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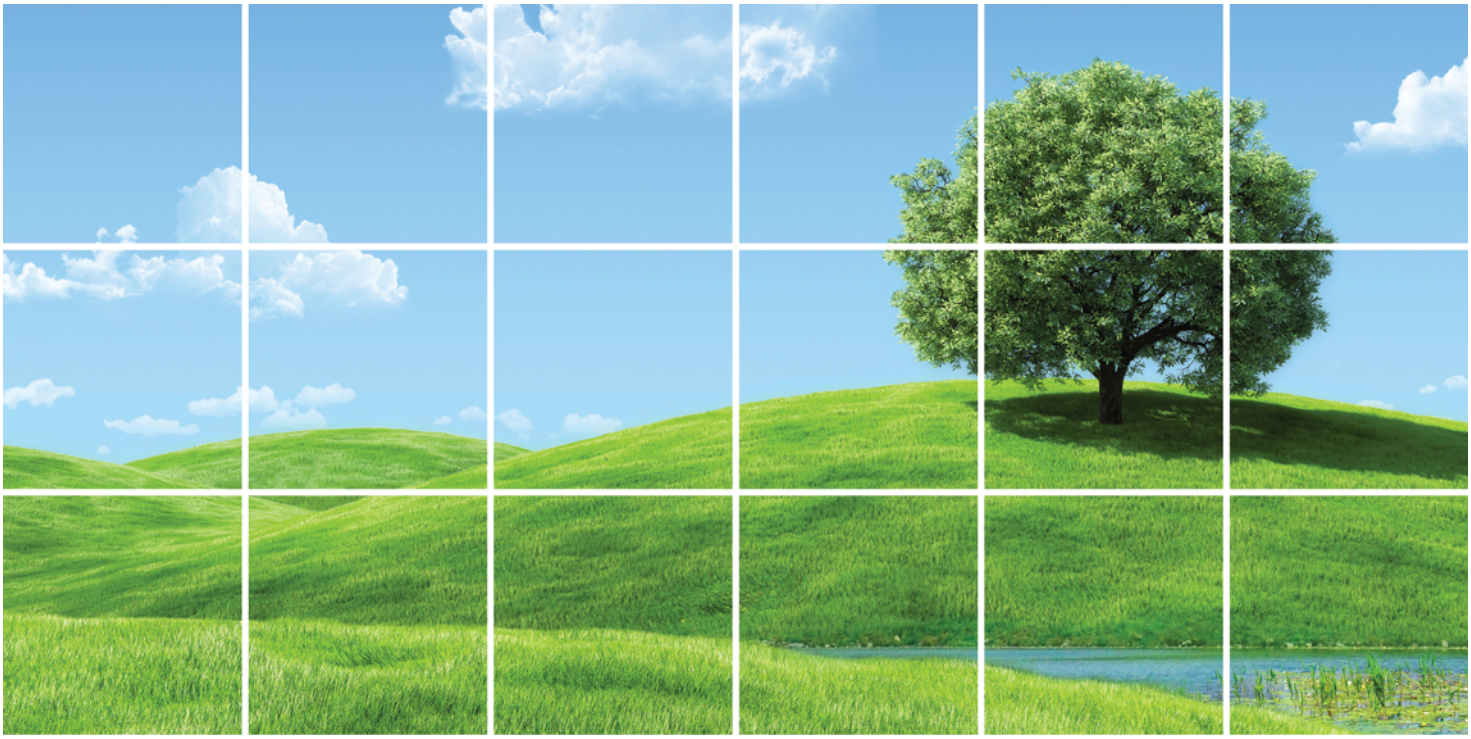

REPORT

SITE STATUS REPORT

HOLLY ENERGY PARTNERS
HOBBS SOUTH GSA
SE1/4 of the SW1/4 of SECTION 15
T19S; R38E
LEA COUNTY, NEW MEXICO

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September 2013 • #078807
Report Number:3

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1.0 INTRODUCTION

This status report is submitted on behalf of Holly Energy Partners (HEP) for the Hobbs South GSA pipeline leak (Site) located in Lea County, New Mexico (Figure 1**)**. On March 27, 2002 a leak was reported by Plains personnel from the 8-inch pipeline owned by Navajo Refining Company. There is no record of the leak being reported to New Mexico Oil Conservation Division (NMOCD) for this time. This report covers activities at the Site for the period from August 2012 to June 2013. This report contains information on the status of the crude oil found on groundwater in the area of the release, groundwater monitoring activities, installation of the crude oil recovery wells and abandonment of borehole wells, as described in the Stage 2 Abatement Plan that was submitted to the New Mexico Oil Conservation Division (NMOCD) in November 2012.

1.1 SITE BACKGROUND

On March 27, 2002, a leak was discovered in an 8-inch pipeline operated by Navajo Refining Company. An unknown volume of crude oil was released to subsurface soils. The leak was discovered when the pipeline was exposed for trenching for an electrical line. The soil in the excavation trench was saturated with crude oil. The pipeline was shut down and a 150 foot section of the pipeline was replaced in the area. This pipeline has remained inactive since this leak was discovered in 2002.

1.2 SITE SETTING

The Site is located approximately 3 miles south of Hobbs, NM in an area where several crude oil storage facilities are clustered. The Site is located in the SE ¼ of the SW ¼ of Section 15, Township 19 South, Range 38 East in Lea County, New Mexico (32.654949° North, 103.137432° West). The topography at the Site is relatively flat and the average elevation is approximately 3,598 feet mean sea level (Figure 1). The Site is located on Plains Pipeline property at 214 County Road 61, Hobbs, NM. The surrounding land contains crude oil storage tanks, rural residences and open range land.

1.3 SUMMARY OF PREVIOUS INVESTIGATIONS

In 2002, impacted soil was removed from the area of the pipeline repair and expanded to remove additional petroleum-stained soil. In January 2003, an additional excavation to remove impacted soil was completed in the area east of the pipeline. Soil could not be removed to the west due the presence of a Plains pipeline and pipeline valves and

manifolds. These excavations removed a total of approximately 4,033 cubic yards of impacted soil at the Site.

Four groundwater monitoring wells (MW-1, MW-2, MW-3, and MW-4) and 13 boreholes (BH-1 to BH-13) were used to characterize the Site in late 2002 and early 2003. The closest monitoring well to the leak area (MW-4) is approximately 200 feet to the west and down-gradient of the historical leak. The remaining two down-gradient wells are greater than 200 feet east of the historical leak. Initial boreholes were located in the area of the leak and approximately 150 feet east of the leak. There is no documentation available as to when approximately 50 additional boreholes, which were converted to temporary fluid measurement 2-inch wells, were installed at the Site. In addition, there is no documentation available when the fifteen 4-inch wells were installed at the Site, and there is no available information pertaining to the construction of any of these wells.

Total fluid pumps were used in the boreholes and as of May 2008, approximately 879 barrels (bbls) of crude oil had been recovered at the Site. Crude oil recovery efforts continued at the Site until 2012 with the total amount recovered reported as 1,061.4 bbls.

The analytical results of soil obtained from the excavations and soil borings indicated that the soil was impacted in the area of the leak to the depth of groundwater and approximately 150 feet east of the excavation area.

The maximum thickness of the oil accumulation on top of groundwater was measured at 6 feet in well BH-404 during the August 2012 well evaluation. The dissolved phase hydrocarbon concentrations in down-gradient groundwater monitor wells have been below the New Mexico Water Quality Control Commission (NMWQCC) standards for benzene, toluene, ethylbenzene, and total xylenes (BTEX) since 2002.

1.4 SITE CONCEPTUAL MODEL

The Site was impacted by crude oil from a leak in a pipeline. The crude oil on groundwater has remained in the same location since 2002 and currently has a maximum thickness of approximately 6 feet. The crude oil is predominantly found in the area of the leak. The primary chemicals of concern are hydrocarbon constituents that originated from the crude oil. Hydrocarbon impacts at the Site appear to be limited to soil and groundwater within 150 feet of the location of the leak. Petroleum impacted soil remains in this area below 17 feet-below ground surface (ft-bgs) to the top of groundwater at approximately 54 ft-bgs. The impacts to groundwater appear to be limited to this area with the crude remaining on groundwater. Dissolved phase hydrocarbons have not impacted the groundwater monitoring wells or drinking water

wells located in the area down-gradient from the release or near the residences located in this area (*Stage 2 Abatement Plan*, November 2012).

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 and associated impacts have remained in the area of the leak since 2002. This type of crude oil has a very low mobility and does not readily desorb nor dissolve and therefore, any remaining impacts are only in the immediate area of the release. The low mobility rate may be attributed to the high percentage of paraffin in the crude oil which is characteristic of this type of crude oil found in the eastern New Mexico Permian Basin area. The crude oil thickness has been measured at the Site since 2002 and has not migrated from the area, suggesting that most of the soil impacts have been generally mitigated and the released crude oil has a low mobility rate and is not readily dissolved in groundwater.

The Site is located in area of multiple crude oil storage tanks and is about 3 miles south of Hobbs, NM. The closest residences are located approximately 625 feet from the area and the closet drinking water well is located within 1,000 feet of the leak. The well is used for drinking water supply for the nearby residences and has not been impacted by the leak, as determined by analytical testing of these wells and the groundwater monitoring wells which are situated as sentinels for these supply wells.

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) of:

- 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 55 ft-bgs. The closest water well is approximately 600 feet east of the Site. There are no surface-water bodies within 1,000 feet of the Site. Due to the depth of groundwater (55 ft-bgs), it is unlikely that any perennial stream would exist at any time within 1,000 feet of the Site.

At the Site, groundwater is greater than 50 feet, the domestic well is less than 1,000 feet from the release and the distance to a surface-water body is greater 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 10, for the domestic well it is 20 and for the surface-water body it is 0, for a total ranking score of

30. If the total ranking score is over 19, the following NMOCD recommended remediation action levels for hydrocarbons for soil at 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

On-site well evaluations were conducted in August 2012. Groundwater monitoring was conducted at the Site in December 2012 and June 2013. Monitoring included obtaining groundwater samples for laboratory analysis for BETX and measuring fluid levels in all monitor wells and borehole wells. In February 2013, 42 borehole wells were abandoned on the Site and two 4-inch recovery wells were installed for use in the recovery of the crude oil.

2.1 WELL EVALUATIONS AND ABANDONMENTS

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 the January 2012 Site Map (Figure 2), measurement of the fluid levels and the total well depths and a search of the available records for well and borehole logs. Appendix A contains the August 2012 well evaluation information.

The January 2012 map (Figure 2) shows 65 borehole wells and four monitor wells. The August 2012 field evaluation found all 65 borehole wells and the four monitor wells. The August 2012 field evaluation showed total well depths ranging from 38.57 ft-bgs to 68.20 ft-bgs and saturated thickness in the wells varied from dry to 13.90 feet in BH-407 (Appendix A).

The borehole wells selected for abandonment were based on whether the well was dry or lacked saturated thickness of greater than one foot, incomplete or no records of completion, lack of crude oil, integrity of the surface seal and location of the well. The evaluation of the temporary borehole wells indicated that many of the wells were outside of the impacted area, lacked a saturated thickness of greater than one foot and would not be needed for the Stage 2 abatement activities. Based on these criteria, 42 wells were slated for abandonment. In January 2013, two 4-inch borehole wells were abandoned and 40 two-inch borehole wells were abandoned (Appendix B).

Well abandonments were completed per State guidelines (NMAC19.27.4.30). To plug each well, the entire well casing and screen was filled from the bottom of the well upwards to ground surface with a tremie pipe using neat cement slurry consisting of bentonite based cement plugging material approved by the State Engineer. The superficial PVC blank was removed from the well. The slurry was then allowed to settle and the wells were topped off with the same neat cement slurry.

2.2 GROUNDWATER MONITORING PROCEDURES AND RESULTS

Groundwater monitoring was conducted at the Site in December 2012 and June 2013 and included fluid level measurements of all monitor wells and existing borehole wells. Groundwater samples were collected from all five monitor wells during both sampling events. Prior to purging of the monitor wells and obtaining groundwater samples, fluid levels were measured using an oil/water level indicator.

Crude oil was not measured in any of the monitor wells during the December 2012 monitoring event, but was measured in 33 borehole wells. Product thickness varied from 0.03 feet to 5.90 (BH-408) feet with the majority of the crude oil found in the central portion of the Site near the release. The crude oil thicknesses for December 2012 are shown in Figure 3 and detailed in Appendix C.

Water levels in December 2012 were similar to the water levels measured in August 2012. For the December monitoring period, the depth to groundwater across the Site varied from 50.36 ft-bgs (BH-51) to 58.00 ft-bgs (BH-408) (Appendix C). The groundwater flow in December was towards the east and the groundwater gradient was relatively flat with a gradient of 0.0013 feet/foot (Figure 4).

During the June 2013 monitoring period, crude oil was again not measured in any of the four monitor wells but was measured in 20 of the remaining 23 borehole wells and in both new recovery wells. Product thickness varied from 0.04 feet to 5.87 feet (BH-404) with the majority of the crude oil again found in the central portion of the Site near the release. The crude oil thicknesses for June 2013 are shown in Figure 5 and detailed in Appendix D

For the June 2013 monitoring period, the depth to groundwater across the Site varied from 50.66 ft-bgs (BH-3A) to 59.03 ft-bgs (BH-408) (Appendix D). As in the December monitoring period the groundwater flow in June 2013 was towards the east and the groundwater gradient was 0.0005 feet/foot (Figure 6).

Prior to purging of the wells and obtaining groundwater samples, fluid levels were measured in all monitor wells using a water level indicator. During both sampling events, the monitor wells were purged at a rate of 160 ml/min and groundwater samples were collected using the low flow purging technique following stabilization of the field parameters (Appendix E). 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 the final readings for both sampling events are summarized in Appendix F.

All four monitor wells (MW-1, MW-2, MW-3R, and MW-4) were sampled in December 2012 and June 2013 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 laboratory reports for both sampling events are contained in Appendix G.

The December 2012 hydrocarbon concentrations for each monitor well are shown in Figure 4 and summarized in Appendix F. The concentrations of dissolved BTEX in groundwater during December 2012 at the Site were generally similar to concentrations detected in December 2011. There were no detections of any of the BTEX constituents above the NMWQCC standards in the four monitor wells sampled at the Site during the December 2012 sampling event.

The hydrocarbon concentrations for each monitor well sampled in June 2013 are shown in Figure 6 and summarized in Appendix F. The concentrations of dissolved BTEX in groundwater during June 2013 at the Site were generally similar to concentrations detected in December 2012. There were no detections of any of the BTEX constituents above the NMWQCC standards in the four monitor wells sampled at the Site during the June 2013 sampling event. Benzene was detected above the lower laboratory reporting limit, at a concentration of 0.25 micrograms per liter (µg/L) for MW-2 and 0.24 µg/L at MW-4.

2.3 REMEDIATION WELL INSTALLATION AND SOIL BORINGS

In February 2013, two recovery wells were installed at the Site and eight soil borings were completed to characterize the subsurface soil conditions. Soil analytical results are shown on Figure 7.

The final recovery well locations and soil boring locations were based on historical crude oil thickness data, utility clearances and were finalized by the site geologist. Prior to drilling, private and public utilities were cleared. The NMOCD was notified approximately one week prior to drilling activities, as required by 19.15.30.14.B NMAC. Well permits were obtained from the New Mexico State Engineer and site access and permission to install the recovery wells was obtained from Plains.

The wells were installed according to New Mexico Office of the State Engineer rules (19.27.4 NMAC) using an air rotary drill rig. The boring diameter was $7^{7/8}$ inches and the total depths of the wells were approximately 10 feet below the top of the fluid, as observed during the drilling by the site geologist. The well borings were logged by the on-site geologist based on the cuttings and spilt spoon samples. Each boring was logged

for the unified soil classification, moisture content, Munsell color, staining, and vapor content.

In the unsaturated zone at the Site, backfill material was encountered consisting of silt and sand overlying caliche with sand and silty sand to the top of groundwater. In the saturated zone at the Site, caliche, sand and gravel were encountered at each location. Odor and/or staining were observed from approximately 13 ft-bgs to the top of groundwater in Well HSRW-1 and from 35 ft-bgs to the top of groundwater in Well HSRW-2.

In soil borings SB-1 and SB-8 odor and/or staining was observed from 3 ft-bgs to the top of groundwater. In SB-6 odor and/or staining was observed from approximately 17 ft-bgs to the top of groundwater. In borings SB-2, SB-3, SB-4, SB-5 and SB-7 odor and/or staining was observed from approximately 37 ft-bgs to the top of groundwater. Well construction details, well logs and the borehole logs are contained in Appendix H.

The recovery wells were constructed with 4-inch diameter schedule 40 PVC casing and 20 feet of 20-slot (0.020 inch) PVC screen with approximately 10 feet of the screen above the observed fluid level and 10 feet below the observed fluid level (Figure 8). A 10/20 sand filter pack was placed in the borings from the bottom of the boring to approximately two feet above the well screen. A hydrated bentonite seal was placed from the top of the sand pack to approximately five feet above the sand pack. A grout seal was placed from the top of the bentonite seal to approximately 3 ft-bgs. A 3-foot manhole cover was placed on each well and cemented in place. The selected screen interval was used to allow for soil vapor extraction if needed, the fluctuation in fluid levels and for the collection of fluids from any future surfactant injection, if needed. In addition, a 1-inch piezometer was installed alongside the 4-inch well and constructed in the same manner as the 4-inch well (Figure 8). These piezometers will be used to measure fluid levels so that the oil recovery pumps will not have to be removed for fluid level measurements.

Product thickness was not measured in either of the new wells immediately following installation; therefore, each well was surged with a surge block assembly to develop the well. These wells were again checked after well development and product was measured in HSRW-2.

All drilling and well development equipment was cleaned prior to initiation of drilling activities and in between all borings using a high pressure washer.

2.4 SUBSURFACE SOIL SAMPLING PROCEDURES AND RESULTS

During drilling for the well installations and boreholes, soil samples were collected continuously from ground surface to the top of groundwater or to approximately 54 ft-bgs, using a two-foot split-spoon sampler, or a core sampler when the split-spoon hit refusal. If the core sampler hit refusal, the boring was logged using cuttings. Headspace samples were collected in re-sealable plastic bags every two feet and measured approximately 30 minutes after collection for of volatiles using a photo-ionization detector (PID). Subsurface soil samples were collected from the eight boreholes and from the recovery well locations. Samples were collected for laboratory analyses relative to the highest detected headspace reading of each boring and analyzed for BTEX compounds by Method 8260, TPH-GRO and TPH-DRO by Method 8015.

The data shows vadose zone soil impacts based on head space data above NMOCD recommended remediation action levels in recovery well HSRW-1 and in boreholes SB-1, SB-6 and SB-8. There appears to be impacts based on head space readings from the capillary zone, which is approximately six feet above the top of the water at both recovery well locations and all eight borehole locations. The soil data is summarized in Appendix I and shown on Figure 7. Historically, groundwater has dropped in the area of the Site with fluid levels in the four monitor wells dropping an average of 4.91 from 2003 to 2011. From 2011 to the most recent monitoring event in June 2013, the water level in the four monitor wells has dropped another 1.44 feet on average.

Soil analytical results have been compared to the NMOCD recommended remediation actions levels as described above in Section 1.4. The subsurface soil results indicated that impacts start at approximately 4 ft-bgs at boring SB-1 and continued to the top of the water and are generally within the capillary zone (48 to 54 ft-bgs) in the other locations. Laboratory reports for the soil data are contained in Appendix J.

The subsurface soil results are summarized as follows:

- BTEX constituents were detected in the subsurface soil above the NMOCD recommended remediation action levels in the 50-52 foot sample from well HSRW-2 with a concentration of Total BTEX of 108.65 milligrams per Liter (mg/L);
- TPH was detected above the recommended remediation action level of 100 mg/kg in all eight boreholes; SB-1 at 4-6 ft-bgs and 42-44 ft-bgs, SB-2 at 40-42 ft-bgs, SB-3 at 40-42 ft-bgs and 50-52 ft-bgs, SB-4 at 40-42 ft-bgs and 50-52 ft-bgs, SB-5 at 40-42 ft-bgs and 50-52 ft-bgs, SB-6 at 28-30 ft-bgs and 50-52 ft-bgs, SB-7 at 44-46 ft-bgs and 50-52 ft-bgs and SB-8 at 16-18 ft-bgs and 48-50 ft-bgs; and

- Head space readings above the recommended remediation action level of 100 ppm were found in wells HSRW-1 and HSRW-2 and in boreholes SB--1, SB-6 and SB-8 above the capillary zone and below the capillary zone in both recovery well borings and all eight boreholes.

2.5 QA/QC RESULTS

The field PID was calibrated daily using 100 ppm isobutylene and groundwater field measurement instruments were calibrated to manufactures recommendation. QA/QC samples included trip blanks and duplicate groundwater sample. The results of the QA/QC samples for groundwater are summarized in Table 1 and the results for the QA/QC sample for soil are summarized in Table 2. The groundwater duplicate samples and trip blanks were analyzed for BTEX by Method 8260. The duplicate groundwater sample showed no variation in the results. There were no detections above the lower laboratory reporting limit for BTEX in any of the trip blanks.

2.6 INVESTIGATIVE DERIVED WASTE

The cuttings were separated on-site into impacted and non-impacted soil, based on visual observation and head space analysis. The impacted cuttings were collected and containerized in a plastic lined roll-off container. The impacted cuttings were sampled for BTEX, total petroleum hydrocarbons (TPH) and RCRA metals analyses at the conclusion of drilling activities. The results indicated the waste is above state standards for TPH; the waste was handled and disposed of properly at the Sundance disposal facility. The results of the investigative derived waste are summarized in Table 3.

3.0 CONCLUSION AND RECOMMENDATIONS

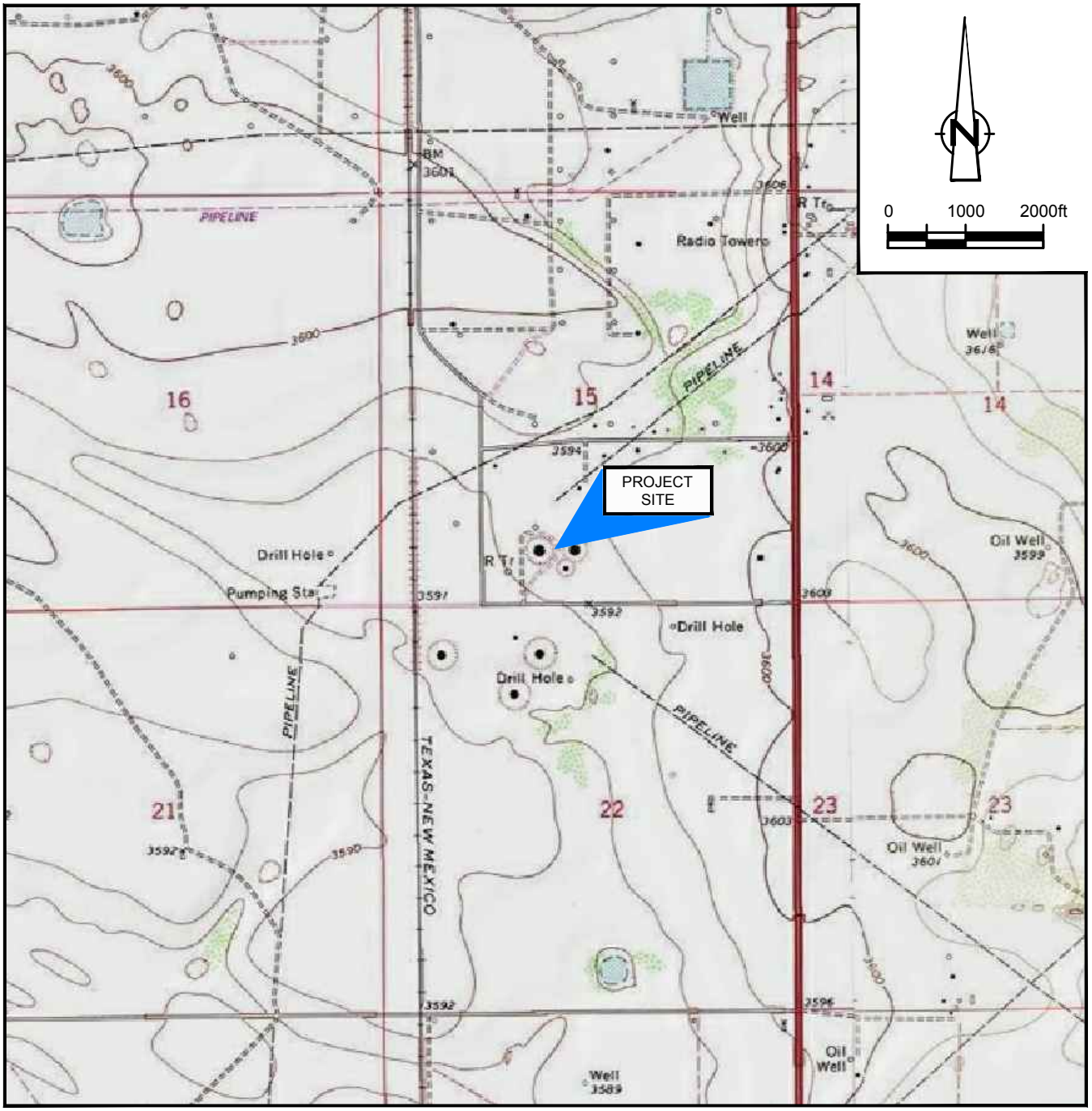
Groundwater hydrocarbon concentrations have remained stable since 2010. The measured thicknesses of the crude oil have increased as much as two feet since the suspension of the crude oil recovery activities in 2011.

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 2013. Groundwater samples will be collected from all site monitor wells and analyzed for BTEX.

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. This system is scheduled to be installed and in operation by September 2013.

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"

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

figure 1

SITE TOPOGRAPHIC MAP
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

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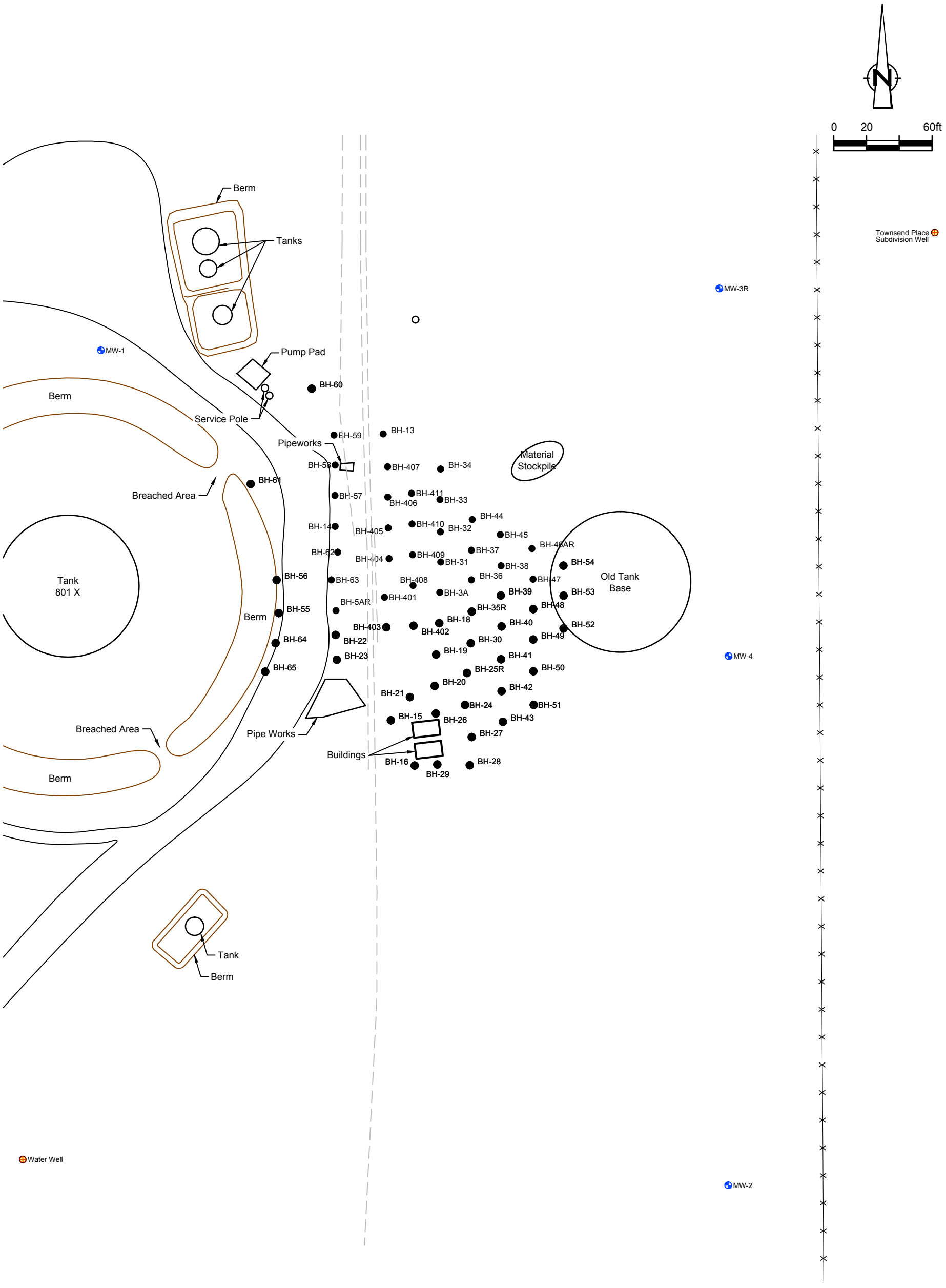


LEGEND

- Existing Monitoring Well Location
- Existing Borehole Well Location
- Approximate Location of Underground Line

figure 2

SITE MAP (JANUARY 2012)
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

078807-01(000)GN-DL001 AUG 30/2013

0 20 60ft

Berm
Tanks
Pump Pad
MW-1
BH-60
Dry
Service Pole
Berm
Pipeworks
BH-59
0.60
BH-13
Dry
BH-58
0.52
BH-407
1.88
BH-34
Dry
Material
Stockpile
BH-61
Dry
Breached Area
BH-57
Dry
BH-411
4.25
BH-33
Dry
BH-406
3.43
Dry
BH-44
BH-14
0.28
BH-405
5.66
BH-410
5.29
BH-32
Dry
BH-45
0.31
BH-46AR
Dry
BH-62
0.19
BH-404
5.46
BH-409
5.69
BH-31
0.28
BH-37
0.57
BH-54
0.00
Tank
801 X
BH-56
0.44
BH-63
Dry
BH-408
5.90
BH-38
0.31
BH-36
Dry
BH-47
0.01
Old Tank
Base
BH-55
Dry
BH-5AR
Dry
BH-401
2.29
BH-3A
Dry
BH-39
Dry
BH-53
0.00
BH-35R
0.29
BH-48
Dry
BH-64
1.40
BH-403
Dry
BH-18
Dry
BH-402
Dry
BH-40
0.25
BH-52
0.30
BH-22
Dry
BH-49
0.50
BH-23
Dry
BH-30
0.00
BH-19
Dry
BH-41
Dry
BH-50
Dry
Berm
BH-65
1.64
BH-25R
3.63
BH-20
0.03
BH-21
Dry
BH-42
0.30
BH-24
Dry
BH-51
0.12
Breached Area
Pipe Works
BH-15
Dry
BH-26
Dry
BH-43
0.36
BH-27
Dry
Buildings
BH-16
Dry
BH-29
0.11
BH-28
Dry
Berm
Tank
Berm
Townsend Place
Subdivision Well
MW-3R
MW-4
0.00
Water Well
MW-2

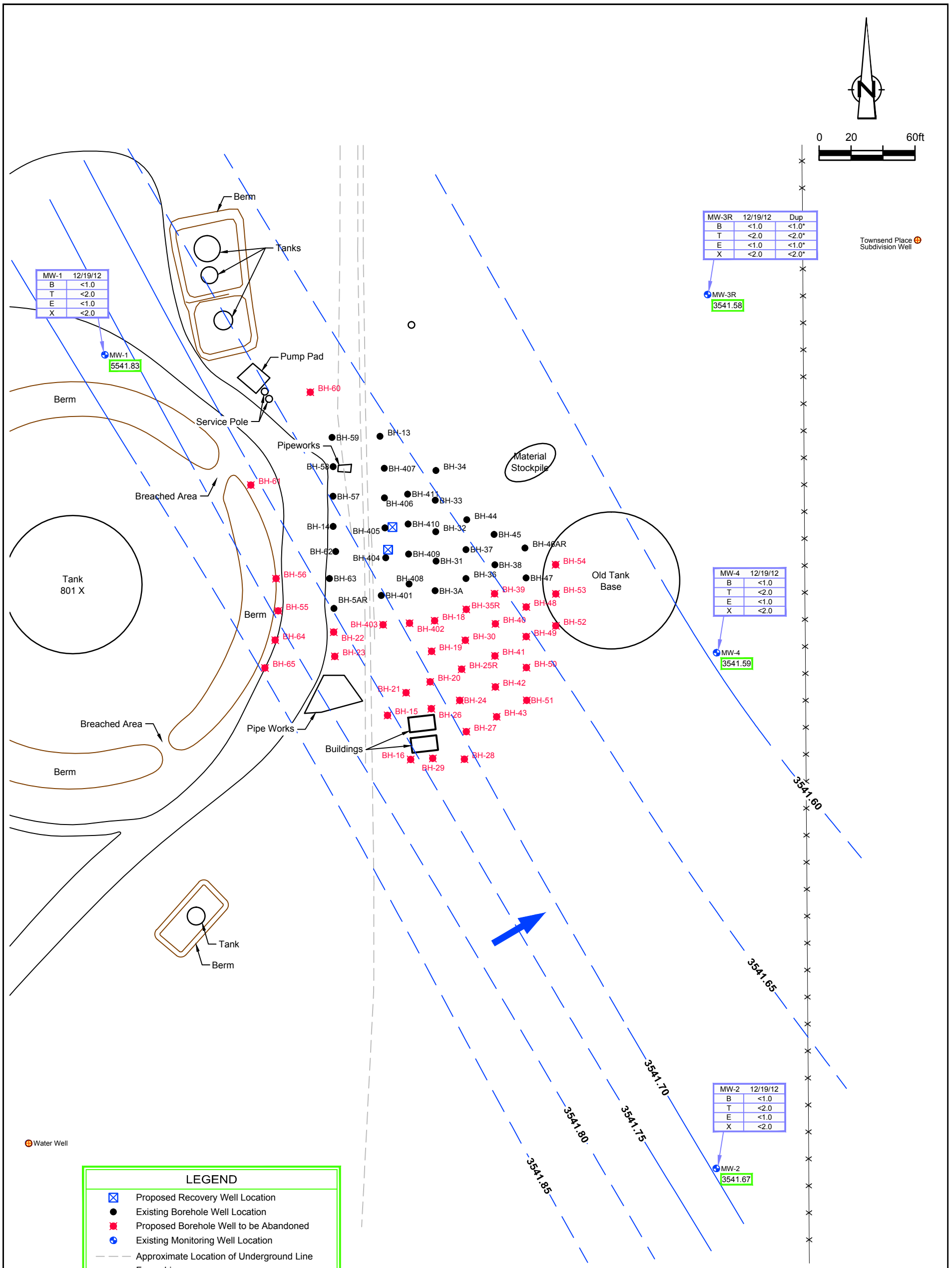
LEGEND

- Proposed Recovery Well Location
- Existing Borehole Well Location
- Existing Monitoring Well Location
- Proposed Well to be Abandoned
- Well Location
- 0.12 Product Thickness (ft)
- Approximate Location of Underground Line

figure 3

PRODUCT THICKNESS - DECEMBER 2012
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

078807-01(000)GN-DL003 AUG 30/2013



Water Well

LEGEND

☒	Proposed Recovery Well Location
●	Existing Borehole Well Location
✖	Proposed Borehole Well to be Abandoned
⊕	Existing Monitoring Well Location
— — —	Approximate Location of Underground Line
—×—×—	Fence Line
B	Benzene Concentration (µg/L)
T	Toluene Concentration (µg/L)
E	Ethylbenzene Concentration (µg/L)
X	Xylenes Concentration (µg/L)
*	Indicates Duplicate Sample
∿	Groundwater Elevation Contour (Interval = 0.05 ft)
3541.67	Elevation of Groundwater (ft)
→	Direction Of Groundwater Flow

figure 4

GROUNDWATER POTNETIOMETRIC AND GROUNDWATER ANALYTICAL MAP - DECEMBER 2012
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

N

0 20 60ft

Townsend Place Subdivision Well

MW-3R
0.00

Berm

Tanks

MW-1
0.00

Pump Pad

SB-7

Berm

Service Pole

SB-6

Pipeworks

BH-59
0.13

BH-58
0.27

BH-407
1.95

Material Stockpile

SB-5

Breached Area

BH-57
0.87

BH-406
3.79

2.14

BH-411
4.72

BH-33
0.22

HSRW-2

BH-14
0.25

BH-405
5.56

BH-410
5.20

0.26

BH-45

HSRW-1
2.35

BH-37
0.32

SB-4

BH-62
0.04

BH-409
5.44

BH-31
0.31

BH-38
0.00

BH-404
5.87

0.00

BH-47

Former Tank 801 X Location

BH-63
0.17

BH-408
5.80

BH-36

Old Tank Base

BH-401
3.80

BH-3A
0.09

SB-3

BH-5AR
0.00

SB-2

Berm

5.0'

4.0'

3.0'

2.0'

1.0'

MW-4
0.00

SB-1

Breached Area

Pipe Works

Buildings

SB-8

Berm

Tank

Berm

Water Well

MW-2
0.00

LEGEND

- Recovery Well Location
- Existing Well Location
- Monitoring Well Location
- Well Location
- Subsurface Sample Location
- 0.12 Product Thickness (ft)
- Product Thickness Contour
- Approximate Location of Underground Line

figure 5

PRODUCT THICKNESS - JUNE 2013
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

078807-00(000)GN-DL001 AUG 30/2013

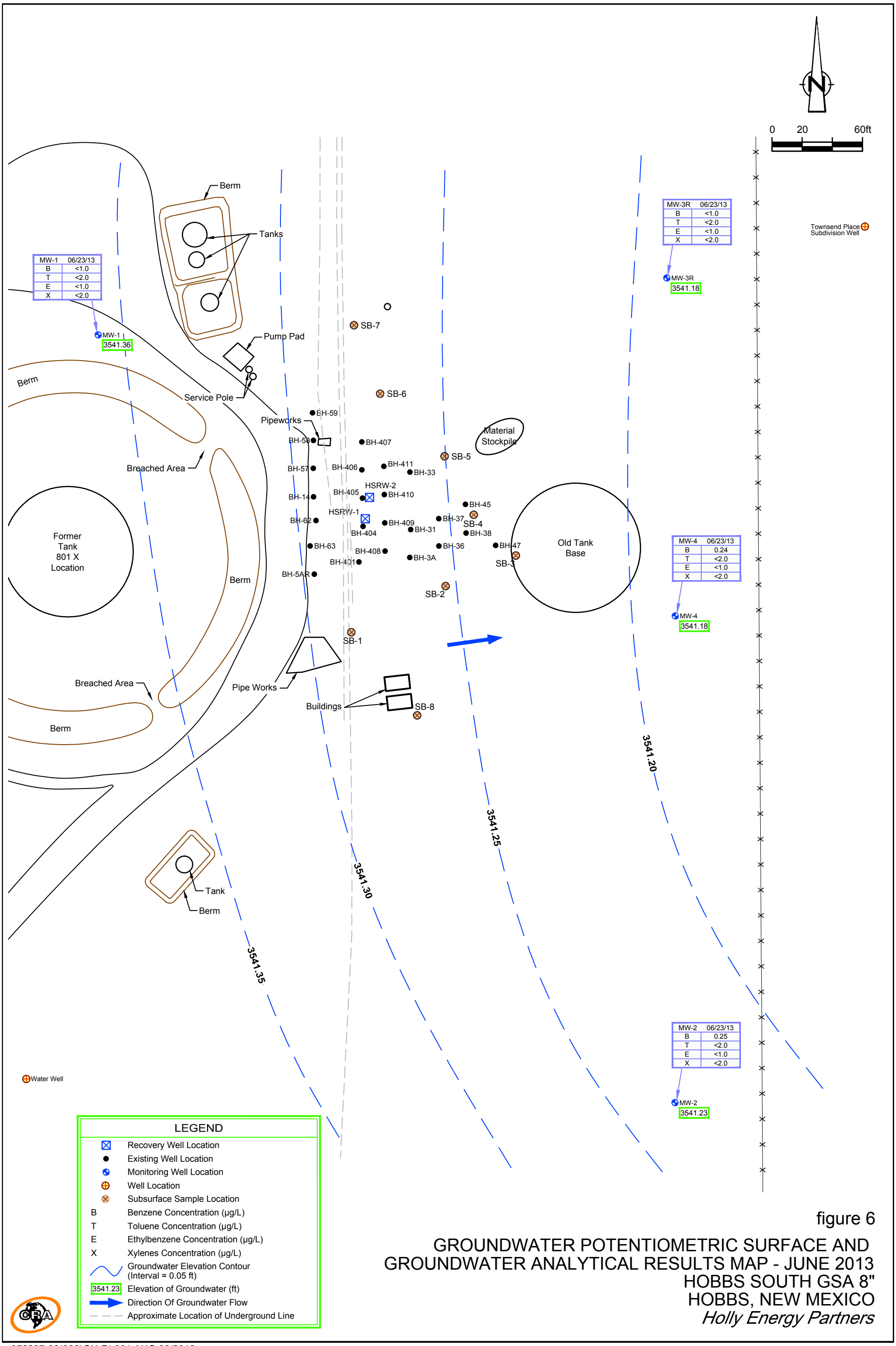
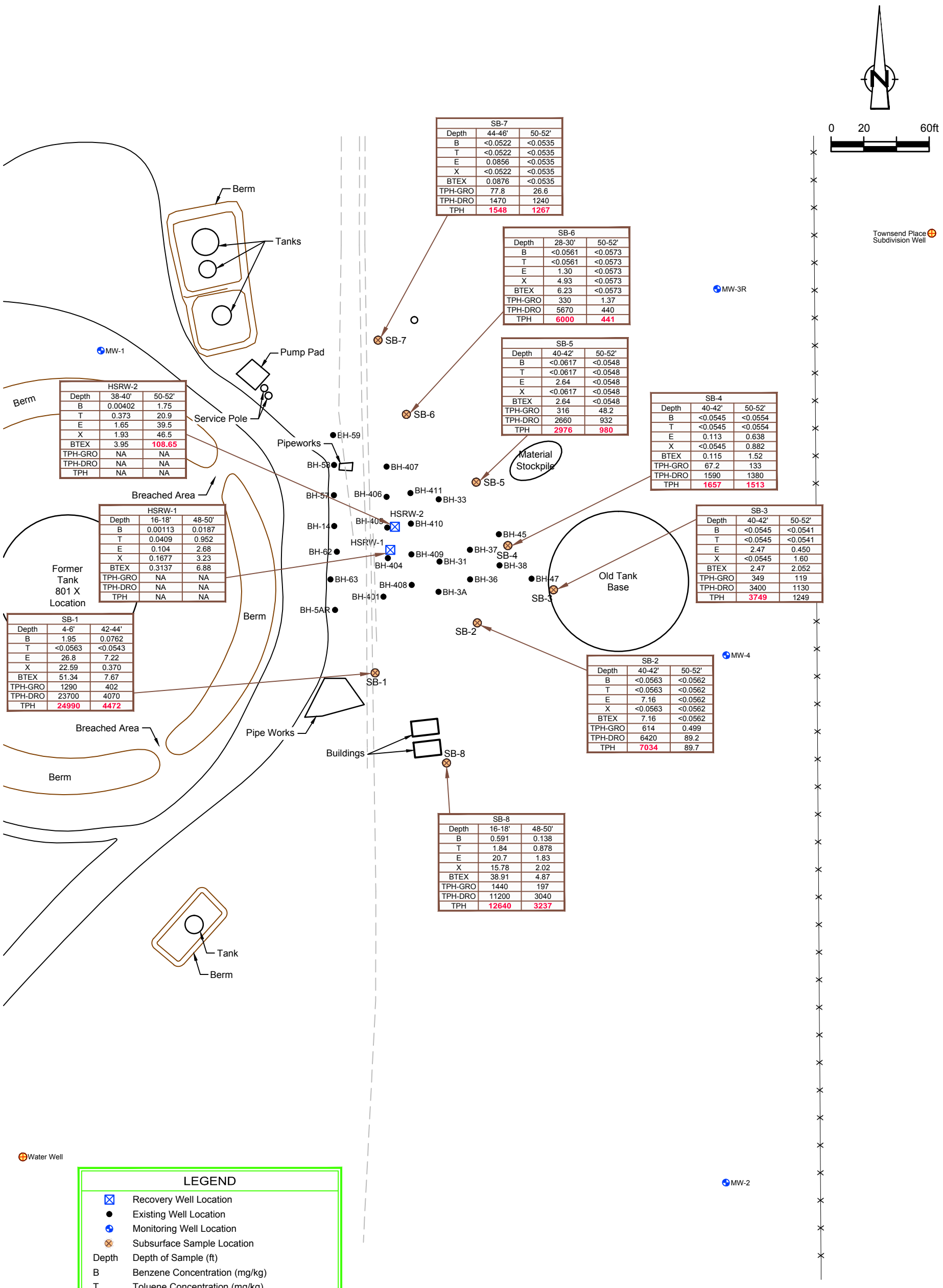


figure 6

GROUNDWATER POTENTIOMETRIC SURFACE AND GROUNDWATER ANALYTICAL RESULTS MAP - JUNE 2013
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO

Holly Energy Partners



SB-7		
Depth	44-46'	50-52'
B	<0.0522	<0.0535
T	<0.0522	<0.0535
E	0.0856	<0.0535
X	<0.0522	<0.0535
BTEX	0.0876	<0.0535
TPH-GRO	77.8	26.6
TPH-DRO	1470	1240
TPH	**1548**	**1267**

SB-6		
Depth	28-30'	50-52'
B	<0.0561	<0.0573
T	<0.0561	<0.0573
E	1.30	<0.0573
X	4.93	<0.0573
BTEX	6.23	<0.0573
TPH-GRO	330	1.37
TPH-DRO	5670	440
TPH	**6000**	**441**

SB-5		
Depth	40-42'	50-52'
B	<0.0617	<0.0548
T	<0.0617	<0.0548
E	2.64	<0.0548
X	<0.0617	<0.0548
BTEX	2.64	<0.0548
TPH-GRO	316	48.2
TPH-DRO	2660	932
TPH	**2976**	**980**

SB-4		
Depth	40-42'	50-52'
B	<0.0545	<0.0554
T	<0.0545	<0.0554
E	0.113	0.638
X	<0.0545	0.882
BTEX	0.115	1.52
TPH-GRO	67.2	133
TPH-DRO	1590	1380
TPH	**1657**	**1513**

HSRW-2		
Depth	38-40'	50-52'
B	0.00402	1.75
T	0.373	20.9
E	1.65	39.5
X	1.93	46.5
BTEX	3.95	**108.65**
TPH-GRO	NA	NA
TPH-DRO	NA	NA
TPH	NA	NA

HSRW-1		
Depth	16-18'	48-50'
B	0.00113	0.0187
T	0.0409	0.952
E	0.104	2.68
X	0.1677	3.23
BTEX	0.3137	6.88
TPH-GRO	NA	NA
TPH-DRO	NA	NA
TPH	NA	NA

SB-3		
Depth	40-42'	50-52'
B	<0.0545	<0.0541
T	<0.0545	<0.0541
E	2.47	0.450
X	<0.0545	1.60
BTEX	2.47	2.052
TPH-GRO	349	119
TPH-DRO	3400	1130
TPH	**3749**	1249

SB-1		
Depth	4-6'	42-44'
B	1.95	0.0762
T	<0.0563	<0.0543
E	26.8	7.22
X	22.59	0.370
BTEX	51.34	7.67
TPH-GRO	1290	402
TPH-DRO	23700	4070
TPH	**24990**	**4472**

SB-2		
Depth	40-42'	50-52'
B	<0.0563	<0.0562
T	<0.0563	<0.0562
E	7.16	<0.0562
X	<0.0563	<0.0562
BTEX	7.16	<0.0562
TPH-GRO	614	0.499
TPH-DRO	6420	89.2
TPH	**7034**	89.7

SB-8		
Depth	16-18'	48-50'
B	0.591	0.138
T	1.84	0.878
E	20.7	1.83
X	15.78	2.02
BTEX	38.91	4.87
TPH-GRO	1440	197
TPH-DRO	11200	3040
TPH	**12640**	**3237**

LEGEND

☒	Recovery Well Location
●	Existing Well Location
⊕	Monitoring Well Location
⊗	Subsurface Sample Location
Depth	Depth of Sample (ft)
B	Benzene Concentration (mg/kg)
T	Toluene Concentration (mg/kg)
E	Ethylbenzene Concentration (mg/kg)
X	Xylenes Concentration (mg/kg)
BTEX	BTEX Concentration (mg/kg)
TPH	Total Petroleum Hydrocarbons Concentration (mg/kg)
DRO	TPH as Diesel Range Organics
GRO	TPH as Gasoline Range Organics
418.6	Exceeds NMOCD Remediation Action Level
— — —	Approximate Location of Underground Line

figure 7

SUBSURFACE SOIL ANALYTICAL RESULTS - FEBRUARY 2013
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO
Holly Energy Partners

078807-00(000)GN-DL001 AUG 30/2013

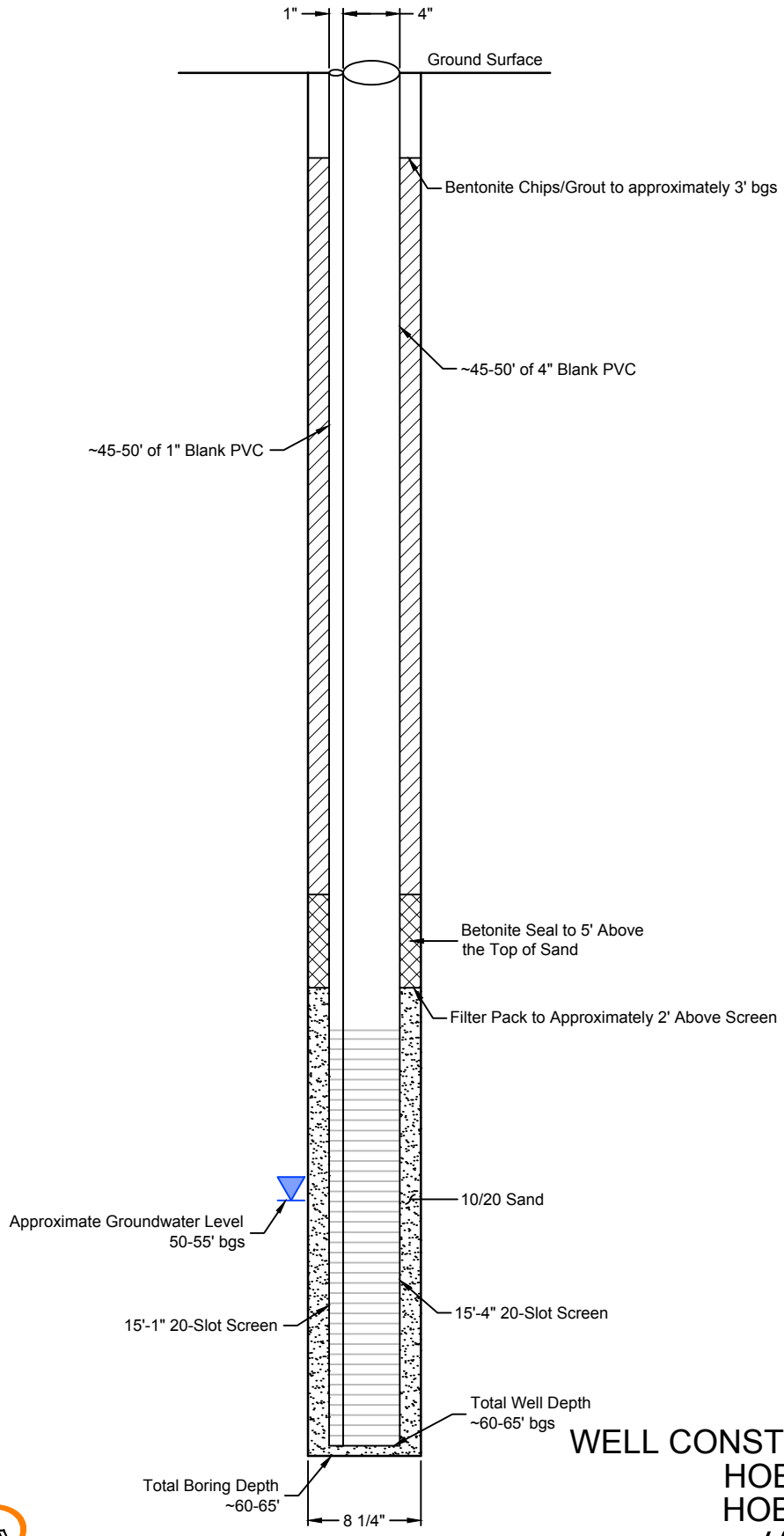


figure 8

WELL CONSTRUCTION DETAILS
HOBBS SOUTH GSA 8"
HOBBS, NEW MEXICO

Holly Energy Partners

TABLES

Table 1 **Summary of Groundwater QA/QC Results**
December 2012 and June 2013
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well No.	Date Sampled	Laboratory Analytical Results			
		Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
NMWQC Groundwater Standard		**10**	**750**	**750**	**620**
MW-3	12/19/2012	<0.001	<0.002	<0.001	<0.002
duplicate	12/19/2012	<0.001	<0.002	<0.001	<0.002
Trip Blank	12/19/2012	<0.001	<0.001	<0.001	<0.002
MW-1	6/23/2013	<0.001	<0.001	<0.001	<0.002
duplicate	6/23/2013	<0.001	<0.001	<0.001	<0.002
Trip Blank	6/23/2013	<0.001	<0.001	<0.001	<0.002

mg/L = milligrams per liter
< = Not detected above indicated level
BTEX = Benzene, Toluene, Ethylbenzene and Xylenes
BTEX analyzed by Method EPA 8260
NMOCD= New Mexico Oil Conservation Division

Table 2 **Summary of QA/QC Results for Soil**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Sample ID	Date Sampled	Laboratory Analytical Results				
		Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)	BTEX (mg/L)
NMOCD Remediation Action Levels		**10**				**50**
TRIP BLANK	2/21/13	< 0.0002	< 0.0006	< 0.0003	< 0.0003	< 0.0002

NOTES:
NMOCD= New Mexico Oil & Conservation Division
BTEX = Benzene, Toluene, Ethylbenzene & Total Xylenes
mg/L = milligrams per Liter
< = analyte not detected above method reporting limit
BTEX analyzed by EPA Method 8260B

Table 3 Summary of Investigative Derived Waste Results for Soil
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Sample ID	Date Sampled	Laboratory Analytical Results							
		Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH (mg/kg)
NMOCD Remediation Action Levels		**10**				**50.00**			**100**
SH-WCS-1	2/21/2013	< 0.000991	< 0.000991	0.0154	0.1448	0.1622	170	1990	**2160**

Sample ID	Date Sampled	Laboratory Analytical Results							
		Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)
		0.39	**5,400**	**37**	**210**	**400**	**390**	**390**	**23**
SH-WCS-1	2/21/2013	**1.69**	128	<0.107	4.64	2.43	0.325	0.200	<0.0173

NOTES:

NMOCD= New Mexico Oil Conservation Division

mg/kg = milligrams per kilogram

BTEX = Benzene, Toluene, Ethylbenzene & Total Xylenes

TPH-GRO = Total Petroleum Hydrocarbons- Gasoline Range Organics

TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics

BOLD (RED) - concentration greater than NMOCD Remediation Action Levels

< = analyte not detected above method reporting limit

BTEX analyzed by EPA Method 8260B

TPH-GRO analyzed by EPA Method 8260B

TPH-DRO analyzed by EPA Method 8015M

APPENDIX A

AUGUST 2012 WELL EVALUATIONS AND FLUID LEVELS

Appendix A -August 2012 Well Evaluations and Fluid Levels
Holly Energy - South Hobbs GSA - Lea County, New Mexico

Well ID	Date	PID (ppm)	Casing Dia (in)	DTP (ft)	DTW (ft)	Thickness (ft)	TD (ft)	Saturated (ft)	Stick up (ft) Y/N	DTW (ft-bgs)	Well Marked Y/N	Surface Condition	Comments
BH-19	8/2/2012	3	2	dry	dry		51.58	0.00	1.92		Y	No concrete collar	
BH-30	8/2/2012	99	2		52.48		52.82	0.34	1.75	50.73	Y	No concrete collar	
BH-49	8/1/2012	103.2	2	53.25	53.68	0.43	53.84	0.59	1.86	51.82	Y	No concrete collar	
BH-52	8/1/2012	0	2	51.79	51.93	0.14	52.40	0.61	1.46	50.47	Y	No concrete collar	
BH-48	8/1/2012	0	2	52.30			52.40	0.10	1.72		Y	No concrete collar	
BH-53	8/1/2012	0	2		52.99	52.99	53.40	0.41	1.77	51.22	Y	No concrete collar	
BH-54	8/1/2012	0	2		54.35	54.35	55.83	1.48	???		Y	No concrete collar	
BH-47	8/1/2012	0	2	52.99			53.50	0.51	1.64		Y	No concrete collar	
BH-46R	8/1/2012	0	4	54.99	55.14	0.15	53.20	-1.79	2.86	52.28	Y	No concrete collar	
BH-40	8/2/2012	65	2	53.32	53.83	0.51	53.93	0.61	1.92	51.91	Y	No concrete collar	
BH-39	8/2/2012	44	2	dry	dry		53.60	0.00	1.50		Y	No concrete collar	
BH-38	8/2/2012	69	2	52.92			53.23	0.31	1.70		Y	No concrete collar	
BH-45	8/2/2012	82	2	53.43	53.92	0.49	54.60	1.17	1.75	52.17	Y	No concrete collar	
BH-35R	8/2/2012	55	4	54.54	55.00	0.46	55.03	0.49	2.98	52.02	Y	No concrete collar	
BH-36	8/2/2012	71	2	dry	dry		52.00	0.00	1.58		Y	No concrete collar	
BH-37	8/2/2012	100	2	53.30			54.05	0.75	1.82		Y	No concrete collar	
BH-44	8/2/2012	47	2	dry	dry		53.21	0.00	2.00		Y	No concrete collar	
BH-18	8/2/2012	39	2	52.18			52.31	0.13	2.00		Y	No concrete collar	
BH-3A	8/2/2012	9	2	62.65			62.73	0.08	2.12		Y	No concrete collar	
BH-31	8/2/2012	50	2	53.12	53.51	0.39	53.51	0.39	1.96	51.55	Y	No concrete collar	
BH-32	8/2/2012	3	2	51.79	51.81	0.02	52.18	0.39	1.63	50.18	Y	No concrete collar	
BH-34	8/2/2012	2	2	dry	dry		50.29	0.00	1.58		Y	No concrete collar	
BH-13	8/2/2012	23	2	dry	dry		51.31	0.00	1.13		Y	No concrete collar	
BH-407	8/2/2012		4	53.61	55.56	1.95	67.51	13.90	1.88	53.69	Y	No concrete collar	
BH-411	8/2/2012	2	4	54.61	57.81	3.20	68.20	13.59	2.54	55.27	Y	No concrete collar	
BH-406	8/2/2012	41	4	53.79	56.94	3.15	65.93	12.14	2.02	54.92	Y	No concrete collar	
BH-410	8/2/2012	6	4	53.61	58.54	4.93	63.14	9.53	2.00	56.54	Y	No concrete collar	
BH-65	8/2/2012	54	2	53.36	55.36	2.00	55.56	2.20	2.29	53.07	Y	No concrete collar	
BH-64	8/2/2012	115	2	53.29	54.95	1.66	55.43	2.14	1.96	52.99	Y	No concrete collar	
BH-55	8/2/2012	115	2	dry	dry		53.10		2.04		Y	No concrete collar	
BH-56	8/2/2012	34	2	53.16	53.96	0.80	54.24	1.08	1.91	52.05	Y	No concrete collar	
BH-61	8/2/2012	59	2	dry	dry		53.30		2.00		Y	No concrete collar	
BH-23	8/2/2012	100	2	dry	dry		52.48		1.13		Y	No concrete collar	
BH-22	8/2/2012	83	2	dry	dry		53.06		1.79		Y	No concrete collar	
BH-5AR	8/2/2012	71	4	dry	dry		53.76		???		Y	No concrete collar	
BH-63	8/2/2012	62	2	53.20			54.40	1.20	2.50		Y	No concrete collar	
BH-57	8/2/2012	99	2	53.22	55.20	1.98	55.21	1.99	2.00	53.20	Y	No concrete collar	
BH-58	8/2/2012	98	2	53.90	53.96	0.06	54.10	0.20	2.00	51.96	Y	No concrete collar	
BH-59	8/2/2012	116	2	53.09			54.00	0.91	1.83		Y	No concrete collar	
BH-60	8/2/2012	17	2	dry	dry		52.99		1.50		Y	No concrete collar	
BH-62	8/2/2012	61	2	53.43	53.99	0.56	54.30	0.87	2.03	51.96	Y	No concrete collar	
BH-14	8/2/2012	26	2	53.01	53.38	0.37	53.38	0.37	2.25	51.13	Y	No concrete collar	
BH-16	8/2/2012	91	2	dry	dry		51.84		2.50		Y	No concrete collar	
BH-15	8/2/2012	34	2	dry	dry		**47.70**		**0.00**		Y	No concrete collar	Casing broke off
BH-29	8/2/2012	61	2	52.49	52.61	0.12	52.86	0.37	1.58	51.03	Y	No concrete collar	
BH-28	8/2/2012	65	2	dry	dry		51.56		1.70		Y	No concrete collar	
BH-27	8/2/2012	0.1	2	dry	dry		51.76		1.75		Y	No concrete collar	
BH-26	8/2/2012	7	2	dry	dry		41.72		1.47		Y	No concrete collar	casing crushed
BH-21	8/2/2012	4	2	dry	dry		48.80		???		Y	No concrete collar	**casing off**
BH-24	8/2/2012	2	2	dry	dry		**38.57**		1.37		Y	No concrete collar	**cracked bad**
BH-20	8/2/2012	42	2	dry	dry		52.41		2.21		Y	No concrete collar	
BH-43	8/1/2012	144	2	53.15	53.61	0.46	**53.38**	0.23	2.40	51.21	Y	No concrete collar	
BH-51	8/1/2012	2	2	51.68	51.82	0.14	51.84	0.16	**1.54**	50.28	Y	No concrete collar	
BH-42	8/1/2012	22	2	53.17	53.55	0.38	53.81	0.64	1.72	51.83	Y	No concrete collar	
BH-25R	8/2/2012	144	2	54.81	**56.55**	1.74	63.30	8.49	2.92	53.63	Y	No concrete collar	
BH-50	8/1/2012	123.2	2	**52.00**			**53.02**	1.02	2.01		Y	No concrete collar	
BH-41	8/2/2012	2	2	52.83	52.92	0.09	**52.94**	0.11	1.66	51.26	Y	No concrete collar	
BH-409	8/2/2012	24	4	54.41	60.10	5.69	67.02	12.61	2.75	57.35	Y	No concrete collar	
BH-408	8/2/2012	4	4	54.29	60.24	5.95	67.76	13.47	2.58	57.66	Y	No concrete collar	
BH-402	8/2/2012	72	4	dry	dry		52.62		2.83		Y	No concrete collar	
BH-403	8/2/2012	34	4	53.68	53.70	0.02	53.91	0.23	2.88	50.83	Y	No concrete collar	
BH-401	8/2/2012	67	4	55.10	**55.45**	0.35	64.14	9.04	3.00	52.45	Y	No concrete collar	
BH-404	8/2/2012	61	4	**53.31**	59.38	6.07	66.52	13.21	1.94	57.44	Y	No concrete collar	
BH-405	8/2/2012	65	4	53.53	59.38	5.85	66.11	12.58	2.08	57.30	Y	No concrete collar	
BH-33	8/2/2012	4	4	52.75			52.96	0.21	1.58		Y	No concrete collar	
MW-1	8/1/2012	0	2		52.94		64.24	11.30	2.44	50.50	Y	**No concrete collar**	
MW-2	8/1/2012	0	2		54.77		60.38	5.61	2.38	52.39	Y	**No concrete collar**	
MW-3R	8/1/2012	1	2		56.84		65.24	8.40	2.43	54.41	Y	**No concrete collar**	
MW-4	8/1/2012	1	2		56.14		68.18	12.04	2.86	53.28	Y	**No concrete collar**	

APPENDIX B

ABANDONED WELLS

Appendix B -Abandoned Wells
Holly Energy - South Hobbs GSA - Lea County, New Mexico

Well ID	Abandoned
BH-19	01/24/13
BH-30	01/24/13
BH-49	01/24/13
BH-52	01/24/13
BH-48	01/24/13
BH-53	01/24/13
BH-54	01/24/13
BH-46R	01/24/13
BH-40	01/24/13
BH-39	01/24/13
BH-35R	01/24/13
BH-36	01/24/13
BH-44	01/24/13
BH-18	01/24/13
BH-32	01/24/13
BH-34	01/24/13
BH-13	01/24/13
BH-65	01/25/13
BH-64	01/25/13
BH-55	01/25/13
BH-56	01/25/13
BH-61	01/25/13
BH-23	01/24/13
BH-22	01/24/13
BH-60	01/25/13
BH-16	01/24/13
BH-15	01/24/13
BH-29	01/24/13
BH-28	01/24/13
BH-27	01/24/13
BH-26	01/24/13
BH-21	01/24/13
BH-24	01/24/13
BH-20	01/24/13
BH-43	01/24/13
BH-51	02/12/13
BH-42	01/24/13
BH-25R	01/24/13
BH-50	01/24/13
BH-41	01/24/13
BH-402	01/24/13
BH-403	01/24/13

APPENDIX C

DECEMBER 2012 FLUID LEVELS

Appendix C - December 2012 Fluid Levels
Holly Energy - South Hobbs GSA - Lea County, New Mexico

Well ID	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod Thick (ft)	TD (ft-bmp)	Saturated (ft)	Stick up (ft) Y/N	DTW (ft-bgs)	DTP (ft-bgs)
BH-19	12/19/2012	dry	dry	dry	51.58	0.00	1.92	dry	dry
BH-30	12/19/2012		52.53	0.00	52.82	0.29	1.75	50.78	
BH-49	12/19/2012	53.40	53.90	0.50	53.84	0.44	1.86	52.04	51.54
BH-52	12/19/2012	51.88	52.18	0.30	52.40	0.52	1.46	50.72	50.42
BH-48	12/19/2012	dry	dry	dry	52.40	0.00	1.72	dry	dry
BH-53	12/19/2012		53.10	0.00	53.40	0.30	1.77	51.33	
BH-54	12/19/2012		54.51	0.00	55.83	1.32			
BH-47	12/19/2012	53.38	53.39	0.01	53.50	0.12	1.64	51.75	51.74
BH-46R	12/19/2012	55.47	55.58	0.11	53.20	-2.27	2.86	52.72	52.61
BH-40	12/19/2012	53.60	53.85	0.25	53.93	0.33	1.92	51.93	51.68
BH-39	12/19/2012	dry	dry	dry	53.60	0.00	1.50	dry	dry
BH-38	12/19/2012	53.00	53.31	0.31	53.23	0.23	1.70	51.61	51.30
BH-45	12/19/2012	53.77	53.97	0.20	54.60	0.83	1.75	52.22	52.02
BH-35R	12/19/2012	54.73	55.02	0.29	55.03	0.30	2.98	52.04	51.75
BH-36	12/19/2012	dry	dry	dry	52.00	0.00	1.58	dry	dry
BH-37	12/19/2012	53.64	54.21	0.57	54.05	0.41	1.82	52.39	51.82
BH-44	12/19/2012	dry	dry	dry	53.21	0.00	2.00	dry	dry
BH-18	12/19/2012	dry	dry	dry	52.31	0.00	2.00	dry	dry
BH-3A	12/19/2012	dry	dry	dry	62.74	0.00	2.12	dry	dry
BH-31	12/19/2012	53.18	53.46	0.28	53.51	0.33	1.96	51.50	51.22
BH-32	12/19/2012	dry	dry	dry	52.18	0.00	1.63	dry	dry
BH-34	12/19/2012	dry	dry	dry	50.29	0.00	1.58	dry	dry
BH-13	12/20/2012	dry	dry	dry	51.31	0.00	1.13	dry	dry
BH-407	12/20/2012	53.97	55.85	1.88	67.51	13.54	1.88	53.98	52.10
BH-411	12/19/2012	54.78	59.03	4.25	68.20	13.42	2.54	56.49	52.24
BH-406	12/20/2012	54.16	57.59	3.43	65.93	11.77	2.02	55.57	52.14
BH-410	12/19/2012	53.96	59.25	5.29	63.14	9.18	2.00	57.25	51.96
BH-65	12/20/2012	53.75	55.39	1.64	55.56	1.81	2.29	53.10	51.46
BH-64	12/20/2012	53.70	55.10	1.40	55.43	1.73	1.96	53.14	51.74
BH-55	12/20/2012	dry	dry	dry	53.10	dry	2.04	dry	dry
BH-56	12/20/2012	53.60	54.04	0.44	54.24	0.64	1.91	52.13	51.69
BH-61	12/20/2012	dry	dry	dry	53.30	dry	2.00	dry	dry
BH-23	12/20/2012	dry	dry	dry	52.48	dry	1.13	dry	dry
BH-22	12/20/2012	dry	dry	dry	53.06	dry	1.79	dry	dry
BH-5AR	12/20/2012	dry	dry	dry	53.76	dry		dry	dry
BH-63	12/20/2012	dry	dry	dry	54.40	0.00	2.50	dry	dry
BH-57	12/20/2012	dry	dry	dry	55.21	0.00	2.00	dry	dry
BH-58	12/20/2012	53.32	53.84	0.52	54.10	0.78	2.00	51.84	51.32
BH-59	12/20/2012	53.46	54.06	0.60	54.00	0.54	1.83	52.23	51.63
BH-60	12/20/2012	dry	dry	dry	52.99	dry	1.50	dry	dry
BH-62	12/20/2012	53.86	54.05	0.19	54.30	0.44	2.03	52.02	51.83
BH-14	12/20/2012	53.10	53.38	0.28	53.38	0.28	2.25	51.13	50.85
BH-16	12/20/2012	dry	dry	dry	51.84	dry	2.50	dry	dry
BH-15	12/19/2012	dry	dry	dry	47.70	dry		dry	dry
BH-29	12/19/2012	52.51	52.62	0.11	52.86	0.35	1.58	51.04	50.93
BH-28	12/19/2012	dry	dry	dry	51.56	dry	1.70	dry	dry
BH-27	12/19/2012	dry	dry	dry	51.76	dry	1.75	dry	dry
BH-26	12/19/2012	dry	dry	dry	41.72	dry	1.47	dry	dry
BH-21	12/19/2012	dry	dry	dry	48.80	dry		dry	dry
BH-24	12/19/2012	dry	dry	dry	38.57	dry	1.37	dry	dry

Appendix C - December 2012 Fluid Levels
Holly Energy - South Hobbs GSA - Lea County, New Mexico

Well ID	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod Thick (ft)	TD (ft-bmp)	Saturated (ft)	Stick up (ft) Y/N	DTW (ft-bgs)	DTP (ft-bgs)
BH-20	12/19/2012	52.62	52.65	0.03	52.41	dry	2.21	50.44	50.41
BH-43	12/19/2012	53.34	53.70	0.36	53.38	0.04	2.40	51.30	50.94
BH-51	12/19/2012	51.78	51.90	0.12	51.84	0.06	1.54	50.36	50.24
BH-42	12/19/2012	53.38	53.68	0.30	53.81	0.43	1.72	51.96	51.66
BH-25R	12/19/2012	54.90	58.53	3.63	63.30	8.40	2.92	55.61	51.98
BH-50	12/19/2012	dry	dry	dry	53.02	0.00	2.01	dry	dry
BH-41	12/19/2012	dry	dry	dry	52.94	0.00	1.66	dry	dry
BH-409	12/19/2012	54.72	60.35	5.63	67.02	12.30	2.75	57.60	51.97
BH-408	12/19/2012	54.68	60.58	5.90	67.76	13.08	2.58	58.00	52.10
BH-402	12/20/2012	dry	dry	dry	52.62	dry	2.83	dry	dry
BH-403	12/20/2012	53.67	53.70	0.03	53.91	0.24	2.88	50.83	50.80
BH-401	12/20/2012	55.26	57.55	2.29	64.14	8.88	3.00	54.55	52.26
BH-404	12/20/2012	53.72	59.68	5.96	66.52	12.80	1.94	57.74	51.78
BH-405	12/20/2012	53.90	59.56	5.66	66.11	12.21	2.08	57.48	51.82
BH-33	12/19/2012	dry	dry	dry	52.96	0.00	1.58	dry	dry
MW-1	12/19/2012		53.36	0.00	64.24	10.88	2.44	50.92	
MW-2	12/19/2012		55.17	0.00	60.38	5.21	2.38	52.79	
MW-3R	12/19/2012		57.22	0.00	65.24	8.02	2.43	54.79	
MW-4	12/19/2012		56.53	0.00	68.18	11.65	2.86	53.67	

APPENDIX D

JUNE 2013 FLUID LEVELS

Appendix D - June 2013 Fluid Levels

Holly Energy - South Hobbs GSA - Lea County, New Mexico

Well ID	Date	DTP (ft-bmp)	DTW (ft-bmp)	Prod Thick (ft)	DTW (ft-bgs)	TD (ft-bmp)
BH-47	6/20/2013	dry	dry	0.00	dry	53.59
BH-38	6/20/2013	dry	dry	0.00	dry	53.23
BH-45	6/20/2013	53.72	53.98	0.26	52.53	53.98
BH-37	6/20/2013	53.83	54.15	0.32	52.33	54.15
BH-3A	6/20/2013	52.69	52.78	0.09	50.66	52.78
BH-31	6/20/2013	53.13	53.44	0.31	51.48	53.44
BH-407	6/20/2013	54.40	56.35	1.95	54.47	67.51
BH-411	6/20/2013	55.16	59.88	4.72	57.34	68.20
BH-406	6/20/2013	54.58	58.37	3.79	56.35	65.93
BH-410	6/20/2013	54.43	59.63	5.20	57.63	63.14
BH-5AR	6/20/2013	dry	dry	0.00	dry	53.76
BH-63	6/20/2013	54.03	54.20	0.17	51.7	54.20
BH-57	6/20/2013	53.43	54.30	0.87	52.3	55.21
BH-58	6/20/2013	53.49	53.76	0.27	51.76	54.10
BH-59	6/20/2013	53.87	54.00	0.13	52.17	54.00
BH-62	6/20/2013	53.98	54.02	0.04	51.99	54.30
BH-14	6/20/2013	53.07	53.32	0.25	51.07	53.38
BH-409	6/20/2013	55.21	60.65	5.44	57.9	67.02
BH-408	6/20/2013	55.17	60.97	5.80	59.03	67.76
BH-401	6/20/2013	55.53	59.33	3.80	56.33	64.14
BH-404	6/20/2013	54.22	60.09	5.87	58.15	66.52
BH-405	6/20/2013	54.37	59.93	5.56	57.85	66.11
BH-33	6/20/2013	52.74	52.96	0.22	51.38	52.96
MW-1	6/23/2013		53.53	0.00	51.09	64.24
MW-2	6/23/2013		55.61	0.00	53.23	60.38
MW-3R	6/23/2013		57.62	0.00	55.19	65.24
MW-4	6/23/2013		56.94	0.00	54.08	68.18
HRW-1	6/20/2013	54.58	56.93	2.35	56.93	64.34
HRW-2	6/20/2013	53.48	55.62	2.14	55.62	63.97

APPENDIX E

GROUNDWATER SAMPLING FIELD FORMS

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

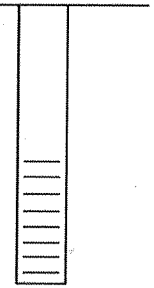
Project Name: Hobbs South
Ref. No.: 078807

Date: 12-19-12
Personnel: CE, DA
Samp time = 1050

Monitoring Well Data:

Well No.: MW-1
Vapour PID (ppm):
Measurement Point: TOC
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft):
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in): 2
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 53.36



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
~~1037~~	400	53.48		65.28	0.914	7	2.14	7.13	-286		
1040		53.47		65.32	0.913		2.05	7.09	-297		
1043		53.45		65.36	0.913		2.23	7.08	-300		
1046		53.46		65.37	0.913		2.12	7.06	-302		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches
(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.
(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.
(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

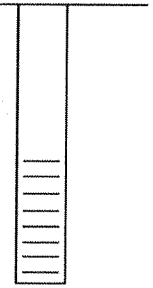
Project Name: Hobbs South
Ref. No.:

Date: 12-19-12
Personnel: CE, DA
Samp Time = 1115

Monitoring Well Data:

Well No.: MW-3 (Dup)
Vapour PID (ppm):
Measurement Point: TOC
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft):
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in): 2"
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 57.22



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1100	160	57.30		67.04	0.774		0.88	6.83	-278		
1109		57.32		67.01	0.774		0.83	6.82	-279		
1112		57.27		67.03	0.774		0.79	6.92	-279		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

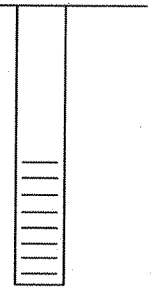
Project Data:

Project Name: Hobbs South
Ref. No.:
Date: 12-19-12
Personnel: CE / DA
Samp time = 1210

Monitoring Well Data:

Well No.: MW-4
Vapour PID (ppm):
Measurement Point: TOC
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft):
Depth of Sediment (m/ft):

Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in): 2"
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 56.52



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
Precision Required[5]:				±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1203	160	56.60		67.19	1.116		2.19	6.86	-250.7		
1206	160	56.62		67.22	1.116		2.30	6.84	-251		
1209	160	56.58		67.23	1.116		2.26	6.83	-252		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units; $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

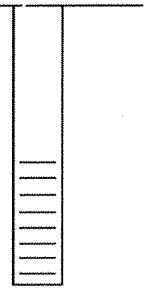
MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: South Hobbs
Ref. No.:
Date: 19 DEC 17
Personnel: CS / MO

Monitoring Well Data:

Well No.: MW 2
Sample time 1235
Vapour PID (ppm):
Measurement Point: TOC
Constructed Well Depth (m/ft):
Measured Well Depth (m/ft):
Depth of Sediment (m/ft):
Saturated Screen Length (m/ft):
Depth to Pump Intake (m/ft)[1]:
Well Diameter, D (cm/in): 2
Well Screen Volume, V_s (L)[2]:
Initial Depth to Water (m/ft): 55.17



Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level[3] (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged[4]
			Precision Required[5]:	±3 %	±0.005 or 0.01[6]	±10 %	±10 %	±0.1 Units	±10 mV		
1226	160	55.21		66.34	1.108		1.07	6.83	-234		
1229	160	55.26		66.40	1.109		1.02	6.82	-234		
1232	160	55.30		66.43	1.108		1.15	6.81	-236		

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Hobbs South 6.23.13
078807

J. Covey Sampling

1640 Arrive onsite
Personnel: J Covey
Equip: YSI w/ flow thru cell
- Interface Probe
- Geosub Pump

Fluid Levels

ID	DTP	DTW	Time
MW-1	—	53.83	1645
MW-2	—	55.61	1730
MW-3R	—	57.67	1840
MW-4	—	56.94	1805

Hobbs South 6.23.13
078807

J Covey

Samples

ID	Temp °C	DO mg/L	pH	Cond	ORP	Sample Time
MW4	21.0	2.20	6.78	1210	242	
	20.6	2.8	6.78	1220	253.7	1720
	20.5	2.13	6.80	1211	248.9	1725-DUP
MW-2	22.5	~~2.13~~	~~6.82~~	1330	-44.7	
	22.6	~~2.29~~	~~6.57~~	1311	-12.3	
	22.8	~~2.24~~	~~6.59~~	1307	-10.1	1750
MW-3R	22.3	1.27	6.69	939	21.2	
	22.1	1.05	6.67	938	13.1	
	22.2	1.00	6.67	936	12.8	1805
MW-4	22.7	0.92	6.58	1310	-38.6	
	22.6	0.70	6.54	1316	-49.0	
	22.8	0.69	6.59	1317	-50.1	1825

1930 Mob offsite

APPENDIX F

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Appendix F - Summary of Groundwater Analitical Results
Holly Energy - Hobbs South - Lea County, New Mexico

Monitoring Well	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	Chloride (mg/L)	Total Dissolved Solids (mg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
MW-1	12/04/02	<2	<2	<2	<6	<2	104	795							
MP =	05/20/03	<2	<2	<2	<6	<2	128	686							
3,595.19	11/12/03	<2	<2	<2	<6	<2	- -	- -							
	06/02/04	<2	<2	<2	<6	<2	108	749							
	10/12/04	<2	<2	<2	<6	<2	84	956							
	01/11/05	<2	<2	<2	<6	<2	88	890							
	10/26/05	<2	<2	<2	<6	<2	100	990							
	03/08/06	<2	<2	<2	<6	<2	128	1,160							
	07/11/06	<2	<2	<2	<6	<2	120	1,245							
	09/07/06	<0.5	<0.5	<0.5	<1	<0.5	88	1,000							
	12/19/06	<0.5	<0.5	<0.5	<1.0	<0.5	160	1,100							
	03/13/07	<0.5	<0.5	<0.5	<1.0	<0.5	85	1,100							
	06/21/07	<0.5	<0.5	<0.5	<1.0	<0.5	29	820							
	09/21/07	<0.5	<0.5	<0.5	<1.0	<0.5	62	700							
	12/07/07	<0.5	<0.5	<0.5	<1.0	<0.5	68	510							
	03/04/08	<0.5	<0.5	<0.5	<1.0	<0.5	60	590							
	06/03/08	<0.5	<0.5	<0.5	<1.0	<0.5	76	750							
	09/23/08	<0.5	<0.5	<0.5	<1.0	<0.5	78	590							
	12/18/08	<0.5	<0.5	<0.5	<1.0	<0.5	66	530							
	03/19/09	<0.5	<0.5	<0.5	<1.0	<0.5	72	580							
	06/22/09	<1.0	<1.0	<1.0	<2.0	<1.0	79	600							
	09/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	82	637							
	12/17/09	<1.0	<1.0	<1.0	<2.0	<1.0	72	631							
	03/09/10	<1.0	<1.0	<1.0	<1.5	<1.0	83	634							
	06/18/10	<1.0	<1.0	<1.0	<2.0	<1.0	77	656							
	09/01/10	<1.0	<1.0	<1.0	<2.0	<1.0	86	678							
	12/06/10	<1.0	<1.0	<1.0	<2.0	<1.0	86	769							
	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	83	798							
	06/23/11	<1.0	<1.0	<1.0	<2.0	<1.0	79	800							
	10/07/11	<1.0	<1.0	<1.0	<2.0	<1.0	85	826							
	12/08/11	<1.0	<1.0	<1.0	<2.0	<1.0	94	852							
	12/19/12	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	53.36	3,541.83	18.4	0.913	2.12	7.06	-302
	06/23/13	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	53.83	3,541.36	20.5	1.211	2.17	6.8	248.9
duplicate	06/23/13	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	53.83	3,541.36	20.5	1.211	2.17	6.8	248.9

Appendix F - Summary of Groundwater Analitical Results
Holly Energy - Hobbs South - Lea County, New Mexico

Monitoring Well	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	Chloride (mg/L)	Total Dissolved Solids (mg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
MW-2	12/04/02	<2	<2	<2	<6	<2	96	722							
MP =	05/20/03	<2	<2	<2	<6	<2	96	755							
3,596.84	11/12/03	<2	<2	<2	<6	<2	- -	- -							
	12/19/12	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	55.17	3,541.67	19.1	1.108	1.15	6.81	-236
	06/23/13	0.25	<2.0	<1.0	<2.0	<2.0	NA	NA	55.61	3,541.23	22.8	1.307	2.3	6.58	-10.1
MW-3R[2]	12/04/02	<2	<2	<2	<6	<2	60	587							
MP =	05/20/03	<2	<2	<2	<6	<2	64	633							
3,598.80	11/12/03	<2	<2	<2	<6	<2	- -	- -							
	06/02/04	<2	<2	<2	<6	<2	64	639							
	10/12/04	<2	<2	<2	<6	<2	60	685							
	01/11/05	<2	<2	<2	<6	<2	68	798							
	10/26/05	<2	<2	<2	11	<2	51	560							
	03/08/06	<2	<2	<2	<6	<2	48	562							
	07/11/06	<2	<2	<2	<6	<2	60	634							
	09/07/06	<0.5	<0.5	<0.5	<1	<0.5	47	560							
	12/19/06	<0.5	<0.5	<0.5	<1	<0.5	44	570							
	03/13/07	<0.5	<0.5	<0.5	<1	<0.5	49	630							
	06/21/07	<0.5	0.6	<0.5	1.1	1.7	58	520							
	09/21/07	<0.5	<0.5	<0.5	2.2	2.2	50	630							
	12/07/07	<0.5	<0.5	<0.5	<1.0	<0.5	51	550							
	03/04/08	<0.5	<0.5	<0.5	<1.0	<0.5	40	530							
	06/03/08	<0.5	<0.5	<0.5	<1.0	<0.5	51	700							
	09/23/08	<0.5	<0.5	<0.5	<1.0	<0.5	50	560							
	12/18/08	<0.5	<0.5	<0.5	<1.0	<0.5	44	520							
	03/19/09	<0.5	<0.5	<0.5	<1.0	<0.5	43	580							
	06/22/09	<1.0	<1.0	<1.0	<2.0	<1.0	54	570							
	09/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	57	594							
	12/17/09	<1.0	<1.0	<1.0	<2.0	<1.0	50	595							
	03/09/10	<1.0	<1.0	<1.0	<1.5	<1.0	55	590							
	06/18/10	<1.0	<1.0	<1.0	<2.0	<1.0	52	594							
	09/01/10	<1.0	<1.0	<1.0	<2.0	<1.0	60	549							
	12/06/10	<1.0	<1.0	<1.0	<2.0	<1.0	55	582							
	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	51	595							
	06/23/11	<1.0	<1.0	<1.0	<2.0	<1.0	53	591							
	10/07/11	<1.0	<1.0	<1.0	<2.0	<1.0	50	613							
	12/08/11	<1.0	<1.0	<1.0	<2.0	<1.0	53	631							
	12/19/12	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	57.22	3,541.58	19.5	0.774	0.74	6.98	-279
duplicate	12/19/12	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	57.22	3,541.58	19.5	0.774	0.74	6.98	-279
	06/23/13	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	57.62	3,541.18	22.2	0.936	1.00	6.67	12.8

Appendix F - Summary of Groundwater Analitical Results
Holly Energy - Hobbs South - Lea County, New Mexico

Monitoring Well	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	Total BTEX (µg/L)	Chloride (mg/L)	Total Dissolved Solids (mg/L)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)	Temperature (deg-C)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)
MW-4	01/13/03	<2	<2	<2	<6	<2	124	646							
MP =	05/20/03	<2	<2	<2	<6	<2	120	781							
3,598.12	11/12/03	<2	<2	<2	<6	<2	- -	- -							
	06/02/04	<2	<2	<2	<6	<2	128	639							
	10/12/04	<2	<2	<2	<6	<2	124	921							
	01/11/05	<2	<2	<2	<6	<2	124	971							
	10/26/05	<2	<2	<2	<6	<2	99	710							
	03/08/06	<2	<2	<2	<6	<2	116	729							
	07/11/06	<2	<2	<2	<6	<2	124	823							
	09/07/06	<0.5	<0.5	<0.5	<1	<0.5	120	760							
	12/19/06	<0.5	2.1	0.9	2.9	5.9	110	750							
	03/13/07	<0.5	1.7	<0.5	2.4	4.1	130	840							
	06/21/07	<0.5	1.8	0.8	1.5	4.1	130	760							
	09/21/07	<0.5	2.4	1.2	2.2	5.8	140	800							
	12/07/07	0.8	1.7	0.8	19	22.3	120	760							
	03/04/08	<0.5	<0.5	<0.5	<1.0	<0.5	50	750							
	06/03/08	<0.5	1.5	0.8	18	20.3	120	910							
	09/23/08	<0.5	1.1	<0.5	5.5	6.6	130	730							
	12/18/08	<0.5	0.9	<0.5	7.7	8.6	94	700							
	03/19/09	<0.5	1.3	0.6	5.6	7.5	90	740							
	06/22/09	<1.0	<1.0	<1.0	<2.0	<1.0	120	770							
	09/08/09	<1.0	<1.0	<1.0	<2.0	<1.0	120	803							
	12/17/09	<1.0	<1.0	<1.0	21	21	130	822							
	03/09/10	<1.0	<1.0	<1.0	<1.5	<1.0	130	830							
	06/18/10	<1.0	<1.0	<1.0	6.2	6.2	130	843							
	09/01/10	<1.0	<1.0	<1.0	5.0	5.0	140	789							
	12/06/10	<1.0	<1.0	<1.0	5.8	5.8	140	850							
	03/18/11	<1.0	<1.0	<1.0	<2.0	<1.0	140	865							
	06/23/11	<1.0	<1.0	<1.0	7.4	7.4	140	861							
	10/07/11	<1.0	<1.0	<1.0	4.9	4.9	130	861							
	12/08/11	<1.0	<1.0	<1.0	2.9	2.9	120	843							
	12/19/12	<1.0	<2.0	<1.0	<2.0	<2.0	NA	NA	56.53	3,541.59	19.6	1.116	2.26	6.83	-252
	06/23/13	0.24	<2.0	<1.0	<2.0	<2.0	NA	NA	56.94	3,541.18	22.8	1.317	0.69	6.59	-50.1
NMWQCC Groundwater Standard		**10**	**750**	**750**	**620**		**250**	**1,000**							

Notes:
Quality Control
BOLD (RED) - concentration greater than NMWQCC Groundwater Standard
µg/L = micrograms/Liter
mg/L = milligrams/Liter
ft-bmp = feet - below measuring point
ft-msl = feet - mean sea level
deg-C = degrees Celcius
mS/cm = milliSiemens/ centimeter
mV = millivolts
DO = dissolved Oxygen
ORP = oxygen reduiction potential
< = analyte not detected above reporting limit
BTEX = Benzene, Toluene, Ethylbenzene & Total Xylenes
BTEX analyzed by EPA Method 8260B
NA = not analyzed

APPENDIX G

GROUNDWATER LABORATORY REPORTS

December 28, 2012

Bill Green
Holly Energy Partners
1602 W. Main
Artesisa, NM 88210
TEL: (575) 748-8968
FAX (575) 748-4052

Order No.: 1212221

RE: Hobbs South

Dear Bill Green:

DHL Analytical, Inc. received 6 sample(s) on 12/20/2012 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: T104704211-12-9

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DHL ANALYTICAL
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

№ 57979

CHAIN-OF-CUSTODY

CLIENT: CRA
ADDRESS: 14998 W. 6th Ave. #800 Golden, CO 80401
PHONE: (303) 941-6156 FAX/E-MAIL: BStephenson@crawtel.com
DATA REPORTED TO: Brad Stephenson
ADDITIONAL REPORT COPIES TO:

DATE: 12-19-12 PAGE 1 OF 1
PO #: 078807 DHL WORK ORDER #: 1212221
PROJECT LOCATION OR NAME: Hobbs South
CLENT PROJECT #: COLLECTOR:

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES: BTEX X MTBE ☐ [METHOD 8021]	TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐	GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐	VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐	SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐	8081 PEST ☐ 608 PEST/PCB ☐ 8270 PEST ☐	8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐	8321 HERB ☐ 8330 EXPL ☐ PERCHLORATE ☐	METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐	RCRA ☐ TX11 ☐ ____ ☐	PH ☐ HEX CHROM ☐ ALKALINITY ☐	CHLORIDE ☐ ANIONS ____ ☐	TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐	TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐	RCI ☐ TOX ☐ FLASHPOINT ☐	TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐	FIELD NOTES
MW-1	01	12-19-12	1050	W	VOA	3	X			X		X															
MW-3	02	12-19-12	1115	W	VOA	3	X			X		X															
MW-3D	03	12-19-12	1115	W	VOA	3	X			X		X															
MW-4	04	12-19-12	1210	W	VOA	3	X			X		X															
MW-2	05	12-19-12	1235	W	VOA	3	X			X		X															
Trip	06	—	—	W	VOA	2	X			X		X															
TOTAL																											

RELINQUISHED BY: (Signature) DATE/TIME 12-19-12/1500 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME 12/20/12 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ ____

LABORATORY USE ONLY:
RECEIVING TEMP: 3.2 THERM #: 57
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #: Fedex
☐ APC DELIVERY
☐ HAND DELIVERED

FedEx Express **US Airbill**

FedEx Tracking Number 8606 6136 4200

P.O. 0200

Recipient's Copy

1 From

Date 12-17-12

Sender's Name Chris Evans Phone 432 686-0086

Company CRA

Address 2135 S. Loop 250 W.

Dept./Floor/Suite/Room

City Midland State TX ZIP 79703

2 Your Internal Billing Reference

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Recipient's Address [illegible]

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City [illegible] State [illegible] ZIP [illegible]

8606 6136 4200

4a Express Package Service *Packages up to 150 lbs.*

- [ ] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate.

* To most locations.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation:

** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

* Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Obtain Recip. Acct. No. [ ]

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	210	$ .00	Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See back for details.

8 *NEW* Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [x] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Anyone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. *Fee applies.*

520

Rev. Date 8/05•Part #158281•©1994–2005 FedEx•PRINTED IN U.S.A. SRY

fedex.com 1.800.GoFedEx 1.800.463.3339

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Holly Energy Partners

Date Received: 12/20/2012

Work Order Number 1212221

Received by JB

Checklist completed by: _____ 12/20/2012
Signature | Date

Reviewed by _____ 12/20/2012
Initials | Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	3.2 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT: Holly Energy Partners
Project: Hobbs South
Lab Order: 1212221

CASE NARRATIVE

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.

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-1
Project:	Hobbs South	**Lab ID:**	1212221-01
Project No:		**Collection Date:**	12/19/12 10:50 AM
Lab Order:	1212221	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 03:58 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 03:58 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 03:58 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 03:58 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 03:58 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	12/21/12 03:58 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	12/21/12 03:58 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	1	12/21/12 03:58 PM
Surr: Toluene-d8	99.4	0	81-120		%REC	1	12/21/12 03:58 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-3
Project:	Hobbs South	**Lab ID:**	1212221-02
Project No:		**Collection Date:**	12/19/12 11:15 AM
Lab Order:	1212221	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 04:23 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 04:23 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 04:23 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 04:23 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 04:23 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	12/21/12 04:23 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	12/21/12 04:23 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	12/21/12 04:23 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	12/21/12 04:23 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-3D
Project:	Hobbs South	**Lab ID:**	1212221-03
Project No:		**Collection Date:**	12/19/12 11:15 AM
Lab Order:	1212221	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 04:47 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 04:47 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 04:47 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 04:47 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 04:47 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	12/21/12 04:47 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	12/21/12 04:47 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	12/21/12 04:47 PM
Surr: Toluene-d8	101	0	81-120		%REC	1	12/21/12 04:47 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-4
Project:	Hobbs South	**Lab ID:**	1212221-04
Project No:		**Collection Date:**	12/19/12 12:10 PM
Lab Order:	1212221	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 05:11 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 05:11 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 05:11 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 05:11 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 05:11 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	12/21/12 05:11 PM
Surr: 4-Bromofluorobenzene	103	0	76-119		%REC	1	12/21/12 05:11 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	1	12/21/12 05:11 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	12/21/12 05:11 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-2
Project:	Hobbs South	**Lab ID:**	1212221-05
Project No:		**Collection Date:**	12/19/12 12:35 PM
Lab Order:	1212221	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 05:37 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 05:37 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 05:37 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 05:37 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 05:37 PM
Surr: 1,2-Dichloroethane-d4	101	0	72-119		%REC	1	12/21/12 05:37 PM
Surr: 4-Bromofluorobenzene	106	0	76-119		%REC	1	12/21/12 05:37 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	12/21/12 05:37 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	12/21/12 05:37 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *28-Dec-12*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	Trip
Project:	Hobbs South	**Lab ID:**	1212221-06
Project No:		**Collection Date:**	12/19/12
Lab Order:	1212221	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	12/21/12 03:32 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	12/21/12 03:32 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	12/21/12 03:32 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	12/21/12 03:32 PM
Toluene	ND	0.000600	0.00200		mg/L	1	12/21/12 03:32 PM
Surr: 1,2-Dichloroethane-d4	103	0	72-119		%REC	1	12/21/12 03:32 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	12/21/12 03:32 PM
Surr: Dibromofluoromethane	106	0	85-115		%REC	1	12/21/12 03:32 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	12/21/12 03:32 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Holly Energy Partners
Work Order: 1212221
Project: Hobbs South

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_121221B

The QC data in batch 55291 applies to the following samples: 1212221-01A, 1212221-02A, 1212221-03A, 1212221-04A, 1212221-05A, 1212221-06A

Sample ID: **LCS-55291** Batch ID: **55291** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_121221B** Analysis Date: **12/21/2012 10:29:00 A** Prep Date: **12/21/2012**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0257	0.00100	0.0232	0	111	81	122			
Ethylbenzene	0.0247	0.00100	0.0232	0	107	80	120			
m,p-Xylene	0.0507	0.00200	0.0464	0	109	80	120			
o-Xylene	0.0234	0.00100	0.0232	0	101	80	120			
Toluene	0.0241	0.00200	0.0232	0	104	80	120			
Surr: 1,2-Dichloroethane-d4	201		200.0		101	72	119			
Surr: 4-Bromofluorobenzene	195		200.0		97.4	76	119			
Surr: Dibromofluoromethane	211		200.0		105	85	115			
Surr: Toluene-d8	200		200.0		100	81	120			

Sample ID: **MB-55291** Batch ID: **55291** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_121221B** Analysis Date: **12/21/2012 10:56:00 A** Prep Date: **12/21/2012**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	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	202		200.0		101	72	119			
Surr: 4-Bromofluorobenzene	208		200.0		104	76	119			
Surr: Dibromofluoromethane	211		200.0		105	85	115			
Surr: Toluene-d8	203		200.0		101	81	120			

Sample ID: **1212195-01AMS** Batch ID: **55291** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_121221B** Analysis Date: **12/21/2012 6:27:00 PM** Prep Date: **12/21/2012**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0261	0.00100	0.0232	0.000600	110	81	120			
Ethylbenzene	0.0248	0.00100	0.0232	0	107	80	120			
m,p-Xylene	0.0499	0.00200	0.0464	0	108	80	120			
o-Xylene	0.0231	0.00100	0.0232	0	99.7	80	120			
Toluene	0.0258	0.00200	0.0232	0.00194	103	80	120			
Surr: 1,2-Dichloroethane-d4	204		200.0		102	72	119			
Surr: 4-Bromofluorobenzene	201		200.0		101	76	119			
Surr: Dibromofluoromethane	210		200.0		105	85	115			
Surr: Toluene-d8	203		200.0		101	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1212221
Project: Hobbs South

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_121221B

Sample ID: **1212195-01AMSD** Batch ID: **55291** TestNo: **SW8260C** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS5_121221B** Analysis Date: **12/21/2012 6:53:00 PM** Prep Date: **12/21/2012**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0253	0.00100	0.0232	0.000600	107	81	120	2.88	20	
Ethylbenzene	0.0241	0.00100	0.0232	0	104	80	120	2.86	20	
m,p-Xylene	0.0490	0.00200	0.0464	0	106	80	120	1.78	20	
o-Xylene	0.0230	0.00100	0.0232	0	99.1	80	120	0.607	20	
Toluene	0.0253	0.00200	0.0232	0.00194	101	80	120	1.84	20	
Surr: 1,2-Dichloroethane-d4	201		200.0		101	72	119	0	0	
Surr: 4-Bromofluorobenzene	204		200.0		102	76	119	0	0	
Surr: Dibromofluoromethane	209		200.0		104	85	115	0	0	
Surr: Toluene-d8	201		200.0		101	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

July 02, 2013

Bill Green
Holly Energy Partners
1602 W. Main
Artesisa, NM 88210
TEL: (575) 748-8968
FAX (575) 748-4052

Order No.: 1306234

RE: Hobbs South CSA (Holly Energy Partners)

Dear Bill Green:

DHL Analytical, Inc. received 6 sample(s) on 6/26/2013 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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DHL ANALYTICAL
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

№ 60091

CHAIN-OF-CUSTODY

CLIENT: CRA
ADDRESS: 14998 W 6th Ave #800, Golden, CO 80401
PHONE: 720.974.0935 FAX/E-MAIL: bstephenson@craworld.com
DATA REPORTED TO: Brad Stephenson
ADDITIONAL REPORT COPIES TO: BillGreen & jcovey@craworld.com

DATE: 6.23.13 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1396234
PROJECT LOCATION OR NAME: Hobbs South CSA (Holly Energy Partners)
CLENT PROJECT #: 078807 COLLECTOR: J Covey

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID

PRESERVATION: HCl | HNO_3 | H_2SO_4 ☐ NaOH ☐ | ICE | UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ (METHOD 8021) | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO (METHOD 8015) ☐ DRO (METHOD 8015) ☐ | VOC 8260 X VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8081 PEST ☐ 608 PEST/PCB ☐ 8082 PCB ☐ 8270 PEST ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ 8330 EXPL ☐ PERCHLORATE ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | RCRA ☐ TX11 ☐ | PH ☐ HEX CHROM ☐ ALKALINITY ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ PB ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
MW-1	01	6.23.13	1720	W	40mL VOA	3	X			X		X	BTEX only 8260
DUP-1	02	↓	1725	↓	↓	↓	↓			↓		↓	↓
MW-2	03		1750										
MW-4	04		1825										
MW-3R	05		1905										
TRIP BLANK	06					2							
TOTAL													

RELINQUISHED BY: (Signature) DATE/TIME 6.25.13/1700 RECEIVED BY: (Signature) FEDEX
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)
Fed-Ex 6/26/13 0830
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☐
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.5 THERM #: 57
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
☒ CARRIER BILL #: Fed-Ex
☐ APC DELIVERY
☐ HAND DELIVERED

ORIGIN ID:HOBA

UNITED STATES US

SHIP DATE: 25JUN13
ACTWGT: 16.9 LB
CAD: /POS1400
DIMS: 15x14x11 IN

BILL RECIPIENT

TO RECIEVING
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

E

J131113021201 26

1 of 3

TRK# 0200 8017 7767 6180

MASTER

A8 BSMA

WED - 26 JUN 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS

CUSTODY SEAL
DATE 6.25.13
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Holly Energy Partners | Date Received: 6/26/2013

Work Order Number 1306234 | Received by JB

Checklist completed by: _____ 6/26/2013 (Signature / Date) | Reviewed by GS 6/26/2013 (Initials / Date)

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.5 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT: Holly Energy Partners
Project: Hobbs South CSA (Holly Energy Partners)
Lab Order: 1306234

CASE NARRATIVE

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 except where noted in the following.

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-1
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-01
Project No:	078807	**Collection Date:**	06/23/13 05:20 PM
Lab Order:	1306234	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	06/27/13 09:58 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 09:58 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 09:58 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 09:58 PM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 09:58 PM
Surr: 1,2-Dichloroethane-d4	99.9	0	72-119		%REC	1	06/27/13 09:58 PM
Surr: 4-Bromofluorobenzene	106	0	76-119		%REC	1	06/27/13 09:58 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	06/27/13 09:58 PM
Surr: Toluene-d8	101	0	81-120		%REC	1	06/27/13 09:58 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	DUP-1
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-02
Project No:	078807	**Collection Date:**	06/23/13 05:25 PM
Lab Order:	1306234	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	06/27/13 10:25 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 10:25 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 10:25 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 10:25 PM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 10:25 PM
Surr: 1,2-Dichloroethane-d4	100	0	72-119		%REC	1	06/27/13 10:25 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	06/27/13 10:25 PM
Surr: Dibromofluoromethane	102	0	85-115		%REC	1	06/27/13 10:25 PM
Surr: Toluene-d8	101	0	81-120		%REC	1	06/27/13 10:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-2
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-03
Project No:	078807	**Collection Date:**	06/23/13 05:50 PM
Lab Order:	1306234	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.000250	0.000200	0.00100	J	mg/L	1	06/27/13 10:52 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 10:52 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 10:52 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 10:52 PM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 10:52 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/27/13 10:52 PM
Surr: 4-Bromofluorobenzene	105	0	76-119		%REC	1	06/27/13 10:52 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	1	06/27/13 10:52 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	06/27/13 10:52 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-4
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-04
Project No:	078807	**Collection Date:**	06/23/13 06:25 PM
Lab Order:	1306234	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.000240	0.000200	0.00100	J	mg/L	1	06/27/13 11:20 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:20 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:20 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:20 PM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:20 PM
Surr: 1,2-Dichloroethane-d4	102	0	72-119		%REC	1	06/27/13 11:20 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	06/27/13 11:20 PM
Surr: Dibromofluoromethane	105	0	85-115		%REC	1	06/27/13 11:20 PM
Surr: Toluene-d8	102	0	81-120		%REC	1	06/27/13 11:20 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	MW-3R
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-05
Project No:	078807	**Collection Date:**	06/23/13 07:05 PM
Lab Order:	1306234	**Matrix:**	AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	06/27/13 11:45 PM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:45 PM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:45 PM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:45 PM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:45 PM
Surr: 1,2-Dichloroethane-d4	100	0	72-119		%REC	1	06/27/13 11:45 PM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	06/27/13 11:45 PM
Surr: Dibromofluoromethane	104	0	85-115		%REC	1	06/27/13 11:45 PM
Surr: Toluene-d8	99.5	0	81-120		%REC	1	06/27/13 11:45 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *02-Jul-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	TRIP BLANK
Project:	Hobbs South CSA (Holly Energy Partners)	**Lab ID:**	1306234-06
Project No:	078807	**Collection Date:**	06/23/13
Lab Order:	1306234	**Matrix:**	TRIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 WATER VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.000200	0.00100		mg/L	1	06/27/13 11:59 AM
Ethylbenzene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:59 AM
m,p-Xylene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:59 AM
o-Xylene	ND	0.000300	0.00100		mg/L	1	06/27/13 11:59 AM
Toluene	ND	0.000600	0.00200		mg/L	1	06/27/13 11:59 AM
Surr: 1,2-Dichloroethane-d4	98.1	0	72-119		%REC	1	06/27/13 11:59 AM
Surr: 4-Bromofluorobenzene	104	0	76-119		%REC	1	06/27/13 11:59 AM
Surr: Dibromofluoromethane	101	0	85-115		%REC	1	06/27/13 11:59 AM
Surr: Toluene-d8	101	0	81-120		%REC	1	06/27/13 11:59 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Holly Energy Partners
Work Order: 1306234
Project: Hobbs South CSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_130627A

The QC data in batch 58130 applies to the following samples: 1306234-06A

Sample ID: **LCS-58130** Batch ID: **58130** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 11:10:00 AM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0269	0.00100	0.0232	0	116	81	122			
Ethylbenzene	0.0249	0.00100	0.0232	0	107	80	120			
m,p-Xylene	0.0512	0.00200	0.0464	0	110	80	120			
o-Xylene	0.0260	0.00100	0.0232	0	112	80	120			
Toluene	0.0262	0.00200	0.0232	0	113	80	120			
Surr: 1,2-Dichloroethane-d4	201		200.0		100	72	119			
Surr: 4-Bromofluorobenzene	200		200.0		99.8	76	119			
Surr: Dibromofluoromethane	206		200.0		103	85	115			
Surr: Toluene-d8	199		200.0		99.5	81	120			

Sample ID: **MB-58130** Batch ID: **58130** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 11:35:00 AM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	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	197		200.0		98.6	72	119			
Surr: 4-Bromofluorobenzene	209		200.0		105	76	119			
Surr: Dibromofluoromethane	202		200.0		101	85	115			
Surr: Toluene-d8	201		200.0		101	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1306234
Project: Hobbs South CSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_130627A

The QC data in batch 58131 applies to the following samples: 1306234-01A, 1306234-02A, 1306234-03A, 1306234-04A, 1306234-05A

Sample ID: **LCS-58131** Batch ID: **58131** TestNo: **SW8260C** Units: **mg/L**
SampType: **LCS** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 2:02:00 PM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0261	0.00100	0.0232	0	113	81	122			
Ethylbenzene	0.0246	0.00100	0.0232	0	106	80	120			
m,p-Xylene	0.0495	0.00200	0.0464	0	107	80	120			
o-Xylene	0.0249	0.00100	0.0232	0	107	80	120			
Toluene	0.0259	0.00200	0.0232	0	112	80	120			
Surr: 1,2-Dichloroethane-d4	197		200.0		98.7	72	119			
Surr: 4-Bromofluorobenzene	199		200.0		99.6	76	119			
Surr: Dibromofluoromethane	203		200.0		102	85	115			
Surr: Toluene-d8	197		200.0		98.4	81	120			

Sample ID: **MB-58131** Batch ID: **58131** TestNo: **SW8260C** Units: **mg/L**
SampType: **MBLK** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 2:28:00 PM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	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	196		200.0		98.0	72	119			
Surr: 4-Bromofluorobenzene	206		200.0		103	76	119			
Surr: Dibromofluoromethane	203		200.0		102	85	115			
Surr: Toluene-d8	201		200.0		100	81	120			

Sample ID: **1306233-01AMS** Batch ID: **58131** TestNo: **SW8260C** Units: **mg/L**
SampType: **MS** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 5:49:00 PM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0257	0.00100	0.0232	0	111	81	122			
Ethylbenzene	0.0243	0.00100	0.0232	0	105	80	120			
m,p-Xylene	0.0496	0.00200	0.0464	0	107	80	120			
o-Xylene	0.0244	0.00100	0.0232	0	105	80	120			
Toluene	0.0258	0.00200	0.0232	0	111	80	120			
Surr: 1,2-Dichloroethane-d4	200		200.0		100	72	119			
Surr: 4-Bromofluorobenzene	194		200.0		96.9	76	119			
Surr: Dibromofluoromethane	203		200.0		102	85	115			
Surr: Toluene-d8	203		200.0		102	81	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1306234
Project: Hobbs South CSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS5_130627A

Sample ID: **1306233-01AMSD** Batch ID: **58131** TestNo: **SW8260C** Units: **mg/L**
SampType: **MSD** Run ID: **GCMS5_130627A** Analysis Date: **6/27/2013 6:13:00 PM** Prep Date: **6/27/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0259	0.00100	0.0232	0	112	81	120	0.620	20	
Ethylbenzene	0.0241	0.00100	0.0232	0	104	80	120	0.702	20	
m,p-Xylene	0.0493	0.00200	0.0464	0	106	80	120	0.748	20	
o-Xylene	0.0244	0.00100	0.0232	0	105	80	120	0.205	20	
Toluene	0.0257	0.00200	0.0232	0	111	80	120	0.272	20	
Surr: 1,2-Dichloroethane-d4	199		200.0		99.6	72	119	0	0	
Surr: 4-Bromofluorobenzene	197		200.0		98.6	76	119	0	0	
Surr: Dibromofluoromethane	202		200.0		101	85	115	0	0	
Surr: Toluene-d8	200		200.0		100	81	120	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

APPENDIX H

WELL COMPLETION DETAILS AND BORING LOGS

LOCATION MAP	TEST HOLE / WELL LOG	Page 1 of 4
	Test/Well Number: **HSRW-1**	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 6 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**		Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**			Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **0 to 44'**	DTW: **53.66' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **65' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	SP	dry	< 5	5YR 4/4	1.3	N	Sample (HSRW-1-16 @1600)	Cut.		**SAND** – (0-10.5') – loose, medium grained, poorly graded, dry, reddish brown (Fill)		1" fluid level monitor
2												
3								Cut.				
4					1.4	N						
5								Cut.				
6					2.3	N						
7								Cut.				
8					2.8	N						
9								Cut.				
10					3.1	N						
11	SP							16"		**Caliche** – (10.5 - 12') - sandstone, white		
12					3.7	N						
13	SP	dry	<5	5YR 8/1				18"		**SAND** – (12 – 26.5') – loose, medium grained, poorly graded, dry, white, few caliche, trace odor (mineralization present)		
14					30.1	N						
15								17"				
16				5YR 8/1	25.6	N						
17								18"				
18					22	N				- @ ~17' - some sandstone		
19				10YR 8/1		N		6"				
20					16							

cement grout bentonite seal filter pack

LOCATION MAP

TEST HOLE / WELL LOG — Page 2 of 4

Test/Well Number: **HSRW-1** | Project: **Hobbs South GSA (Holly Energy)**

Date: **2 / 6 / 2013** | Project Number: **078807**

Logged by: **Justin Covey** | Drilled By: **B. Adkins**

Drilling Method: **Air Rotary** | Sampling Method: **Split Spoon**

Ground Elevation:: | Detector: **PID** | Seal/Int: Bentonite **40 to 42'** | Grout Interval: **3 to 40'**

Filter Pack Size: **10/20 sand** | Interval: **42 to 64'** | Hole Dia: **7-7/8"** | Depth water Encountered during drilling: **53' bgs**

Casing Type: **Sch. 40** | Diameter: **1 & 4 in.** | Interval: **0 to 44'** | DTW: **53.66' bgs**

Screen Type: **Sch. 40** | Slot: **20** | Diameter: **1 & 4 in.** | Interval: **44 to 64'** | Well Depth: **64' bgs** | Total depth: **65' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
			< 5	10YR 7/2						- @ 20’ few sandstone, pinkish white		
21								6"				
					601	N						
22												
				10YR 5/4						- @ 22' trace chert becomes yellowish brown		
23								Cut.				
					1124	N						
24												
25								Cut.				
					1154	N						
26												
27		dry	<5	10YR 8/1				16"		Caliche - (26.5 - 28') - fine grained, cemented sandtone, weathered, white		
					1096	N						
28												
	SP	moist	<5	10YR 6/4						SAND - (28 - 34.5') - medium grained, loose, poorly graded, moist, light yellowish brown, few caliches sandstone fragments, odor		
29								13"				
					1120	N						
30												
31								6"				
					1150	N						
32												
				10YR 7/4						- @ 32’ becomes light yellowish brown		
33								15"				
					1133	N						
34												
35		dry	<5	10YR 8/1				11”		Caliche - (34.5 - 38') - fine grained sandstone, weathered, white		
					1142	N						
36												
										- @ 36’ trace chert		
37												
					960			Cut.				
38												
	SP	moist	<5	10YR 8/3						SAND - (38 - 60') - fine grained, loose, poorly graded, moist, brown, trace silt and caliche gravel		
39												
					418							
40								18"				

cement grout | bentonite seal | filter pack

LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 4
	Test/Well Number: **HSRW-1**	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 6 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**		Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**			Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **0 to 44'**	DTW: **53.66' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **65' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
41								Cut.				
					402	N						
42												
43								12"				
					656	N						
44												
45								17"				
					639	N						
46												
47				7.5YR 5/4				16"		- @ 46' becomes brown		
					315	N						
48												
	SP											
49								21"				
					710	N						
50												
51								16"				
					416	N						
52												
										- @ 52' becomes medium grained		
53								16"				
		wet				N				- @ 53' becomes wet		
54		53'										
55								Cut.				
						N						
56												
										- @ 56' becomes very pale brown		
57				10YR 7/3				Cut.				
58												
			<5							- @ 58' becomes well graded w/ trace silt		
59								Cut.				
60												

Sample (HSRW-1-48 @1615)

top of screen @ ~44' bgs

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LOCATION MAP

TEST HOLE / WELL LOG — Page 4 of 4

Test/Well Number: **HSRW-1**	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 6 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**	Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**		Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **0 to 44'**	DTW: **53.66' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **65' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
60										- @ 60' no sample recovery		bottom of acreen @ 64' bgs; TD = 64'
61						N						
62												
63						N						
64												
65												
66										TD = 65 ft-bgs		
67												
68												
69												
70												
71												
72												
73												
74												
75												
76												
77												
78												
79												
80												

cement grout bentonite seal filter pack

LOCATION MAP

TEST HOLE / WELL LOG — Page 1 of 4

Test/Well Number: **HSRW-2**	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 5 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**	Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**		Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **0 to 44'**	DTW: **53.44' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **64' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	SP	dry	< 5	5YR 4/6	0.4	N		23"		**SAND** – (0-22.3') – fine grained, poorly graded, loose, yellowish red, trace caliche (fill)		1" fluid level monitor
2												
3					2.2	N		23"				
4												
5			5		0	N		23"		- @ ~4.5' - 0.1' SILT seam - medium plasticity,		
6												
7					1.2	N		23"				
8												
9					0.1	N		20"		- @ ~8' trace caliche		
10												
11			< 5	5YR 6/4	5.7	N		20"		- @ ~10.5 medium to coarse grained, light reddish brown, w/ some cementation		
12												
13					4.1	N		6"		- @ ~12 sandstone interbedded with sand as above (12 - 14.5')		
14												
15				5YR 8/4	5.6	N		19"		- @ ~14.5' - no sandstone, becomes pink and 50% cemented		
16												
17					6.5	N		20"		- @ ~16' - odor		
18												
19					4.6	N		6"				
20												

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LOCATION MAP

TEST HOLE / WELL LOG — Page 2 of 4

Test/Well Number: **HSRW-2**	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 5 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**	Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**		Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **0 to 44'**	DTW: **53.44' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **64' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
			< 5							- @ 20' few sandstone (caliche)		
21								10"				
					8.5	N						
22												
										- @ 22.3' refusal w/ splitspoon and rockcore samplers		
23								2"				
	SP		< 5	5YR	7.6	N				Caliche - (22.3 - 28') - sandstone, interbedded medium		
24				8/2						grained sand pinkish white, odor		
25								Cut.				
					7.1	N						
26												
27								Cut.				
					6.7	N						
28												
	SP	moist	<5	10YR						SAND - (28 - 38') - fine grained, loose, poorly graded,		
29				6/4				12"		moist, pinkish white, few caliche (mineralization)		
					4.8	N						
30												
31								11"				
					2	N						
32												
33								10"				
					2.2	N						
34												
										- @ 34' odor		
35		dry	<5					18"				
					21.3	N						
36												
37												
					53.1			16"		Caliche - (37 - 38') - limestone and calcium carbonate		
38												
	SP	moist	<5	5YR						SAND - (38 - 39') - medium grained, loose, poorly		
39				6/2						graded, moist, pinkish gray		
					463			16"		Caliche - (39 - 42') - limestone and calcium carbonate		
40												
							Sample (HSRW-2-38 @1045)					

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 4
	Test/Well Number: **HSRW-2**	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 5 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**		Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**			Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **0 to 44'**	DTW: **53.44' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **64' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40										- @ ~40' some chert and fine grained sandstone		
41					93.3	N		Cut.				
42												
43	SG	mosit	< 5	5YR 6/2	425	N		22"		Gravelly SAND - (42 - 46.2') - medium grained, loose, well graded, moist, pinkish gray, trace caliche, odor		
44												
45					244	N		17"				
46												
47					202	N		1"		- @ 46.3' sampler refusal (sandstone)		
48												
49					166	N		20"		- @ 48' some chert		
50												
51	SP		< 5	5YR 6/4		N	Sample (HSRW-2-52 @1100)	12"		SAND - (50 - 51.5') - medium grained, loose, poorly graded, moist, reddish brown, trace cemented sand		
52										Caliche - (51.5 - 54') - hard fine grained sandstone and some chert, reddish brown		
53						N		Cut.				
54									▼			
55	SP	wet 54'	< 5	5YR 7/2		N		Cut.		SAND - (54 - 60') - fine grained, loose, poorly graded, wet, pinkish gray		
56										- @ 56' becomes medium to coarse grained		
57						N		Cut.				
58										- @ 58' becomes well graded w/ trace silt		
59						N		Cut.				
60												

top of screen @ ~44' bgs

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LOCATION MAP

TEST HOLE / WELL LOG — Page 4 of 4

Test/Well Number: **HSRW-2**	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 5 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **40 to 42'**	Grout Interval: **3 to 40'**	
Filter Pack Size: **10/20 sand**		Interval: **42 to 64'**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **0 to 44'**	DTW: **53.44' bgs**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **44 to 64'**	Well Depth: **64' bgs**	Total depth: **64' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
60												
	GS	wet	< 5	5YR 6/3						Sandy GRAVEL - (60 - 62') - fine grained, loose, poorly graded, wet, pinkish gray		
61												
						N		Cut.				
62												
	SP			5YR 6/2		N		Cut.		Sandy GRAVEL - (62 - 64') - fine grained, loose, poorly graded, wet, pinkish gray		
63												
64												
										TD = 64 ft-bgs		TD = 64'
65												
66												
67												
68												
69												
70												
71												
72												
73												
74												
75												
76												
77												
78												
79												
80												

bottom of acreen @ 64' bgs

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LOCATION MAP

TEST HOLE / WELL LOG — Page 1 of 3

Test/Well Number: SB-1	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 3 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 55'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: 53' **bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	ML	dry	5	10YR 4/3	47.2	N	Sample (SB-1-4 @1345)	20"		**SILT -** (0 - 2') - low plasticity, hard, dry, brown, trace caliche, odor - @ ~0.8' - Caliche seam ~0.15'		
3	SP	dry	< 5	10YR 6/2	516	N		20"		**SAND -** (2 - 4') - fine grained, loose, poorly graded, dry, light brownish gray, odor		
5	SM	dry	5	10YR 5/6	880	N		10"		**Silty SAND -** (4 - 6') - fine grained, medium dense, poorly graded, dry, light brownish gray, odor		
7				10YR 6/1	34.8	N		2"		**Caliche -** (6 - 18') - fine grained cemented sand, dry, gray		
9					247	Y		6"		- @ ~8' appears to have weathered crude present within fractures		
11					151	Y		4"				
13					479	N		5"		- @ ~12 becomes weathered and brittle, no staining		
15					557	N		10"		- @ ~14' some fine grained sand		
17					724	N		17"				
19	SP	dry	< 5	10YR 5/3	154	N		6"		**SAND -** (18 - 22') - medium grained, loose, poorly graded, dry, brown, few chert & caliche, odor		

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-1	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 55'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: 53' **bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
			< 5							- @ 20’ sand becomes cemented		
21								1"				
					253	N						
22												
			< 5	10YR						Caliche - (22 - 30') - fine grained cemented sand, poorly		
23				7/3				Cut.		graded, dry, very pale brown, odor		
					564	N						
24												
25								Cut.				
					409	N						
26												
27								Cut.				
					300	N						
28												
	SP	moist	<5	10YR						SAND - (28 - 38') - fine grained, loose, poorly graded,		
29				6/4				Cut.		moist, pinkish white, few caliche (mineralization)		
					383	N						
30												
	SP	moist	< 5	10YR						SAND - (30 - 36.5') - fine grained, loose, poorly graded,		
31				6/4				16"		moist, light yellowish brown, trace cemented sand, odor		
					111	N						
32												
33								Cut.				
					312	N						
34												
35								Cut.				
					125	N						
36												
				10YR						- @ ~36’ becomes grayish brown, trace silt		
37	GP	moist	5	5/2				16"		- @ ~36.5’ Caliche layer (0.15')		
					455	Y				Sandy GRAVEL - (36.65 - 40') - fine grained, loose,		
38										poorly graded, moist, staining, odor, fine grained sand,		
										few chert		
39												
					647	Y		16"				
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-1	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 55'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: 53' **bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
	SC	moist	<5	10YR 5/3			Sample (SB-1-42 @1400)			Gravelly SAND - (40 - 41.5') - medium grained, dense, poorly graded, moist, brown, odor,		
41								22"				
					491	Y						
42	SP	mosit	< 5	6/2						SAND - (41.5 - 43.5') - medium grained, dense, poorly graded, moist, dark yellowish brown, few chert and cemented sandstone, odor		
43								20"				
					883	Y						
44										- @ ~43.5' Caliche layer (0.2')		
45								17"				
					440	N						
46												
47								18"				
					389	N						
48												
49								13"				
					352	N						
50												
	SP		< 5	5YR 6/4								
51								14"				
					245	N						
52												
53								6"				
		wet				N						
54										- @ ~53' becomes wet		
55												
												TD = 55'
56												
57												
58												
59												
60												

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LOCATION MAP

TEST HOLE / WELL LOG — Page 1 of 3

Test/Well Number: SB-2	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 2 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 57'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **55.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **57' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	ML	dry	5	5YR 4/3	0.0	N		20"		**SILT -** (0 - 2') - low plasticity, stiff, dry, reddish brown, few caliche		
2										- @ ~1.5' -trace fine grained sand		
3		dry	< 5	7.5YR 8/1	0.2	N		23"		**Caliche -** (2 - 40') - fine grained cemented sand, dense, angular, dry, white		
4												
5					0.0	N		21"				
6												
7				5YR 7/3	0.3	N		18"		- @ ~6' -becomes pink		
8												
9					0.2	N		18"		- @ ~8' appears to have weathered crude present within fractures		
10												
11				7.5YR 8/2	0.1	N		20"		- @ ~10' becomes dense and pinkish white		
12												
13					0.7	N		10"		- @ ~12 trace orange mottling		
14												
15				5YR 8/1	0.3	N		6"		- @ ~14' becomes white, no mottling		
16												
17					0.0	N		4"				
18												
19					1.0	N		10"				
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-2	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 2 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 57'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **55.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **57' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
				7.5YR						- @ 20’ becomes pink		
21				7/3				Cut.				
					1.1	N						
22												
				5YR						- @ 22’ becomes pinkish white, trace chert		
23				8/2				Cut.				
					0.8	N						
24												
				5YR						- @ 24’ becomes white		
25				8/1				Cut.				
					0.6	N						
26												
27								Cut.				
					0.5	N						
28												
				10YR						- @ 28’ no chert present		
29				6/4				6"				
					0.8	N						
30												
				10YR								
31				6/4				6"				
					1.2	N						
32												
33								6"				
					0.3	N						
34												
										- @ 34’ trace odor		
35								12"				
					1.6	N						
36												
				10YR						- @ ~36’ few chert present		
37	GP	moist	5	5/2				12"				
					3.7	N				- @ ~37’ some gravel size angular caliche		
38												
39								Cut.				
					354	N						
40												

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LOCATION MAP

TEST HOLE / WELL LOG — Page 3 of 3

Test/Well Number: SB-2	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 2 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 57'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **55.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **57' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
	SP	moist	<5	7.5YR 5/6			Sample (SB-2-40 @1015)			**SAND -** (40 - 52') - medium grained, stiff, poorly graded, moist, strong brown, cohesive, odor		
41								14"				
					1434	N						
42												
43								Cut.				
					27	N						
44												
45								17"				
					1	N						
46												
47								12"				
					0.3	N						
48												
										- @ ~48' refusal @ 1"		
49								1"				
					1.2	N						
50												
51								Cut.				
					3.1	N						
52												
		moist		5YR 8/1						**Caliche -** (52 - 55.5') - fine grained cemented sand, dense, angular, dry, white, moist		
53								Cut.				
					4.2	N						
54												
55								16"				
					8.2	N						
56	SP	wet	<5	5YR 7/3						**SAND -** (55.5 - 57') - fine grained, loose, poorly graded, wet, pink, trace odor		
57												
												TD = 57'
58												
59												
60												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 1 of 3
	Test/Well Number: SB-3	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	ML	dry	80	5YR 3/3	0	N		18"		**Clayey SILT -** (0 - 4') - low plasticity, very stiff, dry, dark reddish brown, trace caliche, few fine grained sand		
2										- @ ~2' becomes hard		
3								12"				
4					0	N						
5		dry	<5	10YR 5/2				16"		**Caliche -** (4 - 12') - fine grained sand, angular, dry, very pale brown		
6					0	N						
7								6"				
8					0	N						
9								6"				
10					1	Y						
11								12"				
12					9.4	Y						
13	SP	dry	<5	5YR 6/4				20"		**SAND** - (12 - 17.3') - fine grained, loose, poorly graded, dry, light reddish brown, trace angular gravel caliche		
14					0.9	N						
15				5YR 7/3				16"		- @ ~14.5' becomes 5YR 7/3		
16					1.1	N						
17								10"				
18		dry	<5	10YR 8/2	3.3	N				**Caliche -** (17.3 - 39') - fine grained cemented sand, angular, dry, very pale brown		
19						N		4"				
20					13.1							

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-3	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
			< 5									
21								4"				
					1.2	N						
22												
			< 5	5YR						- @ 22’ becomes pinkish gray		
23				7/2				Cut.				
					1.3	N						
24												
				5YR						- @ 24’ becomes white		
25				8/1				Cut.				
					0.7	N						
26												
27								Cut.				
					0.7	N						
28												
29								Cut.				
					1	N						
30												
				5YR						- @ 30’ becomes pinkish white		
31				8/2				Cut.				
					1.3	N						
32												
33								Cut.				
					1.1	N						
34												
										- @ 34’ becomes pinkish gray		
35								Cut.				
					1.3	N						
36												
				5YR						- @ ~36’ becomes light gray, trace odor		
37				7/1				Cut				
					477	N						
38												
39								10"				
	SP	dry	<5	5YR	742	N				**SAND** - (39 - 40') - fine grained, loose, poorly graded,		
40				5/2						dry, reddish gray, trace odor		

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-3	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
										- @ ~40' few gravel size chert fragments		
41								18"				
					873	N						
42												
				5YR 6/3						- @ ~42' becomes light reddish brown		
43								20"				
					612	N						
44												
45								22"		- @ ~44.8' few concretions		
					140	N						
46												
										- @ ~46' trace concretions, no chert, becomes reddish brown		
47								14"				
					51.9	N						
48												
				5YR 7/1						- @ ~48' few horizontally laminated limestone caliche layers, becomes light gray, trace concretions		
49								12"				
					333	N						
50												
				5YR 6/2						- @ ~50' becomes pinkish gray		
51								12"				
					891	N						
52												
	SM	moist	<5	5YR 6/2						**Silty SAND** - (52 - 56') - fine grained, loose, poorly graded, moist, pinkish gray, trace limestone		
53								12"				
					984	N						
54		wet								- @ ~53.5' becomes wet		
55								8"				
56												
												TD = 56'
57												
58												
59												
60												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 1 of 3
	Test/Well Number: SB-4	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 54'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
	ML	dry	70	5YR 3/3						**SILT -** (0 - 2.4') - low plasticity, very stiff, dry, dark reddish brown, few fine sands, few angular caliche		
1								14"				
					0	N						
2												
		dry	10	10YR 8/2						**Caliche -** (2.4 - 34.5') - fine grained, loose, poorly sorted, dry, very pale brown, cohesive, few concretions		
3								18"				
					0.2	N						
4												
	SM	dry	5	10YR 5/6								
5								22"				
					1.2	N						
6												
				10YR 6/1								
7								Cut.		- @ ~6.5' higher presence of crystalline mineralization		
					0.4	N						
8												
9								Cut.				
					0.2	N						
10												
11								Cut.		- @ ~10.6' minimal crystalline mineralization, non-cohesive		
					1	N						
12												
				5YR 8/1						- @ ~12 becomes hard, and white		
13								Cut.				
					0.5	N						
14												
15								Cut.				
					0	N						
16												
										- @ ~16 becomes very stiff and blocky		
17								Cut.				
					0.5	N						
18												
19								Cut.				
					0.2	N						
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-4	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 54'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
21								14"				
					0.2	N						
22												
				5YR						- @ 22' becomes pinkish white		
23				8/2				6"				
					0.1	N						
24												
				5YR						- @ 24' becomes white		
25				8/1				8"				
					0	N						
26												
27								10"				
					0	N						
28												
29								10"				
					0.3	N						
30												
				5YR						- @ 30' becomes pinkish white		
31				8/2				8"				
					0.2	N						
32												
33								10"		- @ 32.6' limestone seam (2.5" thick)		
					0	N						
34												
35	SP	dry	<5	5YR				20"		**SAND -** (34.5 - 2.4') - fine grained, loose, poorly graded,		
				5/4	0.6	N				dry, reddish brown,		
36										- @ ~35.6' trace medium gravel size caliche		
37				5YR				16"		- @ ~36.5' becomes pinkish gray, few chert, trace		
				6/2	118	N				odor		
38												
39								12"				
					53.4	N						
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-4	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 54'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
				7.5YR 6/4			Sample (SB-4-40 @1025)			- @ ~40' becomes light brown, trace chert		
41								22"				
					125	Y						
42												
				7.5YR 6/6						- @ ~42' becomes reddish yellow		
43								20"				
					19	Y						
44												
				7.5YR 6/4						- @ ~44' becomes light brown		
45								17"				
					15.6	N				- @ ~45' caliche seam (1.5")		
46												
47								18"				
					61.8	N						
48												
				7.5YR 7/3						- @ ~48' becomes pink		
49								13"				
					168	N						
50												
				5YR 6/4								
51								14"				
					460	N						
52												
53								6"				
		wet				N				- @ ~53' becomes wet		
54												
55												
												TD = 55'
56												
57												
58												
59												
60												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 1 of 3
	Test/Well Number: SB-5	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 56'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
	ML	dry	55	7.5YR 3/7						**SILT -** (0 - 2') - low plasticity, very stiff, dry, dark brown, trace caliche, trace fine grained sand		
1								20"				
					0	N						
2												
		dry	< 5	7.5YR 8/2						**Caliche -** (2 - 4') - fine to medium grained sand, loose, poorly graded, dry, pinkish white		
3								20"				
					0.4	N						
4												
	SM	dry	5	10YR 5/6						- @ ~4' becomes dense		
5								10"				
					0.3	N						
6												
										- @ ~6' few concretions		
7								2"				
					0.8	N						
8												
9								6"				
					1	N						
10												
										- @ ~10' becomes very dense		
11								4"				
					1.1	N						
12												
				7.5YR 8/1						- @ ~12' becomes white		
13								5"				
					2.1	N						
14												
15								10"				
					2.1	N						
16												
17								17"				
					5.1	N						
18												
19								6"				
					0.9	N						
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-5	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0**	**to 56'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
				5YR						- @ 20’ becomes light gray		
21				7/1				1"				
					5.2	N						
22												
				7.5YR						- @ 22’ pinkish white		
23				8/2				Cut.				
					0.8	N						
24												
										- @ 24’ with fine gravel		
25								Cut.				
					1	N						
26												
										- @ 26’ becomes trace fine gravel		
27								Cut.				
					1.8	N						
28												
										- @ 28’ trace silt		
29								8"				
					1.3	N						
30												
31								18"				
					1.9	N						
32												
				7.5YR						- @ 32’ becomes pink		
33				7/3				18"				
					3.9	N						
34												
35								16"				
					10	N						
36												
				7.5YR						- @ ~36’ becomes white, few 0.5" to 1" chert pieces present, trace odor		
37				8/1				10"				
					151	N						
38												
39								12"				
					79.6	N						
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-5	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 1 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **54.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
41							Sample (SB-5-40 @1425)	20"				
					875	N				- @ ~41' solid limestone caliche layer (0.2')		
42				7.5YR 5/4						- @ ~41.2' becomes brown with odor and few chert present		
43								18"				
					501	N						
44												
45								16"				
					88.9	N						
46												
										- @ ~46' trace chert		
47								12"				
					389	N						
48												
49								18"				
					352	N						
50												
	SP		< 5	5YR 6/4						- @ ~50' becomes hard		
51								Cut.				
					245	N						
52												
53								Cut.				
						N						
54												
		wet										
55								Cut.		- @ ~54.5' becomes wet		
56												
												TD = 56'
57												
58												
59												
60												

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LOCATION MAP

TEST HOLE / WELL LOG — Page 1 of 3

Test/Well Number: SB-6	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 2 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
	ML	dry	5	5YR 4/3				12"		**SILT -** (0 - 2') - low plasticity, very stiff, dry, reddish brown, trace caliche		
1						N						
2		dry		5YR 8/1				Cut.		**Caliche -** (2 - 12') - cemented fine sand, interbedded with limestone, white		
3						N						
4								Cut.				
5						N						
6								Cut.				
7						N						
8								Cut.				
9						N						
10								Cut.				
11						N						
12	SP	dry	<5	5YR 8/2				10"		- @ ~12 becomes a fine grained sand, poorly graded, dry, pinkish white, few angular fine gravel		
13					0.5	N						
14								10"				
15					1.3	N						
16								8"		- @ ~16 few chert and odor		
17					27.5	N						
18								Cut.				
19					213	N				- @ ~19.5 becomes cemented, odor present		
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-6	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 2 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 56'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
21								3"				
					43.2	N						
22												
										- @ 22’ becomes weathered sandstone and limestone		
23								6"				
					291	N						
24												
				10YR						- @ 24’ becomes very pale brown		
25				8/2				Cut.				
					412	N						
26												
27								Cut.				
					589	N						
28												
	SP	moist	<5	10YR						SAND - (28 - 36') - medium grained, medium dense,		
29				6/4				10"		poorly graded, moist, very pale brown, few fine gravel		
					1253	N				size caliche, odor		
30												
31								8"				
					780	N						
32												
				10YR						- @ 32’ becomes very pale brown		
33				7/4				8"				
					991	N						
34												
										- @ 34’ becomes fine grained		
35								10"				
					1099	N						
36												
				10YR						**Caliche -** (36 - 42') - cemented fine sand, interbedded		
37				7/4				2"		with limestone, vewry pale brown		
					410	N						
38												
				10YR						- @ 38’ becomes white		
39				8/1				4"				
					380	N						
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-6	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 2 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **56' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40										- @ ~40' few chert present		
41								Cut.				
42					276	N						
43	SP	moist	5	10YR 7/4				20"		**SAND** - (42 - 44') - medium grained, dense, poorly graded, moist, very pale brown, few fine grained gravel size caliche		
44					299	N						
45								4"		- @ ~44' trace interbedded Caliche layers within SAND		
46					58.8	N						
47								Cut.				
48					45.3	N	Sample (SB-6-50 @1545)					
49								Cut.				
50					20.7	N						
51								Cut.				
52					63.2	N						
53								6"				
54		wet			13.2	N						
55												
56												
57												TD = 56'
58												
59												
60												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 1 of 3
	Test/Well Number: SB-7	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 55'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
	ML	dry	5	5YR 5/2						**SILT -** (0 - 2') - low plasticity, stiff, dry, reddish gray		
1								18"				
					0	N						
2												
				5YR 5/1						**Caliche -** (2 - 12') - cemented fine sand, white		
3								6"				
					1	N						
4												
5								Cut.				
					0.9	N						
6												
	SP			5YR 8/1						- @ ~6' becomes weathered, fine grained, dense, poorly graded, moist, white, with interbedded weathered limestone		
7								4"				
					1	N						
8												
9								4"				
					1	N						
10												
				5YR 8/2						- @ ~10' becomes pinkish white and cemented, no limestone.		
11								8"				
					2	N						
12												
										- @ ~12' trace limestone present		
13								5"				
					0.3	N						
14												
15								17"				
					3.2	N						
16												
										- @ ~16' becomes interbedded with fine grained SAND, dense, poorly graded, dry, pinkish white		
17								18"				
					6.2	N						
18												
19								4"				
					2.2	N						
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-7	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 55'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
				5YR						- @ 20’ becomes fine grained, loose SAND, poorly		
21				7/2				12"		graded, dry, pinkish gray		
					1.8	N						
22												
										- @ 22’ becomes cemented, few chert		
23								4"				
					1.1	N						
24												
25								Cut.				
					1.5	N						
26												
27								Cut.				
					9.8	N						
28												
29								Cut.				
					9.7	N						
30												
										- @ 30’ no chert		
31								12"				
					2	N						
32												
33								6"				
					3.7	N						
34												
	SP	moist	< 5	5YR						**SAND -** (34 - 48') - fine grained, dense, poorly graded,		
35				6/3				20"		moist, light reddish brown, trace odor		
					4.5	N						
36												
										- @ ~36’ becomes interbedded with caliche		
37								10"				
					63.5	N						
38												
										- @ ~38’ few chert present		
39								14"				
					93.9	N						
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-7	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 3 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval: **0 to 55'**	
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **53' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **55' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
				7.5YR 8/2						- @ ~40' becomes pinkish white		
41								20"				
					181	N						
42												
				7.5YR 5/4						- @ ~42' becomes brown		
43								14"				
					121	N						
44												
										- @ ~44' trace cemented sand and chert		
45								18"				
					469	N						
46												
47								19"				
					76.6	N						
48										- @ ~47.5' caliche seam (1" thick)		
										- @ ~48' some weathered, caliche, chert and trace cemented fine grained SAND		
49								3"				
					23.6	N						
50												
										- @ ~50' becomes loose, moist with trace chert		
51								Cut.				
						N						
52												
53	wet											
										- @ ~53' becomes wet		
54												
55												
56												TD = 55'
57												
58												
59												
60												

Sample (SB-7-44 @1030)

Sample (SB-7-50 @1045)

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LOCATION MAP

TEST HOLE / WELL LOG — Page 1 of 3

Test/Well Number: SB-8	Project: **Hobbs South GSA (Holly Energy)**
Date: **2 / 4 / 2013**	Project Number: **078807**
Logged by: **Justin Covey**	Drilled By: **B. Adkins**
Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **52.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.** Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
1	ML	dry	5	10YR 4/3	0	N	Sample (SB-8-16 @1600)	12"		**SILT -** (0 - 2') - low plasticity, very stiff, dry, brown, trace caliche, trace odor - @ ~1' - trace caliche		
2										**Caliche -** (2 - 6') - fine grained cemented SAND, odor		
3					65.8	N		Cut.				
4												
5					68	N		Cut.				
6												
7	SP	dry		10YR 7/4	424	N		18"		**SAND -** (6 - 18') - fine grained, poorly graded, dense, dry, very pale brown, trace cementation, trace caliche, odor		
8												
9					574	N		20"				
10												
11					449	N		7"		- @ ~11' few caliche and few sandstone		
12												
13				10YR 4/4	475	N		8"		- @ ~12 some cementation, trace caliche, trace sandstone, dark yellowish brown		
14												
15				10YR 6/4	410	N		12"		- @ ~14' becomes light yellowish brown		
16												
17					618	N		14"		- @ ~16.5' few caliche		
18												
19					3.3	N		Cut.		- @ ~18' becomes interbedded sand and sandstone, odor		
20												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 2 of 3
	Test/Well Number: SB-8	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 4 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite **to**	Grout Interval: **0 to 56'**	
Filter Pack Size: **10/20 sand**		Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **52.5' bgs**
Casing Type: **Sch. 40**	Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.** Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
20												
21								Cut.				
					369	N						
22												
				10YR						- @ ~22' becomes very pale brown		
23				8/2				Cut.				
					434	N						
24												
25								Cut.				
					610	N						
26												
27								Cut.				
					410	N						
28												
29				10YR				6"		- @ ~28' becomes moist, light yellowish brown, few sandstone fragments, trace odor		
				6/4	451	N						
30												
										- @ ~30' becomes interbedded with sand and sandstone/chert		
31								Cut.				
					299	N						
32												
33								Cut.				
					164	N						
34												
										- @ ~34' no chert present		
35								12"		- @ ~34.5' - 0.3' Caliche seam		
					192	N						
36										- @ ~35.5' - SAND interbedded with caliche, sandstone and chert seams.		
37												
					247	N		13"				
38												
39								Cut.				
					202	N						
40												

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LOCATION MAP	TEST HOLE / WELL LOG	Page 3 of 3
	Test/Well Number: SB-8	Project: **Hobbs South GSA (Holly Energy)**
	Date: **2 / 4 / 2013**	Project Number: **078807**
	Logged by: **Justin Covey**	Drilled By: **B. Adkins**
	Drilling Method: **Air Rotary**	Sampling Method: **Split Spoon**

Ground Elevation::	Detector: **PID**	Seal/Int: Bentonite	**to**	Grout Interval:	**0 to 56'**
Filter Pack Size: **10/20 sand**			Interval: **to**	Hole Dia: **7-7/8"**	Depth water Encountered during drilling: **52.5' bgs**
Casing Type: **Sch. 40**		Diameter: **1 & 4 in.**	Interval: **to**	DTW: **N/A**	
Screen Type: **Sch. 40**	Slot: **20**	Diameter: **1 & 4 in.**	Interval: **to**	Well Depth: **N/A**	Total depth: **54' bgs**

Depth	Soil/Rock Type	Moisture Content	% Fines	Color	Vapor (ppm)	Staining	Sample #	Soil Recovery	Water Level	LITHOLOGY/REMARKS	Fabric	WELL COMPLETION
40												
				10YR 5/6						- @ ~40' - becomes medium grained, yellowish brown, odor, trace sandstone		
41								20"				
					365	N						
42												
										- @ ~42' - 0.2' sandstone/chert seam		
43								Cut.				
					569	N						
44												
45								17"				
					509	N						
46												
47								13"				
					314	N						
48												
										- @ ~48' - SAND interbedded with sandstone and chert seams.		
49								6"				
					517	N						
50												
51								Cut.				
					393	N						
52												
53								Cut.		- @ ~52.5' - becomes wet		
						N						
54												TD = 54'
55												
56												
57												
58												
59												
60												

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APPENDIX I

SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS

Appendix I **Summary of Subsurface Soil Analytical Results, February 2013**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well ID Sample ID	Date Sampled	Sample Depth	Laboratory Analytical Results								Headspace Reading	Water Level Encountered
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH		
		(ft-bgs)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	ppm	(ft-bgs)
NMOCD Remediation Action Levels			**10**				**50**			**100**	**100**	
HSRW-1	2/6/2013	0-2									0.5	
		2-4									1.5	
		4-6									1.1	
		6-8									1	
		8-10									2	
		10-12									0.6	
		12-14									1.5	
		14-16									1.7	
HSRW-1-16	2/6/2013	16-18	0.00113	0.0409	0.104	0.1677	0.3137	NA	NA	NA	**127**	
		18-20									**387**	
		20-22									**601**	
		22-24									**1124**	
		24-26									**1154**	
		26-28									**1096**	
		28-30									**1120**	
		30-32									**1150**	
		32-34									**1133**	
		34-36									**1142**	
		36-38									**960**	
		38-40									**418**	
		40-42									**402**	
		42-44									**656**	
		44-46									**639**	
		46-48									**315**	
HSRW-1-48	2/6/2013	48-50	0.0187	0.952	2.68	3.23	6.88	NA	NA	NA	**710**	
		50-52									**416**	53
HSRW-2	2/5/2013	0-2									0.4	
		2-4									2.2	
		4-6									0	
		6-8									1.2	
		8-10									0.1	
		10-12									5.7	
		12-14									4.1	
		14-16									5.6	
		16-18									6.5	
		18-20									4.6	
		20-22									8.5	
		22-24									7.6	
		24-26									7.1	
		26-28									6.7	
		28-30									4.8	
		30-32									2	
		32-34									2.2	
		34-36									21.3	
		36-38									53.1	
HSRW-2-38	2/5/2013	38-40	0.00402	0.373	1.65	1.93	3.95	NA	NA	NA	**463**	
		40-42									93.3	
		42-44									**425**	
		44-46									**244**	
		46-48									**202**	
		48-50									**166**	
HSRW-2-52	2/5/2013	50-52	1.75	20.9	39.5	46.5	**108.65**	NA	NA	NA	NS	54

Appendix I **Summary of Subsurface Soil Analytical Results, February 2013**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well ID Sample ID	Date Sampled	Sample Depth	Laboratory Analytical Results								Headspace Reading	Water Level Encountered
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH		
		(ft-bgs)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	ppm	(ft-bgs)
NMOCD Remediation Action Levels			**10**				**50**			**100**	**100**	
SB-1	2/3/2013	0-2									47.2	
		2-4									**516**	
SB-1-4	2/3/2013	4-6	1.95	<0.0563	26.8	22.59	51.34	1290	23700	**24990**	**880**	
		6-8									34.8	
		8-10									**147**	
		10-12									**151**	
		12-14									**479**	
		14-16									**557**	
		16-18									**724**	
		18-20									**154**	
		20-22									**253**	
		22-24									**564**	
		24-26									**409**	
		26-28									**300**	
		28-30									**383**	
		30-32									**111**	
		32-34									**312**	
		34-36									**125**	
		36-38									**455**	
		38-40									**647**	
		40-42									**491**	
SB-1-42	2/3/2013	42-44	0.0762	<0.0543	7.22	0.370	7.67	402	4070	**4472**	**883**	
		44-46									**440**	
		46-48									**389**	
		48-50									**352**	
		50-52									**245**	53
SB-2	2/2/2013	0-2									0	
		2-4									0.2	
		4-6									0	
		6-8									0.3	
		8-10									0.2	
		10-12									0.1	
		12-14									0.7	
		14-16									0.3	
		16-18									0	
		18-20									1	
		20-22									1.1	
		22-24									0.8	
		24-26									0.6	
		26-28									0.5	
		28-30									0.8	
		30-32									1.2	
		32-34									0.3	
		34-36									1.6	
		36-38									3.7	
		38-40									**354**	
SB-2-40	2/2/2013	40-42	<0.0563	<0.0563	7.16	<0.0563	7.16	614	6420	**7034**	**1434**	
		42-44									NS	
		44-46									NS	
		46-48									NS	
		48-50									NS	
SB-2-50	2/2/2013	50-52	<0.0526	<0.0526	<0.0526	<0.0526	<0.0526	0.499	89.2	89.7	NS	55.5

Appendix I **Summary of Subsurface Soil Analytical Results, February 2013**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well ID Sample ID	Date Sampled	Sample Depth	Laboratory Analytical Results								Headspace Reading	Water Level Encountered
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH		
		(ft-bgs)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	ppm	(ft-bgs)
NMOCD Remediation Action Levels			**10**				**50**			**100**	**100**	
SB-3	1/31/2013	0-2									0	
		2-4									0	
		4-6									0	
		6-8									0	
		8-10									1	
		10-12									9.4	
		12-14									0.9	
		14-16									1.1	
		16-18									3.3	
		18-20									13.1	
		20-22									1.2	
		22-24									1.3	
		24-26									0.7	
		26-28									0.7	
		28-30									1	
		30-32									1.3	
		32-34									1.1	
		34-36									1.3	
		36-38									**477**	
		38-40									**742**	
SB-3-40	1/31/2013	40-42	<0.0546	<0.0546	2.47	<0.0546	2.47	349	3400	**3749**	**873**	
		42-44									**612**	
		44-46									**140**	
		46-48									51.9	
		48-50									**333**	
SB-3-50	1/31/2013	50-52	<0.0541	<0.0541	0.450	1.60	2.052	119	1130	**1249**	**891**	53.5
SB-4	2/1/2013	0-2									0	
		2-4									0.2	
		4-6									1.2	
		6-8									0.4	
		8-10									0.2	
		10-12									1	
		12-14									0.5	
		14-16									0	
		16-18									0.5	
		18-20									0.2	
		20-22									0.2	
		22-24									0.1	
		24-26									0	
		26-28									0	
		28-30									0.3	
		30-32									0.2	
		32-34									0	
		34-36									0.6	
		36-38									118	
		38-40									53.4	
SB-4-40	2/1/2013	40-42	<0.0545	<0.0545	0.113	<0.0545	0.115	67.2	1590	**1657**	**125**	
		42-44									19	
		44-46									15.6	
		46-48									61.8	
		48-50									**168**	
SB-4-50	2/1/2013	50-52	<0.0554	<0.0554	0.638	0.882	1.52	133	1380	**1513**	**460**	53

Appendix I **Summary of Subsurface Soil Analytical Results, February 2013**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well ID Sample ID	Date Sampled	Sample Depth	Laboratory Analytical Results								Headspace Reading	Water Level Encountered
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH		
		(ft-bgs)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	ppm	(ft-bgs)
NMOCD Remediation Action Levels			**10**				**50**			**100**	**100**	
SB-5	2/1/2013	0-2									0	
		2-4									0.4	
		4-6									0.3	
		6-8									0.8	
		8-10									1	
		10-12									1.1	
		12-14									2.1	
		14-16									2.1	
		16-18									5.1	
		18-20									0.9	
		20-22									5.2	
		22-24									0.8	
		24-26									1	
		26-28									1.8	
		28-30									1.3	
		30-32									1.9	
		32-34									3.9	
		34-36									10	
		36-38									151	
		38-40									79.6	
SB-5-40	2/1/2013	40-42	<0.0617	<0.0617	2.64	<0.0617	2.64	316	2660	**2976**	**875**	
		42-44									**501**	
		44-46									88.9	
		46-48									NS	
		48-50									NS	
SB-5-50	2/1/2013	50-52	<0.0548	<0.0548	<0.0548	<0.0548	<0.0548	48.2	932	**980**	NS	54.5
SB-6	2/2/2013	0-2									NS	
		2-4									NS	
		4-6									NS	
		6-8									NS	
		8-10									NS	
		10-12									NS	
		12-14									0.5	
		14-16									1.3	
		16-18									27.5	
		18-20									213	
		20-22									43.2	
		22-24									**291**	
		24-26									**412**	
		26-28									**589**	
SB-6-28	2/2/2013	28-30	<0.0561	<0.0561	1.30	4.93	6.23	330	5670	**6000**	**1253**	
		30-32									**780**	
		32-34									**991**	
		34-36									**1099**	
		36-38									**410**	
		38-40									**380**	
		40-42									**276**	
		42-44									**299**	
		44-46									58.8	
		46-48									45.3	
		48-50									20.7	
SB-6-50	2/2/2013	50-52	<0.0573	<0.0573	<0.0573	<0.0573	<0.0573	1.37	440	**441**	63.2	53.5

Appendix I **Summary of Subsurface Soil Analytical Results, February 2013**
Holly Energy - Hobbs South CSA - Lea County, New Mexico

Well ID Sample ID	Date Sampled	Sample Depth	Laboratory Analytical Results								Headspace Reading	Water Level Encountered
			Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH-GRO	TPH-DRO	TPH		
		(ft-bgs)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	ppm	(ft-bgs)
NMOCD Remediation Action Levels			**10**				**50**			**100**	**100**	
SB-7	2/3/2013	0-2									0	
		2-4									1	
		4-6									0.9	
		6-8									1	
		8-10									1	
		10-12									2	
		12-14									0.3	
		14-16									3.2	
		16-18									6.2	
		18-20									2.2	
		20-22									1.8	
		22-24									1.1	
		24-26									1.5	
		26-28									9.8	
		28-30									9.7	
		30-32									2	
		32-34									3.7	
		34-36									4.5	
		36-38									63.5	
		38-40									93.9	
		40-42									**181**	
		42-44									**121**	
SB-7-44	2/3/2013	44-46	<0.0522	<0.0522	0.0856	<0.0522	0.0876	77.8	1470	**1548**	**469**	
		46-48									76.6	
		48-50									23.6	
SB-7-50	2/3/2013	50-52	<0.0535	<0.0535	<0.0535	<0.0535	<0.0535	26.6	1240	**1267**	NS	53
SB-8	2/4/2013	0-2									0	
		2-4									65.8	
		4-6									68	
		6-8									**424**	
		8-10									**574**	
		10-12									**449**	
		12-14									**475**	
		14-16									**410**	
SB-8-16	2/4/2013	16-18	0.591	1.84	20.7	15.78	38.91	1440	11200	**12640**	**618**	
		18-20									3.3	
		20-22									**369**	
		22-24									**434**	
		24-26									**610**	
		26-28									**410**	
		28-30									**451**	
		30-32									**299**	
		32-34									**164**	
		34-36									**192**	
		36-38									**247**	
		38-40									**202**	
		40-42									**365**	
		42-44									**569**	
		44-46									**509**	
		46-48									**314**	
SB-8-48	2/4/2013	48-50	0.138	0.878	1.83	2.02	4.87	197	3040	**3237**	**517**	
		50-52									**393**	52.5

NOTES:
NMOCD= New Mexico Oil Conservation Division
BTEX = Benzene, Toluene, Ethylbenzene & Total Xylenes
TPH-GRO = Total Petroleum Hydrocarbons- Gasoline Range Organics
TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics
mg/kg = milligrams per kilogram
ft-bgs = feet below ground surface
ppm = parts per million
BOLD (RED) - concentration greater than NMOCD Remediation Action Levels
< = analyte not detected above reporting limit
BTEX analyzed by EPA Method 8260B
TPH-GRO analyzed by EPA Method 8260B
TPH-DRO analyzed by EPA Method 8015M
NS = not sampled

APPENDIX J

SUBSURFACE SOIL LABORATORY REPORTS

February 12, 2013

Bill Green
Holly Energy Partners
1602 W. Main
Artesisa, NM 88210
TEL: (575) 748-8968
FAX (575) 748-4052

Order No.: 1302037

RE: South Hobbs GSA

Dear Bill Green:

DHL Analytical, Inc. received 14 sample(s) on 2/5/2013 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: T104704211-12-9

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DHL ANALYTICAL
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

№ 58824

CHAIN-OF-CUSTODY

CLIENT: CRA
ADDRESS: 14998 W 6th Ave, #800, Golden, CO 80401
PHONE: 720.974.0935 FAX/E-MAIL: bstephenson@craworld.com
DATA REPORTED TO: Brad Stephenson
ADDITIONAL REPORT COPIES TO: jcovey@craworld.com

DATE: 2.4.13 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1302037
PROJECT LOCATION OR NAME: South Hobbs GSA (Holly Energy Partners)
CLENT PROJECT #: COLLECTOR:

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT
W=WATER SL=SLUDGE
A=AIR O=OTHER
L=LIQUID SO=SOLID

PRESERVATION: HCl, HNO_3, H_2SO_4 ☐ NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8021] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO [METHOD 8015] ☐ DRO [METHOD 8105] ☐ | VOC 8260 ☐ VOC 624 ☐ VOC 8260/5035 ☐ | SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ | 8081 PEST ☐ 608 PEST/PCB ☐ 8270 PEST ☐ | 8270 O-P PEST ☐ 8082 PCB ☐ 8270 PCB ☐ | 8321 HERB ☐ 8330 EXPL ☐ PERCHLORATE ☐ | METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ | PH ☐ HEX CHROM ☐ ALKALINITY ☐ | CHLORIDE ☐ ANIONS ☐ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ TOX ☐ FLASHPOINT ☐ | TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Holding Time is 14 days. Same samples collected 6 days ago

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	FIELD NOTES
SB-3-40	01	1.31.13	1530	S	4oz JAR	2						
SB-3-50	02	↓	1545	↓	↓	↓						
SB-4-40	03	2.1.13	1025									
SB-4-50	04	↓	1035									
SB-5-40	05		1425									
SB-5-50	06	↓	1440									
SB-6-28	07	2.2.13	1510									
SB-6-50	08	↓	1545									
SB-2-40	09	↓	1015									
SB-2-50	10	↓	1030									
SB-7-44	11	2.3.13	1030									
SB-7-50	12	↓	1045									
SB-1-4	13	↓	1345									
SB-1-42	14	↓	1400	↓	↓	↓						
TOTAL												

RELINQUISHED BY: (Signature) DATE/TIME 2.4.13/1200 RECEIVED BY: (Signature) FEDEX
RELINQUISHED BY: (Signature) DATE/TIME 2/5/13 7:10 RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 1.2 THERM #: 57
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☐ NOT USED
☐ CARRIER BILL #:
☐ APC DELIVERY
☐ HAND DELIVERED

FedEx Express Package US Airbill

FedEx Tracking Number 8020 3169 6485

1 From

Date 2.4.13

Sender's Name JUSTIN COVEY Phone 720 837 9845

Company CRA

Address 1499B W. 16th Ave 800 Dept/Floor/Suite/Room

City GOLDEN State CO ZIP 80401

2 Your Internal Billing Reference 179807

3 To

Recipient's Name JENNIFER BAKER Phone 512 388-8222

Company DHL ANALYTICAL

Address 2300 DOUBLE CREEK DR Dept/Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City ROUND ROCK State TX ZIP 78664-3901

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

0101691127

8020 3169 6485

ORIGIN ID:HOBA

UNITED STATES US

SHIP DATE: 0
ACTWGT: 20.0
CAD: /POS1400
DIMS: 12x12x1

BILL RECIPIEN

TO

DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222

INV:
PO: REF:

DEPT:

TRK# 0215 8020 3169 6485

TUE - 05 F
PRIORITY OVERI

A8 BSMA

TX-US

CUSTODY SEAL
DATE 8.2.4.13
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Holly Energy Partners | Date Received: 2/5/2013

Work Order Number 1302037 | Received by JB

Checklist completed by: _____ 2/5/2013 (Signature / Date) | Reviewed by _____ 2/5/2013 (Initials / Date)

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.2 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc. **Date:** *12-Feb-13*

CLIENT: Holly Energy Partners
Project: South Hobbs GSA
Lab Order: 1302037

CASE NARRATIVE

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

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, ASTM D2216 and Standard Methods.

Samples were collected on Mountain Standard Time.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives, except where noted in the following. For TPH 8015 DRO Analysis, the recovery of one surrogate for all of the samples, with the exception of SB-2-40 and SB-1-4, the Matrix Spike and Matrix Spike Duplicate (1302037-01 MS/MSD) was outside of the method control limits, due to matrix. The remaining surrogate was within method control limits. The recoveries of both surrogates for Samples SB-2-40 and SB-1-4 were above the method control limits. These are flagged accordingly in the Analytical Data report and the QC Summary report. No further corrective action was taken.

For TPH 8015 DRO Analysis, the recovery of the Matrix Spike and the RPD of the Matrix Spike Duplicate (130-10 MS/MSD) were above the method control limits, due to nonhomogenous sample. These are flagged accordingly in the QC Summary report. The associated LCS was within method control limits. No further corrective action was taken.

For TPH 8015 DRO Analysis, Diesel range organics were detected below the reporting limit for Method Blank-55947. The associated samples detected greater than 10x the amount detected in the blank. No further corrective action was taken.

For TPH 8015 GRO Analysis, the recovery of surrogate Tetrachloroethene for six of the samples were above the method control limits, due to coelution and confirmed by reanalysis. These are flagged accordingly in the QC Summary report. No further corrective action was taken.

For Volatile Organics Analysis, samples were diluted due to hydrocarbons present in the samples.

For Volatile Organics Analysis, the recovery of one to two surrogates for six of the samples were above the method control limits. These are flagged accordingly in the Analytical Data Report. The remaining surrogates were within method control limits. No further corrective action was taken.

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-3-40
Project:	South Hobbs GSA	**Lab ID:**	1302037-01
Project No:		**Collection Date:**	01/31/13 03:30 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	3400	32.0	107		mg/Kg-dry	10	02/11/13 12:48 PM
Surr: Isopropylbenzene	105	0	47-142		%REC	10	02/11/13 12:48 PM
Surr: Octacosane	579	0	25-162	S	%REC	10	02/11/13 12:48 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	349	5.46	10.9		mg/Kg-dry	50	02/06/13 11:27 AM
Surr: Tetrachlorethene	159	0	70-134	S	%REC	50	02/06/13 11:27 AM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0546	0.273		mg/Kg-dry	50	02/06/13 12:35 PM
Ethylbenzene	2.47	0.0546	0.273		mg/Kg-dry	50	02/06/13 12:35 PM
m,p-Xylene	ND	0.0546	0.273		mg/Kg-dry	50	02/06/13 12:35 PM
o-Xylene	ND	0.0546	0.273		mg/Kg-dry	50	02/06/13 12:35 PM
Toluene	ND	0.0546	0.273		mg/Kg-dry	50	02/06/13 12:35 PM
Surr: 1,2-Dichloroethane-d4	99.9	0	52-149		%REC	50	02/06/13 12:35 PM
Surr: 4-Bromofluorobenzene	131	0	84-118	S	%REC	50	02/06/13 12:35 PM
Surr: Dibromofluoromethane	98.7	0	65-135		%REC	50	02/06/13 12:35 PM
Surr: Toluene-d8	107	0	84-116		%REC	50	02/06/13 12:35 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	8.50	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-3-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-02
Project No:		**Collection Date:**	01/31/13 03:45 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	1130	31.9	106		mg/Kg-dry	10	02/11/13 12:57 PM
Surr: Isopropylbenzene	60.5	0	47-142		%REC	10	02/11/13 12:57 PM
Surr: Octacosane	353	0	25-162	S	%REC	10	02/11/13 12:57 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	119	5.41	10.8		mg/Kg-dry	50	02/06/13 11:51 AM
Surr: Tetrachlorethene	114	0	70-134		%REC	50	02/06/13 11:51 AM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0541	0.270		mg/Kg-dry	50	02/06/13 01:07 PM
Ethylbenzene	0.450	0.0541	0.270		mg/Kg-dry	50	02/06/13 01:07 PM
m,p-Xylene	1.60	0.0541	0.270		mg/Kg-dry	50	02/06/13 01:07 PM
o-Xylene	ND	0.0541	0.270		mg/Kg-dry	50	02/06/13 01:07 PM
Toluene	ND	0.0541	0.270		mg/Kg-dry	50	02/06/13 01:07 PM
Surr: 1,2-Dichloroethane-d4	99.3	0	52-149		%REC	50	02/06/13 01:07 PM
Surr: 4-Bromofluorobenzene	113	0	84-118		%REC	50	02/06/13 01:07 PM
Surr: Dibromofluoromethane	97.6	0	65-135		%REC	50	02/06/13 01:07 PM
Surr: Toluene-d8	101	0	84-116		%REC	50	02/06/13 01:07 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	7.54	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-4-40
Project:	South Hobbs GSA	**Lab ID:**	1302037-03
Project No:		**Collection Date:**	02/01/13 10:25 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	1590	30.3	101		mg/Kg-dry	10	02/11/13 01:06 PM
Surr: Isopropylbenzene	80.6	0	47-142		%REC	10	02/11/13 01:06 PM
Surr: Octacosane	400	0	25-162	S	%REC	10	02/11/13 01:06 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	67.2	5.45	10.9		mg/Kg-dry	50	02/06/13 12:14 PM
Surr: Tetrachlorethene	106	0	70-134		%REC	50	02/06/13 12:14 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0545	0.272		mg/Kg-dry	50	02/06/13 01:39 PM
Ethylbenzene	0.113	0.0545	0.272	J	mg/Kg-dry	50	02/06/13 01:39 PM
m,p-Xylene	ND	0.0545	0.272		mg/Kg-dry	50	02/06/13 01:39 PM
o-Xylene	ND	0.0545	0.272		mg/Kg-dry	50	02/06/13 01:39 PM
Toluene	ND	0.0545	0.272		mg/Kg-dry	50	02/06/13 01:39 PM
Surr: 1,2-Dichloroethane-d4	100	0	52-149		%REC	50	02/06/13 01:39 PM
Surr: 4-Bromofluorobenzene	113	0	84-118		%REC	50	02/06/13 01:39 PM
Surr: Dibromofluoromethane	97.9	0	65-135		%REC	50	02/06/13 01:39 PM
Surr: Toluene-d8	97.3	0	84-116		%REC	50	02/06/13 01:39 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	8.25	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-4-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-04
Project No:		**Collection Date:**	02/01/13 10:35 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	1380	32.9	110		mg/Kg-dry	10	02/11/13 01:33 PM
Surr: Isopropylbenzene	93.2	0	47-142		%REC	10	02/11/13 01:33 PM
Surr: Octacosane	312	0	25-162	S	%REC	10	02/11/13 01:33 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	133	5.54	11.1		mg/Kg-dry	50	02/06/13 12:37 PM
Surr: Tetrachlorethene	119	0	70-134		%REC	50	02/06/13 12:37 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0554	0.277		mg/Kg-dry	50	02/06/13 02:10 PM
Ethylbenzene	0.638	0.0554	0.277		mg/Kg-dry	50	02/06/13 02:10 PM
m,p-Xylene	0.882	0.0554	0.277		mg/Kg-dry	50	02/06/13 02:10 PM
o-Xylene	ND	0.0554	0.277		mg/Kg-dry	50	02/06/13 02:10 PM
Toluene	ND	0.0554	0.277		mg/Kg-dry	50	02/06/13 02:10 PM
Surr: 1,2-Dichloroethane-d4	101	0	52-149		%REC	50	02/06/13 02:10 PM
Surr: 4-Bromofluorobenzene	114	0	84-118		%REC	50	02/06/13 02:10 PM
Surr: Dibromofluoromethane	95.6	0	65-135		%REC	50	02/06/13 02:10 PM
Surr: Toluene-d8	102	0	84-116		%REC	50	02/06/13 02:10 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	9.71	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-5-40
Project:	South Hobbs GSA	**Lab ID:**	1302037-05
Project No:		**Collection Date:**	02/01/13 02:25 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	2660	70.7	236		mg/Kg-dry	20	02/11/13 01:42 PM
Surr: Isopropylbenzene	96.5	0	47-142		%REC	20	02/11/13 01:42 PM
Surr: Octacosane	527	0	25-162	S	%REC	20	02/11/13 01:42 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	316	6.17	12.3		mg/Kg-dry	50	02/06/13 12:59 PM
Surr: Tetrachlorethene	154	0	70-134	S	%REC	50	02/06/13 12:59 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0617	0.309		mg/Kg-dry	50	02/06/13 02:40 PM
Ethylbenzene	2.64	0.0617	0.309		mg/Kg-dry	50	02/06/13 02:40 PM
m,p-Xylene	ND	0.0617	0.309		mg/Kg-dry	50	02/06/13 02:40 PM
o-Xylene	ND	0.0617	0.309		mg/Kg-dry	50	02/06/13 02:40 PM
Toluene	ND	0.0617	0.309		mg/Kg-dry	50	02/06/13 02:40 PM
Surr: 1,2-Dichloroethane-d4	99.4	0	52-149		%REC	50	02/06/13 02:40 PM
Surr: 4-Bromofluorobenzene	127	0	84-118	S	%REC	50	02/06/13 02:40 PM
Surr: Dibromofluoromethane	98.8	0	65-135		%REC	50	02/06/13 02:40 PM
Surr: Toluene-d8	115	0	84-116		%REC	50	02/06/13 02:40 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	19.0	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-5-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-06
Project No:		**Collection Date:**	02/01/13 02:40 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	932	31.3	104		mg/Kg-dry	10	02/11/13 01:51 PM
Surr: Isopropylbenzene	63.2	0	47-142		%REC	10	02/11/13 01:51 PM
Surr: Octacosane	266	0	25-162	S	%REC	10	02/11/13 01:51 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	48.2	5.48	11.0		mg/Kg-dry	50	02/06/13 01:22 PM
Surr: Tetrachlorethene	121	0	70-134		%REC	50	02/06/13 01:22 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0548	0.274		mg/Kg-dry	50	02/06/13 03:11 PM
Ethylbenzene	ND	0.0548	0.274		mg/Kg-dry	50	02/06/13 03:11 PM
m,p-Xylene	ND	0.0548	0.274		mg/Kg-dry	50	02/06/13 03:11 PM
o-Xylene	ND	0.0548	0.274		mg/Kg-dry	50	02/06/13 03:11 PM
Toluene	ND	0.0548	0.274		mg/Kg-dry	50	02/06/13 03:11 PM
Surr: 1,2-Dichloroethane-d4	99.5	0	52-149		%REC	50	02/06/13 03:11 PM
Surr: 4-Bromofluorobenzene	108	0	84-118		%REC	50	02/06/13 03:11 PM
Surr: Dibromofluoromethane	97.7	0	65-135		%REC	50	02/06/13 03:11 PM
Surr: Toluene-d8	98.0	0	84-116		%REC	50	02/06/13 03:11 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	8.68	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-6-28
Project:	South Hobbs GSA	**Lab ID:**	1302037-07
Project No:		**Collection Date:**	02/02/13 03:10 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	5670	66.2	221		mg/Kg-dry	20	02/11/13 02:01 PM
Surr: Isopropylbenzene	130	0	47-142		%REC	20	02/11/13 02:01 PM
Surr: Octacosane	891	0	25-162	S	%REC	20	02/11/13 02:01 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	330	5.61	11.2		mg/Kg-dry	50	02/06/13 01:46 PM
Surr: Tetrachlorethene	140	0	70-134	S	%REC	50	02/06/13 01:46 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0561	0.280		mg/Kg-dry	50	02/06/13 03:43 PM
Ethylbenzene	1.30	0.0561	0.280		mg/Kg-dry	50	02/06/13 03:43 PM
m,p-Xylene	4.12	0.0561	0.280		mg/Kg-dry	50	02/06/13 03:43 PM
o-Xylene	0.811	0.0561	0.280		mg/Kg-dry	50	02/06/13 03:43 PM
Toluene	ND	0.0561	0.280		mg/Kg-dry	50	02/06/13 03:43 PM
Surr: 1,2-Dichloroethane-d4	101	0	52-149		%REC	50	02/06/13 03:43 PM
Surr: 4-Bromofluorobenzene	125	0	84-118	S	%REC	50	02/06/13 03:43 PM
Surr: Dibromofluoromethane	98.3	0	65-135		%REC	50	02/06/13 03:43 PM
Surr: Toluene-d8	109	0	84-116		%REC	50	02/06/13 03:43 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	10.9	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-6-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-08
Project No:		**Collection Date:**	02/02/13 03:45 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	440	32.3	108		mg/Kg-dry	10	02/11/13 02:23 PM
Surr: Isopropylbenzene	54.1	0	47-142		%REC	10	02/11/13 02:23 PM
Surr: Octacosane	243	0	25-162	S	%REC	10	02/11/13 02:23 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	1.37	0.107	0.215		mg/Kg-dry	1	02/06/13 06:44 PM
Surr: Tetrachlorethene	128	0	70-134		%REC	1	02/06/13 06:44 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0573	0.287		mg/Kg-dry	50	02/06/13 04:14 PM
Ethylbenzene	ND	0.0573	0.287		mg/Kg-dry	50	02/06/13 04:14 PM
m,p-Xylene	ND	0.0573	0.287		mg/Kg-dry	50	02/06/13 04:14 PM
o-Xylene	ND	0.0573	0.287		mg/Kg-dry	50	02/06/13 04:14 PM
Toluene	ND	0.0573	0.287		mg/Kg-dry	50	02/06/13 04:14 PM
Surr: 1,2-Dichloroethane-d4	99.4	0	52-149		%REC	50	02/06/13 04:14 PM
Surr: 4-Bromofluorobenzene	109	0	84-118		%REC	50	02/06/13 04:14 PM
Surr: Dibromofluoromethane	96.2	0	65-135		%REC	50	02/06/13 04:14 PM
Surr: Toluene-d8	97.3	0	84-116		%REC	50	02/06/13 04:14 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	12.8	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-2-40
Project:	South Hobbs GSA	**Lab ID:**	1302037-09
Project No:		**Collection Date:**	02/02/13 10:15 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	6420	167	558		mg/Kg-dry	50	02/11/13 02:50 PM
Surr: Isopropylbenzene	199	0	47-142	S	%REC	50	02/11/13 02:50 PM
Surr: Octacosane	1040	0	25-162	S	%REC	50	02/11/13 02:50 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	614	5.63	11.3		mg/Kg-dry	50	02/06/13 02:31 PM
Surr: Tetrachlorethene	191	0	70-134	S	%REC	50	02/06/13 02:31 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0563	0.281		mg/Kg-dry	50	02/06/13 05:47 PM
Ethylbenzene	7.16	0.0563	0.281		mg/Kg-dry	50	02/06/13 05:47 PM
m,p-Xylene	ND	0.0563	0.281		mg/Kg-dry	50	02/06/13 05:47 PM
o-Xylene	ND	0.0563	0.281		mg/Kg-dry	50	02/06/13 05:47 PM
Toluene	ND	0.0563	0.281		mg/Kg-dry	50	02/06/13 05:47 PM
Surr: 1,2-Dichloroethane-d4	99.8	0	52-149		%REC	50	02/06/13 05:47 PM
Surr: 4-Bromofluorobenzene	143	0	84-118	S	%REC	50	02/06/13 05:47 PM
Surr: Dibromofluoromethane	97.5	0	65-135		%REC	50	02/06/13 05:47 PM
Surr: Toluene-d8	133	0	84-116	S	%REC	50	02/06/13 05:47 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	11.1	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-2-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-10
Project No:		**Collection Date:**	02/02/13 10:30 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	89.2	3.06	10.2		mg/Kg-dry	1	02/11/13 02:59 PM
Surr: Isopropylbenzene	41.1	0	47-142	S	%REC	1	02/11/13 02:59 PM
Surr: Octacosane	140	0	25-162		%REC	1	02/11/13 02:59 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	0.499	0.0970	0.194		mg/Kg-dry	1	02/06/13 07:07 PM
Surr: Tetrachlorethene	121	0	70-134		%REC	1	02/06/13 07:07 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0526	0.263		mg/Kg-dry	50	02/06/13 06:18 PM
Ethylbenzene	ND	0.0526	0.263		mg/Kg-dry	50	02/06/13 06:18 PM
m,p-Xylene	ND	0.0526	0.263		mg/Kg-dry	50	02/06/13 06:18 PM
o-Xylene	ND	0.0526	0.263		mg/Kg-dry	50	02/06/13 06:18 PM
Toluene	ND	0.0526	0.263		mg/Kg-dry	50	02/06/13 06:18 PM
Surr: 1,2-Dichloroethane-d4	108	0	52-149		%REC	50	02/06/13 06:18 PM
Surr: 4-Bromofluorobenzene	106	0	84-118		%REC	50	02/06/13 06:18 PM
Surr: Dibromofluoromethane	102	0	65-135		%REC	50	02/06/13 06:18 PM
Surr: Toluene-d8	94.6	0	84-116		%REC	50	02/06/13 06:18 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	4.89	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-7-44
Project:	South Hobbs GSA	**Lab ID:**	1302037-11
Project No:		**Collection Date:**	02/03/13 10:30 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	1470	29.7	99.2		mg/Kg-dry	10	02/11/13 03:08 PM
Surr: Isopropylbenzene	71.8	0	47-142		%REC	10	02/11/13 03:08 PM
Surr: Octacosane	383	0	25-162	S	%REC	10	02/11/13 03:08 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	77.8	5.22	10.4		mg/Kg-dry	50	02/06/13 04:03 PM
Surr: Tetrachlorethene	132	0	70-134		%REC	50	02/06/13 04:03 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0522	0.261		mg/Kg-dry	50	02/06/13 06:49 PM
Ethylbenzene	0.0856	0.0522	0.261	J	mg/Kg-dry	50	02/06/13 06:49 PM
m,p-Xylene	ND	0.0522	0.261		mg/Kg-dry	50	02/06/13 06:49 PM
o-Xylene	ND	0.0522	0.261		mg/Kg-dry	50	02/06/13 06:49 PM
Toluene	ND	0.0522	0.261		mg/Kg-dry	50	02/06/13 06:49 PM
Surr: 1,2-Dichloroethane-d4	106	0	52-149		%REC	50	02/06/13 06:49 PM
Surr: 4-Bromofluorobenzene	114	0	84-118		%REC	50	02/06/13 06:49 PM
Surr: Dibromofluoromethane	98.7	0	65-135		%REC	50	02/06/13 06:49 PM
Surr: Toluene-d8	98.2	0	84-116		%REC	50	02/06/13 06:49 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	4.13	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-7-50
Project:	South Hobbs GSA	**Lab ID:**	1302037-12
Project No:		**Collection Date:**	02/03/13 10:45 AM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	1240	31.5	105		mg/Kg-dry	10	02/11/13 03:17 PM
Surr: Isopropylbenzene	62.5	0	47-142		%REC	10	02/11/13 03:17 PM
Surr: Octacosane	428	0	25-162	S	%REC	10	02/11/13 03:17 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	26.6	5.35	10.7		mg/Kg-dry	50	02/06/13 04:26 PM
Surr: Tetrachlorethene	120	0	70-134		%REC	50	02/06/13 04:26 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	ND	0.0535	0.268		mg/Kg-dry	50	02/06/13 07:19 PM
Ethylbenzene	ND	0.0535	0.268		mg/Kg-dry	50	02/06/13 07:19 PM
m,p-Xylene	ND	0.0535	0.268		mg/Kg-dry	50	02/06/13 07:19 PM
o-Xylene	ND	0.0535	0.268		mg/Kg-dry	50	02/06/13 07:19 PM
Toluene	ND	0.0535	0.268		mg/Kg-dry	50	02/06/13 07:19 PM
Surr: 1,2-Dichloroethane-d4	104	0	52-149		%REC	50	02/06/13 07:19 PM
Surr: 4-Bromofluorobenzene	106	0	84-118		%REC	50	02/06/13 07:19 PM
Surr: Dibromofluoromethane	100	0	65-135		%REC	50	02/06/13 07:19 PM
Surr: Toluene-d8	97.6	0	84-116		%REC	50	02/06/13 07:19 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	6.55	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-1-4
Project:	South Hobbs GSA	**Lab ID:**	1302037-13
Project No:		**Collection Date:**	02/03/13 01:45 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	23700	671	2240		mg/Kg-dry	200	02/11/13 03:26 PM
Surr: Isopropylbenzene	729	0	47-142	S	%REC	200	02/11/13 03:26 PM
Surr: Octacosane	3110	0	25-162	S	%REC	200	02/11/13 03:26 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	1290	5.63	11.3		mg/Kg-dry	50	02/06/13 04:50 PM
Surr: Tetrachlorethene	197	0	70-134	S	%REC	50	02/06/13 04:50 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	1.95	0.0563	0.281		mg/Kg-dry	50	02/06/13 07:51 PM
Ethylbenzene	26.8	0.0563	0.281		mg/Kg-dry	50	02/06/13 07:51 PM
m,p-Xylene	22.5	0.0563	0.281		mg/Kg-dry	50	02/06/13 07:51 PM
o-Xylene	0.0909	0.0563	0.281	J	mg/Kg-dry	50	02/06/13 07:51 PM
Toluene	ND	0.0563	0.281		mg/Kg-dry	50	02/06/13 07:51 PM
Surr: 1,2-Dichloroethane-d4	103	0	52-149		%REC	50	02/06/13 07:51 PM
Surr: 4-Bromofluorobenzene	136	0	84-118	S	%REC	50	02/06/13 07:51 PM
Surr: Dibromofluoromethane	97.2	0	65-135		%REC	50	02/06/13 07:51 PM
Surr: Toluene-d8	140	0	84-116	S	%REC	50	02/06/13 07:51 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	11.1	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-1-42
Project:	South Hobbs GSA	**Lab ID:**	1302037-14
Project No:		**Collection Date:**	02/03/13 02:00 PM
Lab Order:	1302037	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	4070	316	1050		mg/Kg-dry	100	02/11/13 03:35 PM
Surr: Isopropylbenzene	112	0	47-142		%REC	100	02/11/13 03:35 PM
Surr: Octacosane	961	0	25-162	S	%REC	100	02/11/13 03:35 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	402	5.43	10.9		mg/Kg-dry	50	02/06/13 05:12 PM
Surr: Tetrachlorethene	154	0	70-134	S	%REC	50	02/06/13 05:12 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.0762	0.0543	0.272	J	mg/Kg-dry	50	02/06/13 08:22 PM
Ethylbenzene	7.22	0.0543	0.272		mg/Kg-dry	50	02/06/13 08:22 PM
m,p-Xylene	0.370	0.0543	0.272		mg/Kg-dry	50	02/06/13 08:22 PM
o-Xylene	ND	0.0543	0.272		mg/Kg-dry	50	02/06/13 08:22 PM
Toluene	ND	0.0543	0.272		mg/Kg-dry	50	02/06/13 08:22 PM
Surr: 1,2-Dichloroethane-d4	103	0	52-149		%REC	50	02/06/13 08:22 PM
Surr: 4-Bromofluorobenzene	128	0	84-118	S	%REC	50	02/06/13 08:22 PM
Surr: Dibromofluoromethane	96.5	0	65-135		%REC	50	02/06/13 08:22 PM
Surr: Toluene-d8	118	0	84-116	S	%REC	50	02/06/13 08:22 PM
PERCENT MOISTURE		**D2216**					Analyst: **JCG**
Percent Moisture	7.97	0	0		WT%	1	02/12/13 08:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *12-Feb-13*

CLIENT: Holly Energy Partners
Work Order: 1302037
Project: South Hobbs GSA

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_130211A

The QC data in batch 55947 applies to the following samples: 1302037-01B, 1302037-02B, 1302037-03B, 1302037-04B, 1302037-05B, 1302037-06B, 1302037-07B, 1302037-08B, 1302037-09B, 1302037-10B, 1302037-11B, 1302037-12B, 1302037-13B, 1302037-14B

Sample ID: **LCS-55947** Batch ID: **55947** TestNo: **M8015D** Units: **mg/Kg**
SampType: **LCS** Run ID: **GC15_130211A** Analysis Date: **2/11/2013 12:21:53 PM** Prep Date: **2/7/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	101	10.0	125.0	0	81.0	50	114			
Surr: Isopropylbenzene	4.01		7.500		53.5	47	142			
Surr: Octacosane	6.39		7.500		85.2	25	162			

Sample ID: **MB-55947** Batch ID: **55947** TestNo: **M8015D** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GC15_130211A** Analysis Date: **2/11/2013 12:39:51 PM** Prep Date: **2/7/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	3.94	10.0								
Surr: Isopropylbenzene	4.70		7.500		62.6	47	142			
Surr: Octacosane	6.56		7.500		87.5	25	162			

Sample ID: **1302037-10BMS** Batch ID: **55947** TestNo: **M8015D** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GC15_130211A** Analysis Date: **2/11/2013 4:01:59 PM** Prep Date: **2/7/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	287	9.74	121.8	89.19	163	50	114			S
Surr: Isopropylbenzene	4.46		7.308		61.0	47	142			
Surr: Octacosane	12.1		7.308		166	25	162			S

Sample ID: **1302037-10BMSD** Batch ID: **55947** TestNo: **M8015D** Units: **mg/Kg-dry**
SampType: **MSD** Run ID: **GC15_130211A** Analysis Date: **2/11/2013 4:10:56 PM** Prep Date: **2/7/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	190	10.4	129.6	89.19	78.0	50	114	40.6	30	R
Surr: Isopropylbenzene	3.40		7.777		43.8	47	142	0	0	S
Surr: Octacosane	10.5		7.777		136	25	162	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302037
Project: South Hobbs GSA

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_130206A

The QC data in batch 55931 applies to the following samples: 1302037-01B, 1302037-02B, 1302037-03B, 1302037-04B, 1302037-05B, 1302037-06B, 1302037-07B, 1302037-08B, 1302037-09B, 1302037-10B, 1302037-11B, 1302037-12B, 1302037-13B, 1302037-14B

Sample ID: **LCS-55931** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg**
SampType: **LCS** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 8:27:20 AM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.76	0.200	5.000	0	95.2	68	126			
Surr: Tetrachlorethene	0.216		0.2000		108	70	134			

Sample ID: **MB-55931** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 9:12:09 AM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.232		0.2000		116	70	134			

Sample ID: **LCS-55931 MEOH** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg**
SampType: **LCS** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 7:30:59 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.68	0.200	5.000	0	93.5	68	126			
Surr: Tetrachlorethene	0.237		0.2000		119	70	134			

Sample ID: **MB-55931 MEOH** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 8:17:39 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.238		0.2000		119	70	134			

Sample ID: **1302037-12BMS** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 8:40:48 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	254	10.7	267.5	26.57	85.2	68	126			
Surr: Tetrachlorethene	11.6		10.70		109	70	134			

Sample ID: **1302037-12BMSD** Batch ID: **55931** TestNo: **M8015V** Units: **mg/Kg-dry**
SampType: **MSD** Run ID: **GC4_130206A** Analysis Date: **2/6/2013 9:04:04 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	263	10.7	267.5	26.57	88.4	68	126	3.31	30	
Surr: Tetrachlorethene	12.0		10.70		112	70	134	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302037
Project: South Hobbs GSA

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS1_130206A

The QC data in batch 55939 applies to the following samples: 1302037-01A, 1302037-02A, 1302037-03A, 1302037-04A, 1302037-05A, 1302037-06A, 1302037-07A, 1302037-08A, 1302037-09A, 1302037-10A, 1302037-11A, 1302037-12A, 1302037-13A, 1302037-14A

Sample ID: **LCS-55939** Batch ID: **55939** TestNo: **SW8260C** Units: **mg/Kg**
SampType: **LCS** Run ID: **GCMS1_130206A** Analysis Date: **2/6/2013 11:30:00 AM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0212	0.00500	0.0232	0	91.4	75	125			
Ethylbenzene	0.0196	0.00500	0.0232	0	84.4	75	125			
m,p-Xylene	0.0399	0.00500	0.0464	0	86.1	80	125			
o-Xylene	0.0196	0.00500	0.0232	0	84.5	77	125			
Toluene	0.0216	0.00500	0.0232	0	93.0	75	125			
Surr: 1,2-Dichloroethane-d4	51.8		50.00		104	52	149			
Surr: 4-Bromofluorobenzene	51.7		50.00		103	84	118			
Surr: Dibromofluoromethane	50.1		50.00		100	65	135			
Surr: Toluene-d8	48.8		50.00		97.5	84	116			

Sample ID: **MB-55939** Batch ID: **55939** TestNo: **SW8260C** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GCMS1_130206A** Analysis Date: **2/6/2013 12:04:00 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00500								
Ethylbenzene	ND	0.00500								
m,p-Xylene	ND	0.00500								
o-Xylene	ND	0.00500								
Toluene	ND	0.00500								
Surr: 1,2-Dichloroethane-d4	49.4		50.00		98.7	52	149			
Surr: 4-Bromofluorobenzene	52.4		50.00		105	84	118			
Surr: Dibromofluoromethane	50.5		50.00		101	65	135			
Surr: Toluene-d8	49.4		50.00		98.7	84	116			

Sample ID: **1302037-03AMS** Batch ID: **55939** TestNo: **SW8260C** Units: **mg/Kg-dry**
SampType: **MS** Run ID: **GCMS1_130206A** Analysis Date: **2/6/2013 4:46:00 PM** Prep Date: **2/6/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.27	0.272	1.26	0	100	73	126			
Ethylbenzene	1.27	0.272	1.26	0.113	91.4	74	127			
m,p-Xylene	2.34	0.272	2.53	0	92.6	79	126			
o-Xylene	1.14	0.272	1.26	0	90.4	77	125			
Toluene	1.27	0.272	1.26	0	100	71	127			
Surr: 1,2-Dichloroethane-d4	2700		2725		99.1	52	149			
Surr: 4-Bromofluorobenzene	3170		2725		116	84	118			
Surr: Dibromofluoromethane	2670		2725		98.1	65	135			
Surr: Toluene-d8	2690		2725		98.6	84	116			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302037
Project: South Hobbs GSA

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS1_130206A

Sample ID: **1302037-03AMSD**	Batch ID: **55939**	TestNo: **SW8260C**	Units: **mg/Kg-dry**		
SampType: **MSD**	Run ID: **GCMS1_130206A**	Analysis Date: **2/6/2013 5:17:00 PM**	Prep Date: **2/6/2013**		

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.25	0.272	1.26	0	99.2	73	126	0.969	30	
Ethylbenzene	1.27	0.272	1.26	0.113	91.5	74	127	0.094	30	
m,p-Xylene	2.33	0.272	2.53	0	92.2	79	126	0.439	30	
o-Xylene	1.12	0.272	1.26	0	88.9	77	125	1.64	30	
Toluene	1.26	0.272	1.26	0	99.4	71	127	0.687	30	
Surr: 1,2-Dichloroethane-d4	2780		2725		102	52	149	0	0	
Surr: 4-Bromofluorobenzene	3040		2725		111	84	118	0	0	
Surr: Dibromofluoromethane	2680		2725		98.5	65	135	0	0	
Surr: Toluene-d8	2700		2725		99.1	84	116	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302037
Project: South Hobbs GSA

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_130211A

The QC data in batch 56014 applies to the following samples: 1302037-01B, 1302037-02B, 1302037-03B, 1302037-04B, 1302037-05B, 1302037-06B, 1302037-07B, 1302037-08B, 1302037-09B, 1302037-10B, 1302037-11B, 1302037-12B, 1302037-13B, 1302037-14B

Sample ID: **1302037-14B-DUP** Batch ID: **56014** TestNo: **D2216** Units: **WT%**
SampType: **DUP** Run ID: **PMOIST_130211A** Analysis Date: **2/12/2013 8:50:00 AM** Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	7.39	0	0	7.968				7.57	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

February 15, 2013

Bill Green
Holly Energy Partners
1602 W. Main
Artesisa, NM 88210
TEL: (575) 748-8968
FAX (575) 748-4052

Order No.: 1302079

RE: South Hobbs GSA (Holly Energy Partners)

Dear Bill Green:

DHL Analytical, Inc. received 6 sample(s) on 2/8/2013 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: T104704211-12-9

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DHL ANALYTICAL
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

№ 58823

CHAIN-OF-CUSTODY

CLIENT: CRA
ADDRESS: 14998 W. 6th Ave #800
PHONE: 720.974.0935 FAX/E-MAIL: bstephenson@craworld.com
DATA REPORTED TO: Brad Stephenson
ADDITIONAL REPORT COPIES TO: jcovey@craworld.com

DATE: 2.6.13 PAGE 1 OF 1
PO #: DHL WORK ORDER #: 1302079
PROJECT LOCATION OR NAME: South Hobbs GSA (Holly Energy Partners)
CLENT PROJECT #: COLLECTOR:

Authorize 5% surcharge for TRRP Report? ☐ Yes ☐ No

S=SOIL P=PAINT W=WATER SL=SLUDGE A=AIR O=OTHER L=LIQUID SO=SOLID

PRESERVATION: HCl, HNO_3, H_2SO_4 ☐ NaOH ☐, ICE, UNPRESERVED

ANALYSES: BTEX ☐ MTBE ☐ TMETHOD 8021) TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ GRO (METHOD 8015) ☒ DRO (METHOD 8105) ☒ VOC 8260 ☒ VOC 624 ☐ VOC 8260/5035 ☐ SVOC 8270 ☐ PAH 8270 ☐ HOLD PAH ☐ SVOC 625 ☐ 8081 PEST ☐ 608 PEST/PCB ☐ 8270 PEST ☐ 8270 PCB ☐ 8270 O-P PEST ☐ 8082 PCB ☐ 8330 EXPL ☐ PERCHLORATE ☐ 8321 HERB ☐ 8330 EXPL ☐ PERCHLORATE ☐ METALS 6020 ☐ METALS 200.8 ☐ DISS. METALS ☐ ☐ RCRA ☐ TX11 ☐ PH ☐ HEX CHROM ☐ ALKALINITY ☐ CHLORIDE ☐ ANIONS ☐ TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ RCI ☐ TOX ☐ FLASHPOINT ☐ TDS ☐ TSS ☐ % MOISTURE ☐ CYANIDE ☐

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO_3	H_2SO_4 ☐ NaOH ☐	ICE	UNPRESERVED	ANALYSES	FIELD NOTES
SB-8-16	01	2.[illegible].13	1600	S	4oz Jars	2				X		BTEX 8260	
SB-8-48	02	"	1615	"	"	"				"		"	
HSRW-2-38	03	2.5.13	1045	"	"	1				"		"	
HSRW-2-52	04	"	1100	"	"	"				"		"	
HSRW-1-16	05	2.6.13	0930	"	"	"				"		"	
HSRW-1-48	06	"	1015	"	"	"				"		"	

TOTAL

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	2.7.13/1100	FEDEX
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	2/8/13	830
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

☐ DHL DISPOSAL @ $5.00 each ☐ Return

TURN AROUND TIME
RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐ _____

LABORATORY USE ONLY:
RECEIVING TEMP: 2.8 THERM #: 57
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
☒ CARRIER BILL #: Fedex
☐ APC DELIVERY
☐ HAND DELIVERED

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8022 2466 3329

Form ID No. 0200

1 From
Date 4.7.13
Sender's Name JUSTIN LOVEY Phone 720 837.9843
Company CRA
Address 14998 W. 6th Ave 800
Dept/Floor/Suite/Room
City Golden State CO ZIP 80401

2 Your Internal Billing Reference

3 To
Recipient's Name JENNIFER BARKER Phone 512 388.8222
Company DHL ANALYTICAL
Address 2300 Double Creek DR
We cannot deliver to P.O. boxes or P.O. ZIP codes.
Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City Round Rock State TX ZIP 78664

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8022 2466 3329

4 Express Package Service * To most locations
NOTE: Service order has changed. Please select carefully.

Next Business Day
- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
FedEx Envelope* FedEx Pak*

6 Special Handling and Delivery Signature
SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx
No Signature Required Package may be left without obtaining a signature for delivery.
Direct Signature Someone at recipient may sign for delivery.

Does this shipment contain dangerous goods?
One box must be checked.
No | Yes As per attached Shipper's Declaration. | Yes Shipper's Declaration not required.
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment Bill to:
Enter FedEx Acct. No. or Credit
Sender Acct. No. in Section 1 will be billed. | [x] Recipient | Third Party
Total Packages Total Weight 30 lbs.
Our liability is limited to US$100 unless you declare a higher value. See the current Fed

Rev. Date 1/12 • Part #157002 • ©2012 FedEx • PRINTED IN U.S.A. SRF

UNITED STATES US
TO JENNIFER BARKER
DHL ANALYTICAL
2300 DOUBLE CREEK
ROUND ROCK TX 78
(512) 388-8222 REF:
INV:
PO:

TRK# 0200 8022 2466 3329

A8 BSMA

CUSTODY SEAL
DATE 4.7.13
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Holly Energy Partners | Date Received: 2/8/2013

Work Order Number 1302079 | Received by JB

Checklist completed by: _____ 2/8/2013 (Signature / Date) | Reviewed by _____ 2/8/2013 (Initials / Date)

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	2.8 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

Page 1 of 1

DHL Analytical, Inc. **Date:** *15-Feb-13*

CLIENT:	Holly Energy Partners
Project:	South Hobbs GSA (Holly Energy Partners)
Lab Order:	1302079

CASE NARRATIVE

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

Samples were collected on Mountain Standard Time.

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, Standard Methods and ASTM D2216.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives, except where noted in the following. For DRO Analysis, the recovery of surrogate Octacosane for Sample SB-8-16 and the recovery of Isopropylbenzene for the Laboratory Control Spike (LCS-56023) were outside of the method control limits. These are flagged accordingly in the Analytical Data report and the QC Summary report. The remaining surrogate for these samples is within method control limits. No further corrective action was taken.

For DRO Analysis, the recoveries of both surrogates for Sample SB-8-48, the Matrix Spike and Matrix Spike Duplicate (1302079-02 MS/MSD) were outside of the method control limits. These are flagged accordingly in the Analytical Data report and the QC Summary report. No further corrective action was taken.

For DRO Analysis, the recoveries of the Matrix Spike and the Matrix Spike Duplicate (1302079-02 MS/MSD) were above the method control limits. These are flagged accordingly in the QC Summary Report. The associated LCS was within method control limits. No further corrective action was taken.

For DRO Analysis, diesel range organics was detected below the reporting limit for Method Blank-56023. The associated samples detected greater than 10 the amount detected in the blank. No further corrective action was taken.

For GRO Analysis, the recovery of surrogate Tetrachloroethene for Sample SB-8-16 was above the method control limits. This is flagged accordingly in the Analytical Data Report, due to matrix and confirmed by reanalysis. No further corrective action was taken.

For Volatiles Organics Analysis, the recoveries of surrogates 4-Bromofluorobenzene and Toluene-d8 for Sample SB-8-16, HSRW-2-38 and HSRW-1-48 were above the method control limits. These are flagged accordingly in the Analytical Data Report. No further corrective action was taken.

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-8-16
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-01
Project No:		**Collection Date:**	02/04/13 04:00 PM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	11200	158	528		mg/Kg-dry	50	02/13/13 02:12 PM
Surr: Isopropylbenzene	107	0	47-142		%REC	50	02/13/13 02:12 PM
Surr: Octacosane	1600	0	25-162	S	%REC	50	02/13/13 02:12 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	1440	11.2	22.4		mg/Kg-dry	100	02/08/13 03:38 PM
Surr: Tetrachlorethene	165	0	70-134	S	%REC	100	02/08/13 03:38 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.591	0.0561	0.281		mg/Kg-dry	50	02/11/13 08:40 PM
Ethylbenzene	20.7	0.0561	0.281		mg/Kg-dry	50	02/11/13 08:40 PM
m,p-Xylene	15.0	0.0561	0.281		mg/Kg-dry	50	02/11/13 08:40 PM
o-Xylene	0.776	0.0561	0.281		mg/Kg-dry	50	02/11/13 08:40 PM
Toluene	1.84	0.0561	0.281		mg/Kg-dry	50	02/11/13 08:40 PM
Surr: 1,2-Dichloroethane-d4	99.4	0	52-149		%REC	50	02/11/13 08:40 PM
Surr: 4-Bromofluorobenzene	160	0	84-118	S	%REC	50	02/11/13 08:40 PM
Surr: Dibromofluoromethane	96.6	0	65-135		%REC	50	02/11/13 08:40 PM
Surr: Toluene-d8	137	0	84-116	S	%REC	50	02/11/13 08:40 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	10.9	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	SB-8-48
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-02
Project No:		**Collection Date:**	02/04/13 04:15 PM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH EXTRACTABLE BY GC - SOIL		**M8015D**					Analyst: **AJR**
TPH-DRO C10-C28	3040	63.6	212		mg/Kg-dry	20	02/13/13 02:03 PM
Surr: Isopropylbenzene	8.67	0	47-142	S	%REC	20	02/13/13 02:03 PM
Surr: Octacosane	621	0	25-162	S	%REC	20	02/13/13 02:03 PM
TPH PURGEABLE BY GC - SOIL		**M8015V**					Analyst: **DEW**
Gasoline Range Organics	197	5.35	10.7		mg/Kg-dry	50	02/08/13 04:00 PM
Surr: Tetrachlorethene	114	0	70-134		%REC	50	02/08/13 04:00 PM
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.138	0.0535	0.267	J	mg/Kg-dry	50	02/11/13 09:11 PM
Ethylbenzene	1.83	0.0535	0.267		mg/Kg-dry	50	02/11/13 09:11 PM
m,p-Xylene	1.77	0.0535	0.267		mg/Kg-dry	50	02/11/13 09:11 PM
o-Xylene	0.250	0.0535	0.267	J	mg/Kg-dry	50	02/11/13 09:11 PM
Toluene	0.878	0.0535	0.267		mg/Kg-dry	50	02/11/13 09:11 PM
Surr: 1,2-Dichloroethane-d4	101	0	52-149		%REC	50	02/11/13 09:11 PM
Surr: 4-Bromofluorobenzene	118	0	84-118		%REC	50	02/11/13 09:11 PM
Surr: Dibromofluoromethane	97.5	0	65-135		%REC	50	02/11/13 09:11 PM
Surr: Toluene-d8	101	0	84-116		%REC	50	02/11/13 09:11 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	6.53	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	HSRW-2-38
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-03
Project No:		**Collection Date:**	02/05/13 10:45 AM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.00402	0.000924	0.00462	J	mg/Kg-dry	1	02/11/13 02:21 PM
Ethylbenzene	1.65	0.0550	0.275		mg/Kg-dry	50	02/11/13 07:05 PM
m,p-Xylene	1.64	0.0550	0.275		mg/Kg-dry	50	02/11/13 07:05 PM
o-Xylene	0.285	0.0550	0.275		mg/Kg-dry	50	02/11/13 07:05 PM
Toluene	0.373	0.0550	0.275		mg/Kg-dry	50	02/11/13 07:05 PM
Surr: 1,2-Dichloroethane-d4	97.7	0	52-149		%REC	50	02/11/13 07:05 PM
Surr: 1,2-Dichloroethane-d4	112	0	52-149		%REC	1	02/11/13 02:21 PM
Surr: 4-Bromofluorobenzene	118	0	84-118		%REC	50	02/11/13 07:05 PM
Surr: 4-Bromofluorobenzene	206	0	84-118	S	%REC	1	02/11/13 02:21 PM
Surr: Dibromofluoromethane	98.0	0	65-135		%REC	50	02/11/13 07:05 PM
Surr: Dibromofluoromethane	101	0	65-135		%REC	1	02/11/13 02:21 PM
Surr: Toluene-d8	100	0	84-116		%REC	50	02/11/13 07:05 PM
Surr: Toluene-d8	135	0	84-116	S	%REC	1	02/11/13 02:21 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	9.02	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	HSRW-2-52
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-04
Project No:		**Collection Date:**	02/05/13 11:00 AM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	1.75	0.512	2.56	J	mg/Kg-dry	500	02/13/13 01:30 PM
Ethylbenzene	39.5	0.512	2.56		mg/Kg-dry	500	02/13/13 01:30 PM
m,p-Xylene	33.8	0.512	2.56		mg/Kg-dry	500	02/13/13 01:30 PM
o-Xylene	12.7	0.512	2.56		mg/Kg-dry	500	02/13/13 01:30 PM
Toluene	20.9	0.512	2.56		mg/Kg-dry	500	02/13/13 01:30 PM
Surr: 1,2-Dichloroethane-d4	99.9	0	52-149		%REC	500	02/13/13 01:30 PM
Surr: 4-Bromofluorobenzene	112	0	84-118		%REC	500	02/13/13 01:30 PM
Surr: Dibromofluoromethane	100	0	65-135		%REC	500	02/13/13 01:30 PM
Surr: Toluene-d8	101	0	84-116		%REC	500	02/13/13 01:30 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	2.26	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	HSRW-1-16
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-05
Project No:		**Collection Date:**	02/06/13 09:30 AM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.00113	0.00104	0.00518	J	mg/Kg-dry	1	02/11/13 02:52 PM
Ethylbenzene	0.104	0.00104	0.00518		mg/Kg-dry	1	02/11/13 02:52 PM
m,p-Xylene	0.154	0.00104	0.00518		mg/Kg-dry	1	02/11/13 02:52 PM
o-Xylene	0.0137	0.00104	0.00518		mg/Kg-dry	1	02/11/13 02:52 PM
Toluene	0.0409	0.00104	0.00518		mg/Kg-dry	1	02/11/13 02:52 PM
Surr: 1,2-Dichloroethane-d4	107	0	52-149		%REC	1	02/11/13 02:52 PM
Surr: 4-Bromofluorobenzene	114	0	84-118		%REC	1	02/11/13 02:52 PM
Surr: Dibromofluoromethane	100	0	65-135		%REC	1	02/11/13 02:52 PM
Surr: Toluene-d8	101	0	84-116		%REC	1	02/11/13 02:52 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	10.7	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:					
	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT:	Holly Energy Partners	**Client Sample ID:**	HSRW-1-48
Project:	South Hobbs GSA (Holly Energy Partners)	**Lab ID:**	1302079-06
Project No:		**Collection Date:**	02/06/13 10:15 AM
Lab Order:	1302079	**Matrix:**	SOIL

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
8260 SOIL VOLATILES BY GC/MS		**SW8260C**					Analyst: **KL**
Benzene	0.0187	0.000917	0.00458		mg/Kg-dry	1	02/11/13 03:23 PM
Ethylbenzene	2.68	0.0535	0.268		mg/Kg-dry	50	02/11/13 08:08 PM
m,p-Xylene	2.55	0.0535	0.268		mg/Kg-dry	50	02/11/13 08:08 PM
o-Xylene	0.675	0.0535	0.268		mg/Kg-dry	50	02/11/13 08:08 PM
Toluene	0.952	0.0535	0.268		mg/Kg-dry	50	02/11/13 08:08 PM
Surr: 1,2-Dichloroethane-d4	101	0	52-149		%REC	50	02/11/13 08:08 PM
Surr: 1,2-Dichloroethane-d4	106	0	52-149		%REC	1	02/11/13 03:23 PM
Surr: 4-Bromofluorobenzene	115	0	84-118		%REC	50	02/11/13 08:08 PM
Surr: 4-Bromofluorobenzene	208	0	84-118	S	%REC	1	02/11/13 03:23 PM
Surr: Dibromofluoromethane	98.0	0	65-135		%REC	50	02/11/13 08:08 PM
Surr: Dibromofluoromethane	101	0	65-135		%REC	1	02/11/13 03:23 PM
Surr: Toluene-d8	99.0	0	84-116		%REC	50	02/11/13 08:08 PM
Surr: Toluene-d8	132	0	84-116	S	%REC	1	02/11/13 03:23 PM
PERCENT MOISTURE		**D2216**					Analyst: **MK**
Percent Moisture	6.60	0	0		WT%	1	02/15/13 10:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: *15-Feb-13*

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GC15_130213A

The QC data in batch 56023 applies to the following samples: 1302079-01B, 1302079-02B

Sample ID: **LCS-56023**	Batch ID: **56023**	TestNo: **M8015D**	Units: **mg/Kg**
SampType: **LCS**	Run ID: **GC15_130213A**	Analysis Date: **2/13/2013 1:18:19 PM**	Prep Date: **2/12/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	104	10.0	125.0	0	82.9	50	114			
Surr: Isopropylbenzene	3.37		7.500		44.9	47	142			S
Surr: Octacosane	6.35		7.500		84.7	25	162			

Sample ID: **MB-56023**	Batch ID: **56023**	TestNo: **M8015D**	Units: **mg/Kg**
SampType: **MBLK**	Run ID: **GC15_130213A**	Analysis Date: **2/13/2013 1:36:17 PM**	Prep Date: **2/12/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	3.67	10.0								
Surr: Isopropylbenzene	4.61		7.500		61.4	47	142			
Surr: Octacosane	6.32		7.500		84.2	25	162			

Sample ID: **1302079-02BMS**	Batch ID: **56023**	TestNo: **M8015D**	Units: **mg/Kg-dry**
SampType: **MS**	Run ID: **GC15_130213A**	Analysis Date: **2/13/2013 2:30:23 PM**	Prep Date: **2/12/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	3230	214	133.6	3042	142	50	114			S
Surr: Isopropylbenzene	0.713		8.016		8.89	47	142			S
Surr: Octacosane	48.8		8.016		609	25	162			S

Sample ID: **1302079-02BMSD**	Batch ID: **56023**	TestNo: **M8015D**	Units: **mg/Kg-dry**
SampType: **MSD**	Run ID: **GC15_130213A**	Analysis Date: **2/13/2013 2:39:20 PM**	Prep Date: **2/12/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	3330	200	125.2	3042	234	50	114	3.13	30	S
Surr: Isopropylbenzene	0.776		7.513		10.3	47	142	0	0	S
Surr: Octacosane	51.8		7.513		690	25	162	0	0	S

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_130208A

The QC data in batch 55984 applies to the following samples: 1302079-01B, 1302079-02B

Sample ID: LCS-55984	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg
SampType: LCS	Run ID: GC4_130208A	Analysis Date: 2/8/2013 11:46:33 AM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.69	0.200	5.000	0	93.8	68	126			
Surr: Tetrachlorethene	0.210		0.2000		105	70	134			

Sample ID: MB-55984	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg
SampType: MBLK	Run ID: GC4_130208A	Analysis Date: 2/8/2013 12:32:25 PM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.205		0.2000		102	70	134			

Sample ID: LCS-55984 MEOH	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg
SampType: LCS	Run ID: GC4_130208A	Analysis Date: 2/8/2013 2:28:40 PM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.73	0.200	5.000	0	94.6	68	126			
Surr: Tetrachlorethene	0.214		0.2000		107	70	134			

Sample ID: MB-55984 MEOH	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg
SampType: MBLK	Run ID: GC4_130208A	Analysis Date: 2/8/2013 3:14:41 PM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.192		0.2000		96.0	70	134			

Sample ID: 1302079-02BMS	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg-dry
SampType: MS	Run ID: GC4_130208A	Analysis Date: 2/8/2013 4:22:58 PM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	402	10.7	267.5	196.9	76.8	68	126			
Surr: Tetrachlorethene	12.0		10.70		112	70	134			

Sample ID: 1302079-02BMSD	Batch ID: 55984	TestNo: M8015V	Units: mg/Kg-dry
SampType: MSD	Run ID: GC4_130208A	Analysis Date: 2/8/2013 4:45:57 PM	Prep Date: 2/8/2013

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	411	10.7	267.5	196.9	80.1	68	126	2.19	30	
Surr: Tetrachlorethene	11.7		10.70		109	70	134	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS1_130211B

The QC data in batch 56000 applies to the following samples: 1302079-01A, 1302079-02A, 1302079-03A, 1302079-04A, 1302079-05A, 1302079-06A

Sample ID: **LCS-56000** Batch ID: **56000** TestNo: **SW8260C** Units: **mg/Kg**
SampType: **LCS** Run ID: **GCMS1_130211B** Analysis Date: **2/11/2013 10:05:00 AM** Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0241	0.00500	0.0232	0	104	75	125			
Ethylbenzene	0.0214	0.00500	0.0232	0	92.4	75	125			
m,p-Xylene	0.0429	0.00500	0.0464	0	92.5	80	125			
o-Xylene	0.0207	0.00500	0.0232	0	89.1	77	125			
Toluene	0.0239	0.00500	0.0232	0	103	75	125			
Surr: 1,2-Dichloroethane-d4	53.1		50.00		106	52	149			
Surr: 4-Bromofluorobenzene	52.1		50.00		104	84	118			
Surr: Dibromofluoromethane	51.8		50.00		104	65	135			
Surr: Toluene-d8	47.6		50.00		95.1	84	116			

Sample ID: **MB-56000** Batch ID: **56000** TestNo: **SW8260C** Units: **mg/Kg**
SampType: **MBLK** Run ID: **GCMS1_130211B** Analysis Date: **2/11/2013 10:38:00 AM** Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00500								
Ethylbenzene	ND	0.00500								
m,p-Xylene	ND	0.00500								
o-Xylene	ND	0.00500								
Toluene	ND	0.00500								
Surr: 1,2-Dichloroethane-d4	49.1		50.00		98.2	52	149			
Surr: 4-Bromofluorobenzene	52.5		50.00		105	84	118			
Surr: Dibromofluoromethane	49.9		50.00		99.9	65	135			
Surr: Toluene-d8	48.2		50.00		96.4	84	116			

Sample ID: **1302088-02AMS** Batch ID: **56000** TestNo: **SW8260C** Units: **mg/Kg**
SampType: **MS** Run ID: **GCMS1_130211B** Analysis Date: **2/11/2013 4:26:00 PM** Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0241	0.00488	0.0227	0	106	73	126			
Ethylbenzene	0.0224	0.00488	0.0227	0	99.0	74	127			
m,p-Xylene	0.0445	0.00488	0.0453	0	98.2	79	126			
o-Xylene	0.0213	0.00488	0.0227	0	94.2	77	125			
Toluene	0.0243	0.00488	0.0227	0	107	71	127			
Surr: 1,2-Dichloroethane-d4	49.2		48.83		101	52	149			
Surr: 4-Bromofluorobenzene	51.5		48.83		106	84	118			
Surr: Dibromofluoromethane	49.0		48.83		100	65	135			
Surr: Toluene-d8	47.2		48.83		96.7	84	116			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS1_130211B

Sample ID: **1302088-02AMSD**	Batch ID: **56000**	TestNo: **SW8260C**	Units: **mg/Kg**
SampType: **MSD**	Run ID: **GCMS1_130211B**	Analysis Date: **2/11/2013 4:58:00 PM**	Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0231	0.00473	0.0220	0	105	73	126	4.25	30	
Ethylbenzene	0.0209	0.00473	0.0220	0	95.1	74	127	7.12	30	
m,p-Xylene	0.0417	0.00473	0.0439	0	95.0	79	126	6.45	30	
o-Xylene	0.0200	0.00473	0.0220	0	91.0	77	125	6.53	30	
Toluene	0.0234	0.00473	0.0220	0	106	71	127	4.01	30	
Surr: 1,2-Dichloroethane-d4	49.9		47.35		105	52	149	0	0	
Surr: 4-Bromofluorobenzene	50.4		47.35		106	84	118	0	0	
Surr: Dibromofluoromethane	48.4		47.35		102	65	135	0	0	
Surr: Toluene-d8	45.1		47.35		95.3	84	116	0	0	

Sample ID: **LCS-56000 MEOH**	Batch ID: **56000**	TestNo: **SW8260C**	Units: **mg/Kg**
SampType: **LCS**	Run ID: **GCMS1_130211B**	Analysis Date: **2/11/2013 5:30:00 PM**	Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.0253	0.00500	0.0232	0	109	75	125			
Ethylbenzene	0.0232	0.00500	0.0232	0	100	75	125			
m,p-Xylene	0.0458	0.00500	0.0464	0	98.8	80	125			
o-Xylene	0.0221	0.00500	0.0232	0	95.1	77	125			
Toluene	0.0254	0.00500	0.0232	0	109	75	125			
Surr: 1,2-Dichloroethane-d4	50.3		50.00		101	52	149			
Surr: 4-Bromofluorobenzene	52.9		50.00		106	84	118			
Surr: Dibromofluoromethane	49.6		50.00		99.2	65	135			
Surr: Toluene-d8	49.1		50.00		98.2	84	116			

Sample ID: **MB-56000 MEOH**	Batch ID: **56000**	TestNo: **SW8260C**	Units: **mg/Kg**
SampType: **MBLK**	Run ID: **GCMS1_130211B**	Analysis Date: **2/11/2013 6:02:00 PM**	Prep Date: **2/11/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00500								
Ethylbenzene	ND	0.00500								
m,p-Xylene	ND	0.00500								
o-Xylene	ND	0.00500								
Toluene	ND	0.00500								
Surr: 1,2-Dichloroethane-d4	48.8		50.00		97.6	52	149			
Surr: 4-Bromofluorobenzene	55.0		50.00		110	84	118			
Surr: Dibromofluoromethane	49.1		50.00		98.1	65	135			
Surr: Toluene-d8	49.7		50.00		99.5	84	116			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS1_130211B

Sample ID: **SYS BLK-130213**	Batch ID: **56000**	TestNo: **SW8260C**	Units: **mg/Kg**
SampType: **SBLK**	Run ID: **GCMS1_130211B**	Analysis Date: **2/13/2013 10:52:00 AM**	Prep Date: **2/13/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.00500	0							
Ethylbenzene	ND	0.00500	0							
m,p-Xylene	ND	0.00500	0							
o-Xylene	ND	0.00500	0							
Toluene	ND	0.00500	0							
Surr: 1,2-Dichloroethane-d4	51.8		0							
Surr: 4-Bromofluorobenzene	54.0		0							
Surr: Dibromofluoromethane	49.9		0							
Surr: Toluene-d8	49.2		0							

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Holly Energy Partners
Work Order: 1302079
Project: South Hobbs GSA (Holly Energy Partners)

ANALYTICAL QC SUMMARY REPORT

RunID: **PMOIST_130214A**

The QC data in batch 56078 applies to the following samples: 1302079-01B, 1302079-02B, 1302079-03A, 1302079-04A, 1302079-05A, 1302079-06A

Sample ID: **1302080-10A-DUP** Batch ID: **56078** TestNo: **D2216** Units: **WT%**
SampType: **DUP** Run ID: **PMOIST_130214A** Analysis Date: **2/15/2013 10:30:00 AM** Prep Date: **2/14/2013**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Percent Moisture	18.4	0	0	17.14				7.09	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified