy Partners (HEP) for the Hobbs Tank 5201 Release Site (AP-113) located in Lea County, New Mexico (Figure 1). The notification of the pipeline release was submitted to New Mexico Oil Conservation District (NMOCD) on July 22, 2004. This report covers activities at the Site for the period June 2013 to March 2014. This report contains information on the status of the crude oil found on groundwater in the area of the release, groundwater monitoring activities and crude oil recovery.

The Stage 1 Abatement Plan was submitted to NMOCD on October 19, 2012. The public comment period was completed on April 12, 2013 and the NMOCD approved the plan as a Stage 1/ Stage 2 Abatement Plan on April 20, 2013. An access agreement for the site with Enterprise Products was completed on March 27, 2013. Approval to proceed with the installation of the four recovery/monitor wells by the New Mexico Office of the State Engineer was received on May 2, 2013. The four wells were installed during the week of June 21, 2013. The installation of the crude oil recovery system with the pump in well RW-1, recovered crude oil storage tank and containment and telemetry was completed in September 2013.

#### 1.1 Site Background

On July 22, 2004, a leak of an unknown volume was discovered in a 6-inch pipeline from the crude oil truck unloading rack to the 5201 storage tank. The line was exposed and clamped and the section was eventually replaced. Petroleum stained soil in an area covered approximately 4 feet by 20 feet by 18 feet deep and was immediately excavated in the release area. Additional staining observed close to the tank was not excavated due to the proximity of the tank and fear of compromising the 1930-vintage tank's structural integrity. No fluid was observed in the excavation. The Site is located on land owned by Enterprise Products.

### 1.2 Site Setting

The Site is located approximately 3.5 miles south of Hobbs, New Mexico. The Site is located in the NW ¼ of the NW ¼ of Section 22, Township 19 South, Range 38 East in Lea County, New Mexico (32°39.079′N, 103°8.530′W). The topography at the Site is relatively flat and the average elevation is 3,595 feet mean sea level. The Site is located on the HEP Tank Farm on County Road 61. The surrounding land contains crude oil storage tanks and open range land.



### 1.3 Summary of Previous Investigations

Safety and Environmental Solutions Inc. (SES) installed six groundwater monitoring wells, one recovery well and advanced seven boreholes in order to characterize the release and to initially recover the released crude oil in the area of the tank from 2004 to 2012. Five boreholes and two monitor wells were installed inside of the berm area in 2004. The first borehole was completed as a 2-inch monitor well (MW-1) adjacent to the leak location when crude oil was observed in the borehole. One monitor well installed by Teppco in 2004 was used to establish groundwater flow direction. Two monitor wells, MW-2 and MW-3, were installed outside the bermed area in 2004. A 4-inch recovery well (RW-1) was also installed in the area near the tank and MW-1 in 2004. In 2010, two additional monitoring wells were installed, MW-4 outside the bermed area and MW-5 inside the bermed area (Figure 2). The Teppco well was abandoned in 2010.

SES monitored groundwater conditions and recovered crude oil from 2004 to 2011. In 2004 crude oil was initially measured in MW-1 at approximately 6 feet thick. In the recovery well, RW-1, the initial product thickness was measured at 2.75 feet. Crude oil was not found in any other areas of the Site. Outside the tank berm area and approximately 200 feet southeast from the release point, benzene was the only dissolved phase hydrocarbon detected in the down-gradient area in monitor well MW-2 with a concentration above the New Mexico Water Quality Control Commission (NMWQCC) standard of 10 ug/L. Benzene concentrations in this well were 26 ug/L in 2004 and 72 ug/L in 2005. Since 2005 there have been no dissolved phase hydrocarbons detected above NMWQCC standards in any of the wells that do not contain crude oil.

### 1.4 Site Conceptual Model

The Site is located on land leased from Enterprise Products. The primary chemicals of concern are hydrocarbon constituents that originated from the crude oil. The Site is located in an area of multiple crude oil gathering lines and is about 2 miles west of Highway 18, just south of Hobbs, New Mexico. The closest residences are approximately 0.5 miles northeast from the Site. A water well search was conducted to identify wells within a one mile radius of the Site. A well is located approximately 500 feet to the southeast of the Site. This well was sampled for hydrocarbons following the discovery of the release and was found to be un-impacted (Stage 1 Abatement Plan, November 2012, Conestoga-Rovers & Associates).

Groundwater at the Site is found at approximately 44.60 to 49.64 feet-below ground surface (ft-bgs) and the groundwater flow direction is towards the east. In December 2004, the wells located within close proximity to the release contained crude oil with a maximum measured thickness of 2.82 feet (MW-1). The crude oil from the release has been measured on the east side and in close proximity of the release near Tank 5201 in August 2012 with a thickness 3.62 feet and in June 2013 at 2.82 feet.



The dissolved phase hydrocarbon concentrations in groundwater have been below the NMWQCC standards for benzene, toluene, ethylbenzene and total xylenes (BTEX) since 2004 in the down-gradient direction from the release. Dissolved phase hydrocarbons were detected in low concentrations (below NMWQCC standards) in four of the five monitor wells located outside the leak area from 2004 to 2012. The impacts to groundwater appear to be limited to the immediate area of the leak.

The crude oil from the release has diminished since the time of the release in 2004 by pumping total fluids. The crude oil thickness in 2004 in well RW-1 was 2.90 feet, 3.72 feet in 2009 and 2.95 feet in 2009. Total fluids' pumping was suspended in 2011. In 2013 and prior to crude oil recovery only, the thickness was 2.90 feet.

There appears to be no immediate threat to the environment or to drinking water wells located in the area, caused by the release and any remaining impacts. The crude oil has a very low mobility and does not readily desorb nor dissolve and therefore, the crude oil impacts have remained in the immediate area of the release. The crude oil first measured at the Site in 2004 has not migrated from the area, suggesting that soil impacts have been mitigated and supporting the conclusion that the released crude oil has a low mobility rate and is not readily dissolved in groundwater.

The NMOCD recommended remediation action levels for soil are dependent upon site specific ranking criteria outlined in the Guidelines for Remediation of Leaks, Spill, and Releases (August 1993). These criteria are:

- depth to groundwater;
- proximity of the wellhead to water sources or private domestic wells; and
- distance to surface water bodies to include but not limited to perennial rivers, streams, creeks, irrigation canals and ditches, lakes, ponds and playas.

The depth to groundwater at the Site is approximately 45 ft-bgs. The closest water well 500 feet southeast of the Site. There is a drainage ditch approximately 300 feet to the west of the Site. This only conducts water after a hard rainfall, due to climate and drought, this ditch rarely holds any water. Due to the current drought in the area, it is unlikely that there are any perennial rivers near the impacted area.

At the Site, groundwater is less than 50 feet, the closest domestic well is less than 1,000 feet from the release and the distance to a surface-water body is less than 1,000 feet from the Site. Based on these ranking criteria and the Guidelines for Remediation of Leaks, Spills and Releases (August 1993), the ranking score for groundwater is 20, for the domestic well it is 20 and for the surface-water body it is 10, for a total ranking score of 50. With the total ranking score of over 19, the NMOCD recommended remediation action levels for hydrocarbons in soil for the Site are:



- 10 milligrams per kilogram (mg/kg) for benzene;
- 50 mg/kg for total BTEX;
- 100 mg/kg for TPH; and

The NMWQCC standards for hydrocarbons in groundwater are as follows:

- 0.01 milligrams per liter (mg/L) for benzene;
- 0.75 mg/L for toluene;
- 0.75 mg/L for ethylbenzene; and
- 0.62 mg/L for total xylenes.

#### 2.0 Site Activities

An evaluation of existing wells was conducted in August 2012 and presented in the August 2013 Site Status Report. Groundwater monitoring was conducted at the Site by CRA in December 2012, June 2013 and December 2013. The groundwater monitoring included acquisition of groundwater samples for laboratory analysis for BTEX and measurement of fluid levels in all monitor wells and the recovery wells. In June 2013, four 4-inch recovery wells were installed for use in the recovery of the crude oil and groundwater monitoring. Crude oil has been recovered from well RW-1 since September 2013 using the scavenger pump system, which recovers only crude oil or phase separated hydrocarbons (PSH).

#### 2.1 Well Evaluations

An initial evaluation of all of the monitor and borehole wells located at the Site was conducted in August 2012. The evaluation included the validation of all well locations as shown in Figure 2, measurement of the fluid levels and the total well depths and a search of the available records for well and borehole logs. This evaluation was presented in the September 2013 Site Status Report (CRA, September 2013).

The August 2012 field evaluation located five monitor wells and one recovery well. The review of available documents found well logs for monitor well MW-4 and boreholes BH-1 and BH-4. The field evaluation showed total well depths ranging from 51.51 feet below measuring point (ft-bmp) to 62.58 ft-bmp. The saturated thickness in the wells varied from 3.63 feet (MW-1) to 15.14 feet (MW-4). Crude oil was measured in one monitor well (MW-1) and one recovery well (RW-1), with a maximum product thickness of 3.62 feet measured in well MW-1. No crude oil was measured in any of the other wells.



### 2.2 Groundwater Monitoring Procedures and Results

Groundwater monitoring was conducted at the Site by CRA in December 2012, June 2013 and December 2013. For the December 2013 monitoring fluid levels were measured in all monitor wells and recovery wells. Groundwater samples were collected from wells that did not contain crude oil and included four monitor wells (MW-2, MW-3, MW-4 and MW-5) and two recovery wells (HTRW-2 and HTRW-4).

Prior to purging of the wells and obtaining groundwater samples, fluid levels were measured in the wells using an oil/water level indicator. The wells were purged at a rate of 160 ml/min or less, and groundwater samples were collected using the low flow purging technique following stabilization of the field parameters. The meters used for the field parameters were calibrated prior to use. Field parameters obtained during purging included temperature, specific conductance, pH, dissolved oxygen and oxidation reduction potential (ORP) and are shown in Appendix A. The wells were sampled for BTEX analysis by Method 8260. Groundwater samples were immediately placed into the appropriate laboratory provided containers following field parameter measurements and placed in an ice-chilled cooler for transport to the DHL laboratory under chain-of-custody procedures.

The crude oil historically has been found in the central portion of the Site and the immediate area east of Tank 5201. The crude oil thickness in well RW-1 was measured at 2.90 feet in August 2013 and measured in well MW-1 at 2.57 feet in October 2013. Crude oil was measured in monitor well MW-1 and recovery well RW-1 in December 2013 with the measured thickness at 0.01 feet in RW-1 and 2.40 feet in MW-1. The crude oil thicknesses for December 2013 are shown in Figure 3 and detailed in Appendix B.

Water levels measured in December 2013 were approximately 0.5 feet lower than the water levels that were measured in June 2013. For the December monitoring period, the depth to groundwater across the Site was approximately 45 ft-bgs. The groundwater flow in December was towards the east and the groundwater gradient is relatively flat with a gradient of 0.001 feet/foot (Figure 4).

The December 2013 hydrocarbon concentrations for each monitor well are shown in Figure 4 and summarized in Appendix A. Survey information for each well is contained in Appendix C. The December 2013 laboratory report is contained Appendix D. Concentrations of dissolved BTEX in groundwater during December 2013 were not detected above the NMWQCC standards outside the berm area (Figure 4). The analytical results for these wells are summarized as follows:

- Of the four monitor wells sampled in December 2013, none of the BTEX
  constituents were detected above the lower laboratory reporting limits in three
  monitor wells; MW-3, MW-4 and MW-5; and
- Only benzene (1.02 ug/L) was detected above the lower laboratory reporting limit in monitor well MW-2.



Within the berm area of the site and near the point of the release BTEX constituents were detected above the lower laboratory reporting limits in December 2013 in wells HTRW-2 and HTRW-4. The analytical results for these wells are summarized as follows:

- Benzene was detected above the NMWQCC standard in HTRW-2 at 530 ug/L and in HTRW-4 at 951 ug/L; and
- Toluene, ethylbenzene and total xylenes were detected in these wells above the lower laboratory reporting limit, but below the NMWQCC standards.

### 2.3 PRODUCT RECOVERY STATUS

This crude oil recovery system pumps product only in the recovery well eliminating the need for an above ground product separation system. This pump is designed to pump product only off the top of groundwater. The pump utilizes a floating intake cartridge to recover hydrocarbons and will turn on and off in response to signals sent to the control module by a conductivity/density (reservoir) probe. A portion of the conductivity probe is located inside the pump's product reservoir to turn the pump off when water is encountered during pumping. The reservoir probe consists of a HI and LO float actuated sensors. When the reservoir fills with product and water is encountered, the float rises, trips the HI sensor and turns on the product pump. When the product level falls, the float trips the LO sensor and shuts off the pump. A water override conductivity sensor is located inside the product reservoir. Once the pump canister is filled via gravity, the magnetically coupled gear pump pressurizes the system and pumps the recovered fluid to the surface and into the tank. The floating cartridge follows the water table and consists of a float with a treated oleophilic/hydrophobic screen. The stainless steel screen allows hydrocarbons to enter the pump cartridge while repelling water. The recovered product is placed into a nearby collection tank for recycling.

The system is monitored on-site on a monthly basis in the field to assess the amount of recovered crude oil, the effectiveness of the pump and equipment maintenance. The fluid level is measured in the recovery tank. The recovered crude oil will be scheduled for recycling when the tank is at 80% of capacity.

From September 2013 to March 2014, the system recovered 11.1 gallons from recovery well RW-1. During this period, the crude oil thickness in RW-1 was lowered from 2.90 feet to 0.0 feet. The crude oil thickness in MW-1 was lowered from 2.82 feet to 2.40 feet. The system will continue to recover crude oil, if present. Currently there is no recoverable crude oil remaining in the recovery well RW-1.

### 2.4 QA/QC Results

Quality Assurance/Quality Control (QA/QC) measures were followed according to the abatement plan. The field PID was calibrated daily using 100 ppm isobutylene. QA/QC samples for groundwater sampling in December 2013 included one trip blank sample and one duplicate groundwater sample. The results of



the QA/QC samples for groundwater are summarized in Table 1. The cooler containing groundwater samples were shipped to the laboratory with a temperature blank and a laboratory prepared groundwater trip blank. The groundwater duplicate sample and the trip blank sample were analyzed for BTEX by Method 8260. The duplicate groundwater showed no variation in the results. There were no detections above the lower laboratory reporting limit for BTEX in the trip blank sample.

#### 3.0 Conclusion and Recommendations

Groundwater hydrocarbon concentrations have remained stable since 2010 and have decreased due removal by pumping. The measured thicknesses of the crude oil have decreased as much as 2.90 feet since the release in 2004. There has been no increase in thickness of the crude oil in any of the wells located near the release area indicating that there is no significant remaining crude oil in the area or in the vadose zone.

CRA will continue to monitor groundwater at the Site on a semi-annual basis. The next groundwater sampling event is scheduled to occur in June 2014. For the next monitoring period in June 2014, groundwater samples will be collected from all site wells that do not contain crude oil and analyzed for BTEX. In addition, groundwater samples will be collected in June to assess groundwater background conditions from wells MW-2 and MW-5 and analyzed for total metals concentrations to include arsenic, barium, cadmium, chromium, cyanide, fluoride, lead, mercury, selenium, silver, copper, nitrates, chloride, iron, manganese, sulfate, bicarbonate and total dissolved solids.

This crude oil removal system has been in operation since September 2013 in recovery well RW-1. The removal of crude oil will continue in RW-1, if crude oil is present. The system is automated to recover the crude oil if it is present. The crude oil in the 2-inch well MW-1 will be bailed in June to assess the recharge rate of the crude oil into this well. The removed crude oil from this well will be placed into the tank used for RW-1 crude oil recovery.

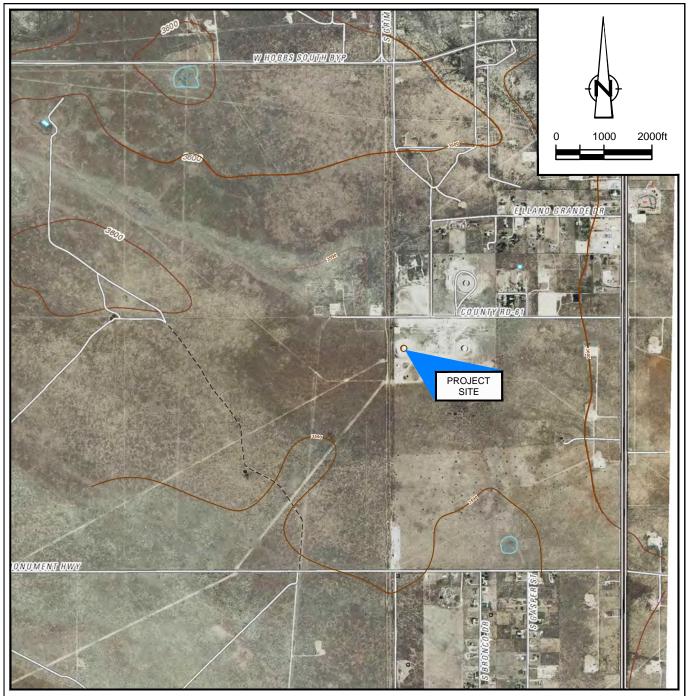
The remedial strategy for site closure is based on the current NMOCD requirements. To close the Site with no further action, the crude oil would first have to be removed separately from groundwater (19.15.17.13 NMAC). The proposed remedial technology for the Site uses a crude oil only skimming system that does not depress the groundwater table to remove the crude oil. This system is designed to shut down automatically when water is encountered in the pump and can be restarted remotely without visiting the Site.

Once the phase-separated hydrocarbons (crude oil) have been removed to a *de minimis* thickness, remedial actions would then focus on the low-level dissolved phase concentrations. Based on existing conditions, the Site closure strategy to meet State standards would be based on natural attenuation of contaminant parameters and monitoring of the dissolved phase hydrocarbons.



# **Figures**





SOURCE: USGS 7.5 MINUTE QUAD "HOBBS WEST AND HOBBS EAST, NEW MEXICO" DATED 2010

ŠŒÆŠUÞŐKÁŒÎÍ Í J¾ÁPUÜVPŒÆĒHÌ Ç¾ÁY ÒÙV COORDINATE: NAD83 DATUM, U.S. FOOT STATE PLANE ZONE - NEW MEXICO EAST

figure 1

SITE LOCATION MAP HOBBS STATION TANK 5201 HOBBS, NEW MEXICO Holly Energy Partners



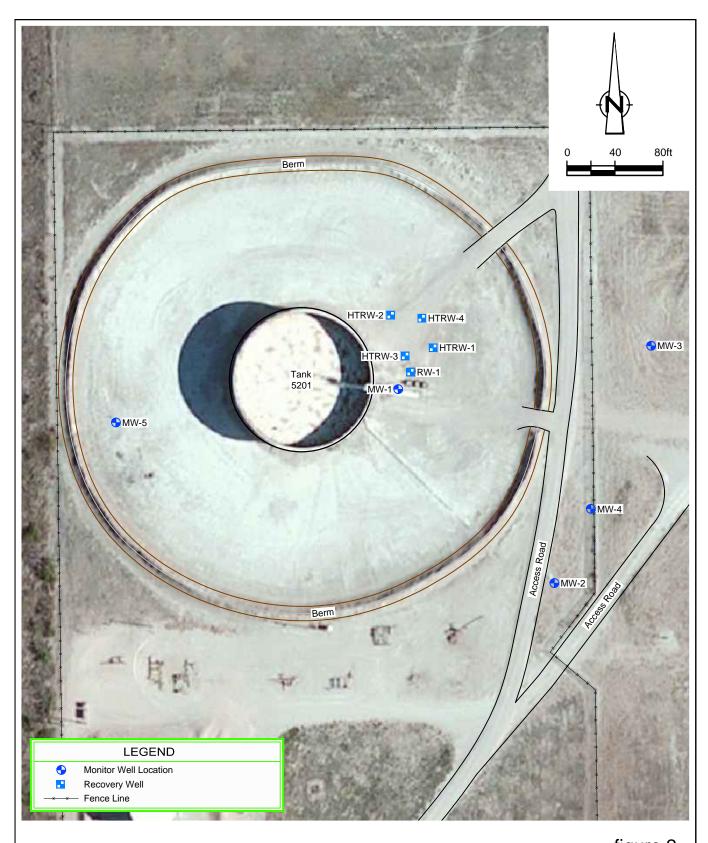
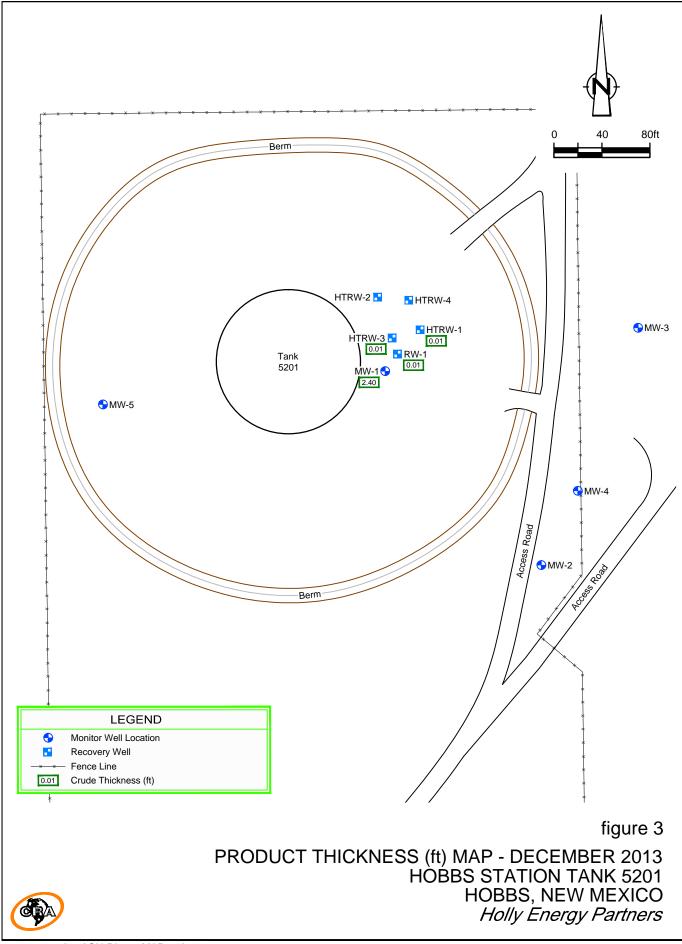
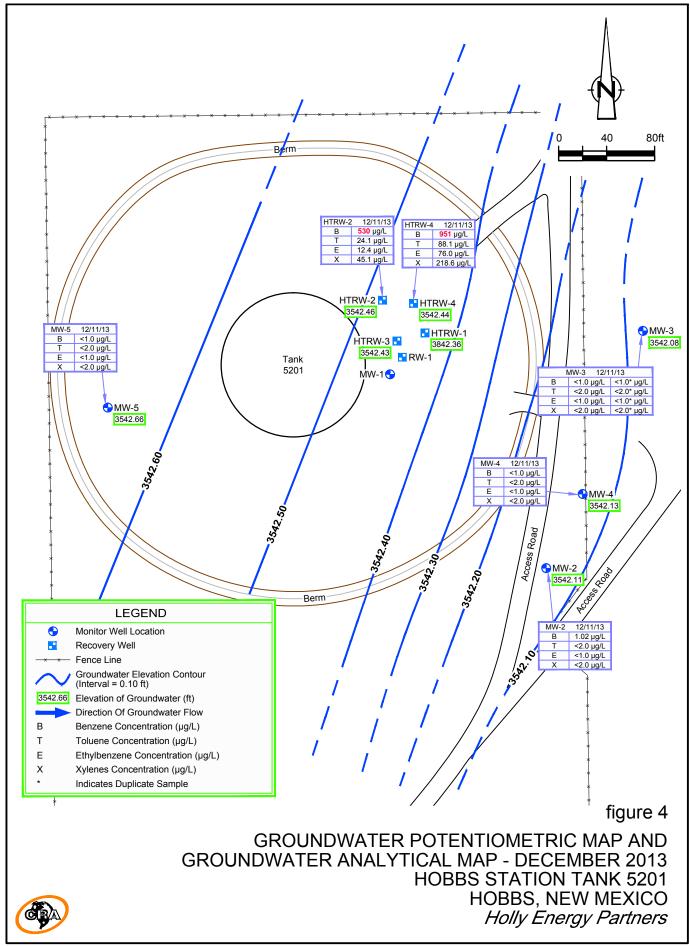


figure 2 SITE MAP HOBBS STATION TANK 5201 HOBBS, NEW MEXICO Holly Energy Partners







# **Tables**



Table 1 Summary of Groundwater QA/QC Results for December 2013
Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

		Lat	oratory An	alytical Res	ults	
				Ethyl-	Total	Total
		Benzene	Toluene	benzene	Xylenes	BTEX
Well No.	Date Sampled	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
NMWQC Gro	oundwater Standard	10	750	750	620	1
MW-3	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0
Trip Blank	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0

mg/L = milligrams per liter

< = Not detected above indicated level

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

BTEX analyzed by Method EPA 8260

# Appendix A

**Summary of Groundwater Analytical Results and Field Parameters** 

# Appendix A Summary of Monitor Well Water Quality and Fluid Levels Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Total BTEX (μg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	рН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC Groundwater														(···g·=/	(5-2)
Standard		10	750	750	620									250	1,000
MW-2	08/23/04	26	4	5	14	49	43.45	3,547.40						124	835
3590.85	01/11/05	72	<2	<2	15	87	43.02	3,547.83						56	1,198
	03/08/06	<2	<2	<2	<6	<2	43.44	3,547.41						48	852
	07/11/06	7.0	<2	<2	16	23	43.69	3,547.16						40	910
	09/07/06	4.2	1.9	<0.5	3.2	9.3	43.64	3,547.21						27	830
	12/19/06	2.1	1.0	0.9	4.3	8.3	43.83	3,547.02						28	810
	03/13/07	<0.5	0.6	1.2	2.3	4.1	44.04	3,546.81						28	840
	06/21/07	0.8	0.7	<0.5	3.8	5.3	44.11	3,546.74						23	810
	09/21/07	1.4	1.1	<0.5	3.2	5.7	43.87	3,546.98						17	790
	12/07/07	1.4	1.0	0.9	3.5	6.8	44.17	3,546.68						30	780
	03/04/08	1.4	0.8	1.8	3.3	7.3	44.27	3,546.58						12	800
	06/03/08	1.7	0.9	1.5	2.1	6.2	44.42	3,546.43						76	800
	09/23/08	1.2	<0.5	0.6	3.8	5.6	44.69	3,546.16						17	860
	12/18/08	1.0	0.8	<0.5	1.2	3.0	45.82	3,545.03						17	840
	03/16/09	0.9	0.7	<0.5	2.9	4.5	44.98	3,545.87						19	900
	06/23/09	1.2	<1.0	<1.0	<2.0	1.2	45.12	3,545.73						25	890
	09/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	45.29	3,545.56						26	892
	12/17/09	<1.0	<1.0	<1.0	<2.0	<1.0	45.50	3,545.35						22	870
	03/09/10	<1.0	<1.0	<1.0	<1.5	<1.0	45.70	3,545.15						21	838
	06/16/10	<1.0	<1.0	<1.0	2.5	2.5	45.85	3,545.00						17	860
	09/01/10	1.0	<1.0	<1.0	<2.0	1.0	45.82	3,545.03						17	788
	12/06/10	1.6	<1.0	<1.0	<2.0	1.6	46.05	3,544.80						18	806
	03/18/11	1.3	<1.0	14	2.9	18.2	46.18	3,544.67						23	844
	06/23/11	1.1	<1.0	26	3.2	30.3	46.40	3,544.45						32	870
	10/07/11	1.2	<1.0	14	<2.0	15.2	46.75	3,544.10						37	1,020
	12/08/11	1.4	<1.0	5.7	3.6	10.7	46.91	3,543.94						51	966
	08/07/12	0.88	< 5.0	< 5.0	< 15	< 15	47.44	3,543.41	30.34	1.615	0.05	6.48	-125.9		
	12/20/12	0.83	<2.0	<1.0	<2.0	<1.0	47.90	3,542.95	17.51	1.094	0.74	6.85	-254.0		
	06/25/13	0.88	<2.0	<1.0	<2.0	<1.0	48.27	3,542.58	22.10	1.249	0.30	6.76	-60.6		
	12/11/13	1.02	<2.0	<1.0	<2.0	<1.0	48.74	3,542.11	21.11	1.27	1.51	7.14	-117.0		

# Appendix A Summary of Monitor Well Water Quality and Fluid Levels Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Total BTEX (μg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC														\ \ \ \ \ \	
Groundwater															
Standard		10	750	750	620									250	1,000
MW-3	08/23/04	<2	<2	<2	<6	<2	43.50	3.547.31						88	574
3590.81	01/11/05	<2	<2	<2	<6	<2	42.93	3,547.88						108	882
	03/08/06	<2	<2	<2	<6	<2	43.35	3,547.46						176	755
	07/11/06	<2	<2	<2	<6	<2	43.63	3,547.18						192	868
	09/07/06	<0.5	<0.5	<0.5	<1	<0.5	43.61	3,547.20						150	770
	12/19/06	<0.5	<0.5	<0.5	<1	<0.5	43.76	3,547.05						160	860
	03/13/07	<0.5	<0.5	<0.5	<1.0	<0.5	43.97	3,546.84						160	850
	06/21/07	<0.5	<0.5	<0.5	<1.0	<0.5	44.03	3,546.78						160	760
	09/21/07	<0.5	<0.5	<0.5	<1.0	<0.5	43.83	3,546.98						120	750
	12/07/07	<0.5	<0.5	<0.5	<1.0	<0.5	44.11	3,546.70						180	830
	03/04/08	<0.5	<0.5	<0.5	<1.0	<0.5	44.32	3,546.49						160	780
	06/03/08	<0.5	<0.5	<0.5	<1.0	<0.5	44.35	3,546.46						170	990
	09/23/08	<0.5	<0.5	< 0.5	<1.0	<0.5	44.65	3,546.16						160	860
	12/18/08	<0.5	<0.5	<0.5	<1.0	<0.5	44.77	3,546.04						130	840
	03/16/09	<0.5	<0.5	<0.5	<1.0	<0.5	44.92	3,545.89						150	880
	06/23/09	<1.0	<1.0	<1.0	<2.0	<1.0	45.08	3,545.73						170	900
	09/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	45.24	3,545.57						150	906
	12/17/09	<1.0	<1.0	<1.0	<2.0	<1.0	45.44	3,545.37						160	905
	03/09/10	<1.0	<1.0	<1.0	<1.5	<1.0	45.66	3,545.15						150	905
	06/16/10	<1.0	<1.0	<1.0	<2.0	<1.0	45.80	3,545.01						140	904
	09/01/10	<1.0	<1.0	<1.0	<2.0	<1.0	45.80	3,545.01						140	873
	12/06/10	<1.0	<1.0	<1.0	<2.0	<1.0	46.00	3,544.81						130	899
	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.14	3,544.67						120	897
	06/23/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.38	3,544.43						110	878
	10/07/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.72	3,544.09						110	886
	12/08/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.87	3,543.94						110	901
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	< 15	47.43	3,543.38	30.29	1.875	0.72	5.80	109.3		
duplicate	12/20/12	<1.0	<2.0	<1.0	<2.0	<2.0	47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0		
	12/20/12	<1.0	<2.0	<1.0	<2.0	<2.0	47.87	3,542.94	17.39	1.108	1.28	6.87	-269.0		
	06/25/13	<1.0	<2.0	<1.0	<2.0	<2.0	48.28	3,542.53	20.80	1.453	1.98	6.60	204.9		
	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0	48.73	3,542.08	19.80	1.54	4.40	6.76	152.0		
duplicate	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0	48.73	3,542.08	19.80	1.54	<u>4.40</u>	6.76	152.0		<b>.</b>

# Appendix A Summary of Monitor Well Water Quality and Fluid Levels Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Monitor Well ID	Sample Date	Benzene (μg/L)	Toluene (μg/L)	Ethyl- benzene (µg/L)	Xylenes (total, μg/L)	Total BTEX (µg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pН	ORP (mV)	Chloride (mg/L)	Total Dissolved Solids (mg/L)
NMWQCC															
Groundwater															
Standard		10	750	750	620									250	1,000
MW-4	06/16/10	<1.0	<1.0	<1.0	<2.0	<1.0	45.82	3,545.03						30	505
3590.85	09/01/10	3.3	<1.0	<1.0	<2.0	3.3	45.81	3,545.04						24	584
	12/06/10	<1.0	<1.0	<1.0	<2.0	<1.0	46.01	3,544.84						38	670
	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.16	3,544.69						62	932
	06/23/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.40	3,544.45						48	885
	10/07/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.74	3,544.11						46	853
	12/08/11	<1.0	<1.0	<1.0	<2.0	<1.0	46.88	3,543.97						43	812
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	< 15	47.44	3,543.41	28.73	1.457	0.12	6.45	1.3		
	12/20/12	<1.0	<2.0	<1.0	<2.0	<2.0	47.89	3,542.96	18.18	1.149	0.61	6.83	-238.0		
	06/25/13	0.29	<2.0	<1.0	<2.0	<1.0	48.27	3,542.58	21.30	1.306	0.14	6.70	129.8		
	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0	48.72	3,542.13	20.75	1.32	1.26	7.20	-2.0		
MW-5	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	47.61	3,545.14						33	510
3592.75	06/23/11	<1.0	<1.0	<1.0	<2.0	<1.0	47.83	3,544.92						29	483
	10/07/11	<1.0	<1.0	<1.0	<2.0	<1.0	48.17	3,544.58						32	543
	12/08/11	<1.0	<1.0	<1.0	<2.0	<1.0	48.31	3,544.44	07.00		4.0.4	0.04	445.0	36	558
	08/07/12	< 5.0	< 5.0	< 5.0	< 15	< 15	48.83	3,543.92	27.30	0.775	4.84	6.01	115.9		
	12/20/12	<1.0	<2.0	<1.0	<2.0	<2.0	49.26	3,543.49	17.49	0.633	4.70	7.04	-187.0		
	06/25/13	<1.0	<2.0	<1.0	<2.0	<2.0	49.64	3,543.11	22.20	0.848	4.60	6.63	181.1		
	12/11/13	<1.0	<2.0	<1.0	<2.0	<2.0	50.09	3,542.66	19.35	0.801	4.79	7.37	86.0		
HTRW-1	06/25/13	NSP	NSP	NSP	NSP	NSP	45.28	3,842.87							
3888.14	12/11/2013	NSP	NSP	NSP	NSP	NSP	45.79	3,842.36							
								0,0							
HTRW-2	06/25/13	62.3	21.4	4.4	13.0	101.1	44.60	3,542.91	21.70	1.233	2.80	6.81	180.2		
3587.51	12/11/2013	530	24.1	12.4	45.1	611.6	45.05	3,542.46	20.08	1.43	1.07	7.34	-2		
HTRW-3	06/25/13	NSP	NSP	NSP	NSP	NSP	45.88	3,542.88							
3588.75	12/11/2013	NSP	NSP	NSP	NSP	NSP	46.33	3,542.43							
HTRW-4	06/25/13	87.4	49.4	32.5	52.8	222.1	45.68	3,542.89	22.30	0.96	2.04	6.87	190.9		
3588.57	12/11/2013	951	88.1	76.0	218.6	1333.7	46.13	3,542.44	20.41	1.44	0.95	7.5	-144		

#### Notes:

**BOLD** = Exceeds New Mexico Water Quality Commission (NMWQC) Standard

μg/L = microgram per liter

mg/l = micrograms per liter

< = Not detected above indicated level

BTEX = Benzene, Toluene, Ethylbenzene and Xylenes

BTEX analyzed by Method EPA 8260

ft-bmp - feet-below measuring point

ft-msl - feet-mean sea level

deg-C - degrees Celcius

mS/cm - milliSiemens per centimeter

mV - millivolts

NSP - Not Sampled Product

Safety and Environmental Soutions collected Data from 2004 to 2011

CRA collected data from 2012 to present

# **Appendix B**

**Summary of Fluid Levels** 



Appendix B Summary of Product and Groundwater Fluid Levels and Product Recovery Holly Energy Partners- Hobbs Tank 5201 - Lea County, New Mexico

							Corrected	
						Groundwater	Groundwater	
Well ID	Date	DTP	DTW	Prod. Thick	TD	Elevation	Elevation <sup>1</sup>	Totalizer
		(ft-bmp)	(ft-bmp)	(ft)	(ft-bmp)	(ft-msl)	(ft-msl)	(gals)
RW-1	08/07/12	48.06	51.01	2.95	58.19	3538.08	3,540.23	
3589.09	12/20/12	48.47	51.48	3.01		3537.61	3,539.81	
	06/20/13	48.89	51.65	2.76		3537.44	3,539.45	
	08/23/13	49.05	51.95	2.90		3537.14	3,539.26	0
	10/30/13					0.00	3,589.09	
	11/02/13							9.7
	11/13/13							9.9
	12/11/13	49.69	49.70	0.01		3539.39	3,539.40	10.0
	01/21/14							10.1
	03/13/14							11.1
	03/18/14		49.92	0.00		3539.17	3,539.17	11.1
MW-1	08/07/12	47.88	51.50	3.62	51.51	3540.55	3,543.19	
3592.05	12/20/12	48.32	51.55	3.23		3540.50	3,542.86	
	06/20/13	48.68	51.50	2.82		3540.55	3,542.61	
	10/30/13	48.96	51.53	2.57		3540.52	3,542.40	
	11/02/13	49.04	51.54	2.50		3540.51	3,542.34	
	11/13/13	49.06	51.58	2.52		3540.47	3,542.31	
	12/11/13	49.15	51.55	2.40		3540.50	3,542.25	
MW-2	08/07/12		47.44		52.42	3543.41		
3590.85	12/20/12 06/25/13		47.90 48.27			3542.95 3542.58		
	12/11/13		48.74			3542.56		
	12/11/10		40.74			0042.11		
MW-3	08/07/12		47.43		53.20	3543.38		
3590.81	12/20/12		47.87			3542.94		
	06/25/13		48.28			3542.53		
	12/11/13		48.73			3542.08		
BANA/ A	00/07/10		17 11		60.50	25.42.40		
<b>MW-4</b> 3590.84	08/07/12 12/20/12		47.44 47.89		62.58	3543.40 3542.95		
0000.04	06/25/13		48.27			3542.57		
	12/11/13		48.72			3542.12		
MW-5	08/07/12		48.83		58.82	3543.92		
3592.75	12/20/12		49.26			3543.49		
	06/25/13 12/11/13		49.64 50.09			3543.11 3542.66		
	12/11/13		50.09			3542.00		
HTRW-1	06/25/13	45.27	45.28	0.01	60.10	3842.86	3,842.87	
3888.14	12/11/13	45.78	45.79	0.01		3842.35	3,842.36	
HTRW-2	06/25/13		44.60		60.14	3542.91		
3587.51	12/11/13		45.05			3542.46		
HTRW-3	06/25/42	<i>1</i> 5 07	1E 00	0.04	60.14	25/12 07	2.542.00	
3588.75	06/25/13 12/11/13	45.87 46.32	45.88 46.33	0.01 0.01	60.14	3542.87 3542.42	3,542.88 3,542.43	
0000.70	12/11/10	70.02	70.00	0.01		007Z.7Z	0,072.70	
HTRW-4	06/25/13		45.68		60.16	3542.89		
3588.57	12/11/13		46.13			3542.44		

Notes:

DTP - depth to product DTW - depth to water TD - total depth

ft - feet

ft-bmp - feet-below measuring point

ft-msl - feet-mean sea level

gals - gallons

groundwater elevation corrected for 0.73 specific gavity

# **Appendix C**

**Well Survey Information** 



Appendix C - Summary of Well Survey Data Holly Energy Partners - Hobbs Tank 5201 - Lea County, New Mexico

Well	Surveyor Well Name	Ground Surface Elevation (ft-msl)	Measuring Point Elevation (ft-msl)	Latitude	Longitude
MW-1	HMW-1	3588.67	3592.05	N 32.651211	W 103.142290
MW-2	RW-2	3588.30	3590.85	N 32.650763	W 103.141873
MW-3	RW-3	3588.19	3590.81	N 32.651304	W 103.141604
MW-4	RW-4	3588.32	3590.84	N 32.650932	W 103.141772
MW-5	HMW-5	3589.33	3592.75	N 32.651142	W 103.143055
RW-1	RW-1	3589.47	3589.09	N 32.651250	W 103.142256
HTRW-1	HTRW-1	3588.92	3888.14	N 32.651305	W 103.142194
HTRW-2	HTRW-2	3588.36	3587.51	N 32.651381	W 103.142308
HTRW-3	HTRW-3	3589.50	3588.75	N 32.651287	W 103.142270
HTRW-4	HTRW-4	3589.47	3588.57	N 32.651373	W 103.142224

ft-msl = feet mean sea level

# **Appendix D**

**Groundwater Laboratory Report** 





December 18, 2013

Bill Green

Holly Energy Partners

1602 W. Main

Artesisa, NM 88210

TEL: (575) 748-8968

FAX (575) 748-4052 Order No.: 1312088

RE: Hobbs Tanks 5201

Dear Bill Green:

DHL Analytical, Inc. received 8 sample(s) on 12/12/2013 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative and all estimated uncertainties of results are within method specifications.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

John DuPont

General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-13-11



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Miscellaneous Documents	3
CaseNarrative 1312088	<i>(</i>
Analytical Report 1312088	7
AnalyticalQCSummaryReport 1312088	15



2300 Double Creek Dr. ■ Round Rock, TX 78664 Phone (512) 388-8222 ■ FAX (512) 388-8229 Web: www.dhlanalytical.com

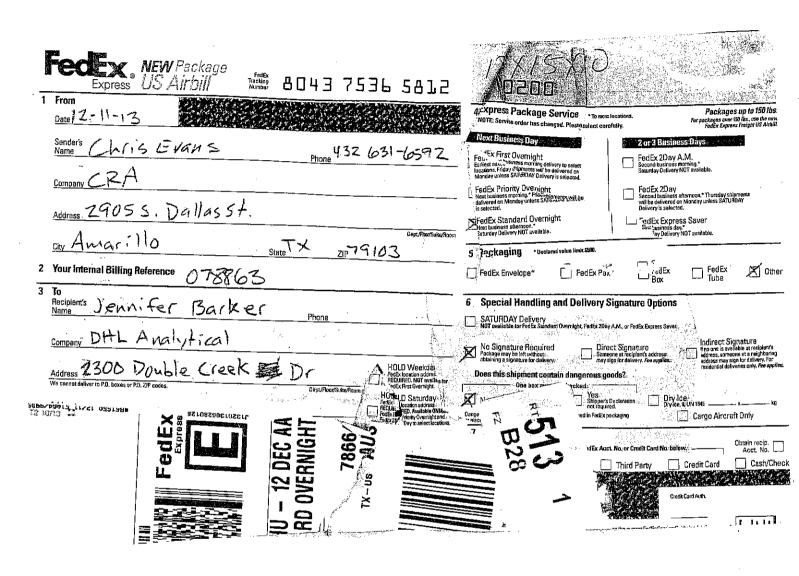
E-Mail: login@dhlanalytical.com





# Nº 62240 CHAIN-OF-CUSTODY

CLIENT: CRA ADDRESS: 2905 S	. Do	allas St.,	Auro	erilla	,T× 79	10	3				- + 1.		DATE: PO #:		-1/	-1	3				HL.	WO	RK (	ORI	DER	#:		PAGE 13		0 OS		
PHONE: 120-974 DATA REPORTED TO: ADDITIONAL REPORT	13/01	d Steph	AX/E-1 211 50	MAIL: <u>ር</u>	stephens	6A	<i>(U.</i> (	. (a	iWa	110	<u> </u>		PROJE CLENT	CT L	OCA	TIOI	N OF	RNA	ΜE	: }-	<b>t</b> ol	ეხვ	5 7	10	ηК		52	$\mathcal{O}($				5
Authorize 5% surcharge for TRRP Report?  Yes No  Field Sample I.D.	A=A	VATER SL=S	SLUDO THER SOLID		Container Type	# of Containers			RVA □ NaOH □ NSOH			ANA ST																	F	ELD NO	OTES	
MW-3	)(	12-11-13	0930	W	VOA	3	X			X		X							Ī									_				
mw-3-D	20	12-11-13			VOA	3				X		Х																				·
MW-2	<b>0</b> 3	12-11-13	1030	W	VOA	3	Х			X		X																				
mw-4	40	12-11-13	1100	W	VOA	3	х			X	.	X																		•		
MW-5	05	12-11-13	1130	W	VOA	3	バ			メ		X							Τ													
HTRW-2	04	12-11-13	1200	W	VOA	3	又			х	٦.	X							T													
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# Sample Receipt Checklist

Client Name Holly Energy Partners			Date Recei	ived:	12/12/2013
Work Order Number 1312088			Received by	y JB	
Checklist completed by Signature	Date Carrier name	013 FedEx 1day	Reviewed b	y Initials	12/12/2013 Date
Shipping container/cooler in good condition?		Yes 🗹	No 🗌	Not Present	
Custody seals intact on shippping container/co	ooler?	Yes 🗹	No 🗆	Not Present	
Custody seals intact on sample bottles?		Yes	No $\square$	Not Present	
Chain of custody present?		Yes 🗹	No 🗆	11011 1000111	
Chain of custody signed when relinquished an	d received?	Yes 🗹	No $\square$		
Chain of custody agrees with sample labels?		Yes 🗹	No 🗆		
Samples in proper container/bottle?		Yes 🗹	No $\square$		
Sample containers intact?		Yes 🗹	No □		
Sufficient sample volume for indicated test?		Yes 🗹	No 🗆		
All samples received within holding time?		Yes 🗹	No $\square$		
Container/Temp Blank temperature in complia	nce?	Yes 🗹	_	3.1 °C	
Water - VOA vials have zero headspace?		Yes 🗹	_	No VOA vials	submitted
Water - pH<2 acceptable upon receipt?		Yes	_		OT#
		Adjusted?		Checked b	ру
Water - ph>9 (S) or ph>12 (CN) acceptable up	on receipt?	Yes	No 🗌		DT#
		Adjusted?		Checked b	ру
Any No response must be detailed in the comm	nents section below.				
Client contacted	Date contacted:		Pers	son contacted	
Contacted by:	Regarding				
Comments:					
Corrective Action					

Page 1 of 1

CLIENT: Holly Energy Partners

Project: Hobbs Tanks 5201

**Lab Order:** 1312088

**CASE NARRATIVE** 

**Date:** 18-Dec-13

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

CLIENT: Holly Energy Partners Client Sample ID: MW-3

**Project:** Hobbs Tanks 5201 **Lab ID:** 1312088-01

**Project No:** 078863 **Collection Date:** 12/11/13 09:30 AM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C			Analyst: <b>DEW</b>
Benzene	ND	0.000200	0.00100	mg/L	1	12/13/13 04:12 PM
Ethylbenzene	ND	0.000300	0.00100	mg/L	1	12/13/13 04:12 PM
m,p-Xylene	ND	0.000600	0.00200	mg/L	1	12/13/13 04:12 PM
o-Xylene	ND	0.000300	0.00100	mg/L	1	12/13/13 04:12 PM
Toluene	ND	0.000600	0.00200	mg/L	1	12/13/13 04:12 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	1	12/13/13 04:12 PM
Surr: 4-Bromofluorobenzene	103	0	76-119	%REC	1	12/13/13 04:12 PM
Surr: Dibromofluoromethane	109	0	85-115	%REC	1	12/13/13 04:12 PM
Surr: Toluene-d8	95.0	0	81-120	%REC	1	12/13/13 04:12 PM

### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- S Spike Recovery outside control limits

CLIENT: Holly Energy Partners Client Sample ID: MW-3-D

**Project:** Hobbs Tanks 5201 **Lab ID:** 1312088-02

**Project No:** 078863 **Collection Date:** 12/11/13 09:30 AM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C			Analyst: <b>DEW</b>
Benzene	ND	0.000200	0.00100	mg/L	1	12/13/13 04:38 PM
Ethylbenzene	ND	0.000300	0.00100	mg/L	1	12/13/13 04:38 PM
m,p-Xylene	ND	0.000600	0.00200	mg/L	1	12/13/13 04:38 PM
o-Xylene	ND	0.000300	0.00100	mg/L	1	12/13/13 04:38 PM
Toluene	ND	0.000600	0.00200	mg/L	1	12/13/13 04:38 PM
Surr: 1,2-Dichloroethane-d4	107	0	72-119	%REC	1	12/13/13 04:38 PM
Surr: 4-Bromofluorobenzene	104	0	76-119	%REC	1	12/13/13 04:38 PM
Surr: Dibromofluoromethane	112	0	85-115	%REC	1	12/13/13 04:38 PM
Surr: Toluene-d8	96.0	0	81-120	%REC	1	12/13/13 04:38 PM

### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- S Spike Recovery outside control limits

**Project:** 

CLIENT: Holly Energy Partners Client Sample ID: MW-2

Hobbs Tanks 5201 Lab ID: 1312088-03

**Project No:** 078863 **Collection Date:** 12/11/13 10:30 AM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C			Analyst: <b>DEW</b>
Benzene	0.00102	0.000200	0.00100	mg/L	1	12/13/13 05:03 PM
Ethylbenzene	ND	0.000300	0.00100	mg/L	1	12/13/13 05:03 PM
m,p-Xylene	ND	0.000600	0.00200	mg/L	1	12/13/13 05:03 PM
o-Xylene	ND	0.000300	0.00100	mg/L	1	12/13/13 05:03 PM
Toluene	ND	0.000600	0.00200	mg/L	1	12/13/13 05:03 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	1	12/13/13 05:03 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	12/13/13 05:03 PM
Surr: Dibromofluoromethane	111	0	85-115	%REC	1	12/13/13 05:03 PM
Surr: Toluene-d8	95.3	0	81-120	%REC	1	12/13/13 05:03 PM

### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
  - S Spike Recovery outside control limits

CLIENT: Holly Energy Partners Client Sample ID: MW-4

**Project:** Hobbs Tanks 5201 **Lab ID:** 1312088-04

**Project No:** 078863 **Collection Date:** 12/11/13 11:00 AM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C				Analyst: <b>DEW</b>
Benzene	0.000230	0.000200	0.00100	J	mg/L	1	12/13/13 05:28 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/13/13 05:28 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/13/13 05:28 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/13/13 05:28 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/13/13 05:28 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119		%REC	1	12/13/13 05:28 PM
Surr: 4-Bromofluorobenzene	102	0	76-119		%REC	1	12/13/13 05:28 PM
Surr: Dibromofluoromethane	110	0	85-115		%REC	1	12/13/13 05:28 PM
Surr: Toluene-d8	95.3	0	81-120		%REC	1	12/13/13 05:28 PM

### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
  - S Spike Recovery outside control limits

CLIENT: Holly Energy Partners

Project: Hobbs Tanks 5201 Lab ID: 1312088-05

**Project No:** 078863 **Collection Date:** 12/11/13 11:30 AM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C			Analyst: <b>DEW</b>
Benzene	ND	0.000200	0.00100	mg/L	1	12/13/13 05:53 PM
Ethylbenzene	ND	0.000300	0.00100	mg/L	1	12/13/13 05:53 PM
m,p-Xylene	ND	0.000600	0.00200	mg/L	1	12/13/13 05:53 PM
o-Xylene	ND	0.000300	0.00100	mg/L	1	12/13/13 05:53 PM
Toluene	ND	0.000600	0.00200	mg/L	1	12/13/13 05:53 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	1	12/13/13 05:53 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	1	12/13/13 05:53 PM
Surr: Dibromofluoromethane	113	0	85-115	%REC	1	12/13/13 05:53 PM
Surr: Toluene-d8	94.7	0	81-120	%REC	1	12/13/13 05:53 PM

#### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

**Date:** 18-Dec-13

Client Sample ID: MW-5

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- S Spike Recovery outside control limits

CLIENT: Holly Energy Partners Client Sample ID: HTRW-2

Project: Hobbs Tanks 5201 Lab ID: 1312088-06

**Project No:** 078863 **Collection Date:** 12/11/13 12:00 PM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	:60C			Analyst: <b>DEW</b>
Benzene	0.530	0.00200	0.0100	mg/L	10	12/16/13 02:06 PM
Ethylbenzene	0.0124	0.000300	0.00100	mg/L	1	12/13/13 06:18 PM
m,p-Xylene	0.0241	0.000600	0.00200	mg/L	1	12/13/13 06:18 PM
o-Xylene	0.00924	0.000300	0.00100	mg/L	1	12/13/13 06:18 PM
Toluene	0.0359	0.000600	0.00200	mg/L	1	12/13/13 06:18 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	10	12/16/13 02:06 PM
Surr: 1,2-Dichloroethane-d4	105	0	72-119	%REC	1	12/13/13 06:18 PM
Surr: 4-Bromofluorobenzene	105	0	76-119	%REC	10	12/16/13 02:06 PM
Surr: 4-Bromofluorobenzene	103	0	76-119	%REC	1	12/13/13 06:18 PM
Surr: Dibromofluoromethane	105	0	85-115	%REC	10	12/16/13 02:06 PM
Surr: Dibromofluoromethane	110	0	85-115	%REC	1	12/13/13 06:18 PM
Surr: Toluene-d8	95.2	0	81-120	%REC	10	12/16/13 02:06 PM
Surr: Toluene-d8	95.4	0	81-120	%REC	1	12/13/13 06:18 PM

### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RLND Not Detected at the Method Detection Limit
- S Spike Recovery outside control limits

CLIENT: Holly Energy Partners Client Sample ID: HTRW-4

**Project:** Hobbs Tanks 5201 **Lab ID:** 1312088-07

**Project No:** 078863 **Collection Date:** 12/11/13 12:30 PM

Lab Order: 1312088 Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	.60C			Analyst: <b>DEW</b>
Benzene	0.951	0.00200	0.0100	mg/L	10	12/16/13 02:31 PM
Ethylbenzene	0.0881	0.000300	0.00100	mg/L	1	12/13/13 06:44 PM
m,p-Xylene	0.0760	0.000600	0.00200	mg/L	1	12/13/13 06:44 PM
o-Xylene	0.0616	0.000300	0.00100	mg/L	1	12/13/13 06:44 PM
Toluene	0.157	0.000600	0.00200	mg/L	1	12/13/13 06:44 PM
Surr: 1,2-Dichloroethane-d4	112	0	72-119	%REC	10	12/16/13 02:31 PM
Surr: 1,2-Dichloroethane-d4	110	0	72-119	%REC	1	12/13/13 06:44 PM
Surr: 4-Bromofluorobenzene	104	0	76-119	%REC	10	12/16/13 02:31 PM
Surr: 4-Bromofluorobenzene	101	0	76-119	%REC	1	12/13/13 06:44 PM
Surr: Dibromofluoromethane	109	0	85-115	%REC	10	12/16/13 02:31 PM
Surr: Dibromofluoromethane	108	0	85-115	%REC	1	12/13/13 06:44 PM
Surr: Toluene-d8	99.1	0	81-120	%REC	10	12/16/13 02:31 PM
Surr: Toluene-d8	97.3	0	81-120	%REC	1	12/13/13 06:44 PM

#### Qualifiers:

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank

- DF Dilution Factor
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- S Spike Recovery outside control limits

**CLIENT:** Holly Energy Partners

**Project:** Hobbs Tanks 5201

**Project No:** 078863

Lab Order: 1312088 Client Sample ID: Trip

**Lab ID:** 1312088-08

**Collection Date:** 12/11/13

Matrix: TRIP BLANK

**Date:** 18-Dec-13

Analyses	Result	MDL	RL	Qual Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		SW82	260C			Analyst: <b>DEW</b>
Benzene	ND	0.000200	0.00100	mg/L	1	12/13/13 07:34 PM
Ethylbenzene	ND	0.000300	0.00100	mg/L	1	12/13/13 07:34 PM
m,p-Xylene	ND	0.000600	0.00200	mg/L	1	12/13/13 07:34 PM
o-Xylene	ND	0.000300	0.00100	mg/L	1	12/13/13 07:34 PM
Toluene	ND	0.000600	0.00200	mg/L	1	12/13/13 07:34 PM
Surr: 1,2-Dichloroethane-d4	106	0	72-119	%REC	1	12/13/13 07:34 PM
Surr: 4-Bromofluorobenzene	103	0	76-119	%REC	1	12/13/13 07:34 PM
Surr: Dibromofluoromethane	114	0	85-115	%REC	1	12/13/13 07:34 PM
Surr: Toluene-d8	95.2	0	81-120	%REC	1	12/13/13 07:34 PM

### Qualifiers:

- Value exceeds TCLP Maximum Concentration Level
- $\mathbf{C}$ Sample Result or QC discussed in the Case Narrative
- Е TPH pattern not Gas or Diesel Range Pattern

MDL Method Detection Limit

- Reporting Limit
- Parameter not NELAC certified

- В Analyte detected in the associated Method Blank
- Dilution Factor DF
- J Analyte detected between MDL and RL ND
- Not Detected at the Method Detection Limit
- Spike Recovery outside control limits

**Date:** 18-Dec-13

**CLIENT:** Holly Energy Partners

**Work Order:** 1312088

# ANALYTICAL QC SUMMARY REPORT

Project: Hobbs Tanks 5201 RunID: GCMS7\_131213B

Sample ID: LCS-60939	Batch ID:	60939		TestNo	SW	8260C		Units:	mg/L
SampType: LCS	Run ID:	GCMS7	_131213B	Analysi	s Date: <b>12/</b>	13/2013 12:	55:00 P	Prep Date:	12/13/2013
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLim	it HighLimit %	6RPD RPDLimit Qua
Benzene		0.0244	0.00100	0.0232	0	105	81	122	
Ethylbenzene		0.0230	0.00100	0.0232	0	99.2	80	120	
m,p-Xylene		0.0469	0.00200	0.0464	0	101	80	120	
o-Xylene		0.0234	0.00100	0.0232	0	101	80	120	
Toluene		0.0238	0.00200	0.0232	0	102	80	120	
Surr: 1,2-Dichloroethane-d4		209		200.0		105	72	119	
Surr: 4-Bromofluorobenzene		203		200.0		101	76	119	
Surr: Dibromofluoromethane		202		200.0		101	85	115	
Surr: Toluene-d8		192		200.0		96.0	81	120	
Sample ID: MB-60939	Batch ID:	60939		TestNo	: SW	8260C		Units:	mg/L
SampType: <b>MBLK</b>	Run ID:	GCMS7	_131213B	Analysi	s Date: <b>12/</b>	13/2013 1:20	0:00 PM	Prep Date:	12/13/2013
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLim	it HighLimit %	GRPD RPDLimit Qual
Benzene		ND	0.00100						
Ethylbenzene		ND	0.00100						
m,p-Xylene		ND	0.00200						
o-Xylene		ND	0.00100						
Toluene		ND	0.00200						
Surr: 1,2-Dichloroethane-d4		212		200.0		106	72	119	
Surr: 4-Bromofluorobenzene		211		200.0		105	76	119	
Surr: Dibromofluoromethane		210		200.0		105	85	115	
Surr: Toluene-d8		190		200.0		95.2	81	120	
Sample ID: <b>1312091-05AMS</b>	Batch ID:	60939		TestNo	: SW	8260C		Units:	mg/L
SampType: <b>MS</b>	Run ID:	GCMS7	_131213B	Analysi	s Date: <b>12/</b>	13/2013 8:49	9:00 PM	Prep Date:	12/13/2013
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLim	it HighLimit %	6RPD RPDLimit Qual
Benzene		0.272	0.0100	0.232	0	117	81	122	
Ethylbenzene		0.222	0.0100	0.232	0	95.8	80	120	
m,p-Xylene		0.449	0.0200	0.464	0	96.7	80	120	
o-Xylene		0.221	0.0100	0.232	0	95.4	80	120	
Toluene		0.242	0.0200	0.232	0	104	80	120	
Surr: 1,2-Dichloroethane-d4		2100		2000		105	72	119	
Surr: 4-Bromofluorobenzene		2030		2000		102	76	119	
Surr: Dibromofluoromethane		2290		2000		115	85	115	

Qualifiers: B Analyte detected in the associated Method Blank

 $J \quad \ \ Analyte \ detected \ between \ MDL \ and \ RL$ 

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

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**CLIENT:** Holly Energy Partners

**Work Order:** 1312088

ANALYTICAL QC SUMMARY REPORT

Project: Hobbs Tanks 5201 RunID: GCMS7\_131213B

Sample ID: 1312091-05AMSD	Batch ID:	60939		TestNo	: SW	8260C		Units:	mg/l	_
SampType: <b>MSD</b>	Run ID:	GCMS	7_131213B	Analys	is Date: <b>12/</b> 1	3/2013 9:14	1:00 PM	Prep Date	e: <b>12/1</b>	3/2013
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLim	it HighLimit	: %RPD	RPDLimit Qual
Benzene		0.254	0.0100	0.232	0	109	81	120	7.11	20
Ethylbenzene		0.230	0.0100	0.232	0	99.2	80	120	3.49	20
m,p-Xylene		0.472	0.0200	0.464	0	102	80	120	5.04	20
o-Xylene		0.236	0.0100	0.232	0	102	80	120	6.22	20
Toluene		0.240	0.0200	0.232	0	103	80	120	0.955	20
Surr: 1,2-Dichloroethane-d4		2120		2000		106	72	119	0	0
Surr: 4-Bromofluorobenzene		2030		2000		101	76	119	0	0
Surr: Dibromofluoromethane		2210		2000		110	85	115	0	0
Surr: Toluene-d8		1900		2000		95.2	81	120	0	0

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

Page 2 of 3

**CLIENT:** 

Holly Energy Partners ANALYTICAL QC SUMMARY REPORT

Work Order: 1312088

GCMS7\_131216A **RunID:** Project: Hobbs Tanks 5201

The QC data in batch 60966 app	lies to the fo	ollowing sa	mples: 1312	088-06A, 13120	00-U/A				
Sample ID: LCS-60966	Batch ID:	60966		TestNo:	SW	3260C		Units:	mg/L
SampType: <b>LCS</b>	Run ID:	GCMS7	_131216A	Analysis	Date: 12/1	6/2013 1:16	6:00 PM	Prep Date:	12/16/2013
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimi	t HighLimit %	RPD RPDLimit Qua
Benzene		0.0246	0.00100	0.0232	0	106	81	122	
Surr: 1,2-Dichloroethane-d4		213		200.0		106	72	119	
Surr: 4-Bromofluorobenzene		205		200.0		103	76	119	
Surr: Dibromofluoromethane		210		200.0		105	85	115	
Surr: Toluene-d8		196		200.0		98.2	81	120	
Sample ID: MB-60966	Batch ID:	60966		TestNo:	SW8	3260C		Units:	mg/L
SampType: <b>MBLK</b>	D ID.								10/10/0010
1 71 -	Run ID:	GCMS7	_131216A	Analysis	Date: 12/1	6/2013 1:41	1:00 PM	Prep Date:	12/16/2013
	Kun ID:	GCMS7	_ <b>131216A</b>  RL	Analysis SPK value	Date: 12/1 Ref Val	%REC			RPD RPDLimit Qua
Analyte	Kun ID:								
Analyte	Kun ID:	Result	RL						
Analyte Benzene	Kun ID:	Result ND	RL	SPK value		%REC	LowLimi	t HighLimit %	
Analyte  Benzene  Surr: 1,2-Dichloroethane-d4	Kun ID:	Result ND 212	RL	SPK value		%REC	LowLimi	t HighLimit %	

Qualifiers: Analyte detected in the associated Method Blank

> J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

Reporting Limit

Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

Spike Recovery outside control limits Parameter not NELAC certified

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RECENTE OCK

2014 APR 10 A 10: 32

14998 West 6th Avenue; Suite 800, Golden, Colorado 80401 Telephone: (720) 974-0935 Fax: (720) 974-0936

www.CRAworld.com

Reference No. 078863

April 7, 2014

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive, Santa Fe, New Mexico 87505

Re: March 2014 NMOCD Status Report – Hobbs Tank 5201-Hobbs, NM- AP-113 – Holly Energy

**Partners** 

Dear Carl:

Please find two copies with a digital file copies of the March 2014 Status Report for the Hobbs Tank 5201 Release (AP-113) that was requested by the New Mexico Oil Conservation District (NMOCD).

If you would like any additional copies, please let me know. If any clarification is required, or if you have any questions, please contact me at 720-974-0942 or bstephenson@craworld.com.

Yours truly,

**CONESTOGA-ROVERS & ASSOCIATES** 

Brad Stephenson, PG Senior Project Manager

BS/kp/1

Cc: Allison Stockweather

Equal Employment Opportunity Employer