

AP-111

AGWMR (8)

2014

S29, T15N, R15W,
N.M.P.M.

S28, T15N, R15W,
N.M.P.M.

STATE LEASE

N 1636000

E 2543000

E 2544000

S32, T15N, R15W,
N.M.P.M.

N 1635000

S33, T15N, R15W,
N.M.P.M.

E 2545000

E 2546000

NOTES

- 1 FIELD SURVEY PERFORMED SEPTEMBER 15, 2014, 1:00 p.m. to 3:00 p.m.
- 2 FIELD MEASUREMENTS PERFORMED UTILIZING THALES 'Z-MAX' BASE AND ROVER G.P.S. SYSTEM WHICH CAN NOT BE CALIBRATED. INSIDE AND OUTSIDE APPURTENANT MEASUREMENTS PERFORMED WITH STEEL TAPE.
- 3 THE BORE SITES WERE IDENTIFIED BY REFINERY PERSONNEL AND WERE VISIBLE AS EVIDENCE OF A BORE HOLE.
- 4 STATE PLANE COORDINATES BASED ON THE BRASS CAP 1-040-105 USING DIFFERENTIAL G.P.S. DERIVED MEASUREMENTS.
- 5 THE COORDINATE LIST SHOWN ARE N.M. STATE PLANE WEST ZONE GRID COORDINATES, ELEVATIONS ARE NGVD29 (ADD 3.37 TO REACH NAVD88).
- 6 REFERENCE THE 1881 G.L.O. TOWNSHIP PLAT OF T15N, R15W, N.M.P.M.



SURVEYOR'S CERTIFICATE

I, Clyde J. King, a New Mexico Professional Surveyor do hereby certify that this plat was prepared from a field survey performed by me or under my direct supervision, that I am responsible for this survey, that this survey is true and correct to the best of my knowledge and belief, that this plat and the field survey upon which it is based meet the Minimum Standards for Surveying in New Mexico and that this survey is not a land division or subdivision as defined by the New Mexico Subdivision Act.

Clyde J. King, PST13979

9-27-14
Date

BW1-A

N: 1635366.48
E: 2542393.39 CENTER OF METAL LID
Z: 6885.50 TOP CENTER OF METAL LID
Z: 6885.12 N. TOP OF PVC PIPE
Z: 6884.93 N. TOP OF INSIDE CONCRETE FILL
Z: 6883.17 N. TOP OF OUTER CONCRETE PAD

BW1-C

N: 1635365.88
E: 2542398.27 CENTER OF METAL LID
Z: 6886.06 TOP CENTER OF METAL LID
Z: 6885.68 N. TOP OF PVC PIPE
Z: 6885.64 N. TOP OF INSIDE CONCRETE FILL
Z: 6883.16 N. TOP OF OUTER CONCRETE PAD

BW1-B

N: 1635367.78
E: 2542404.33 CENTER OF METAL LID
Z: 6886.18 TOP CENTER OF METAL LID
Z: 6885.78 N. TOP OF PVC PIPE
Z: 6885.72 N. TOP OF INSIDE CONCRETE FILL
Z: 6883.17 N. TOP OF OUTER CONCRETE PAD

STP1-NW

N: 1635151.93
E: 2545378.03 CENTER OF METAL LID
Z: 6904.72 TOP CENTER OF METAL LID & CONCRETE PAD
Z: 6904.47 N. TOP OF PVC PIPE
Z: 6903.95 N. TOP OF INSIDE CONCRETE FILL
Z: 6904.50 N. GROUND BESIDE PAD

STP1-SW

N: 1635075.36
E: 2545399.70 CENTER OF METAL LID
Z: 6912.63 TOP CENTER OF METAL LID & CONCRETE PAD
Z: 6904.47 N. TOP OF PVC PIPE
Z: 6903.95 N. TOP OF INSIDE CONCRETE FILL
Z: 6904.50 N. GROUND BESIDE PAD

SYMBOLS LEGEND

- SECTION CORNER
- MONITORING WELL
- SOIL BORE

STP1-SE

N: 1635013.20 CENTER OF BORE SCAR
E: 2545480.20
Z: 6911.80 GROUND SURFACE

STP1-E

N: 1634954.00 CENTER OF BORE SCAR
E: 2545685.20
Z: 6912.20 GROUND SURFACE



0 100 200 400
SCALE: 1"=200'

MONITORING WELL and BORE SITE SURVEY
in Section 33, T15N, R15W, N.M.P.M.,
Western Refining, Jamestown,
McKinley County, New Mexico, U.S.A.

H.E.I.
HAMMON ENTERPRISES, INC.



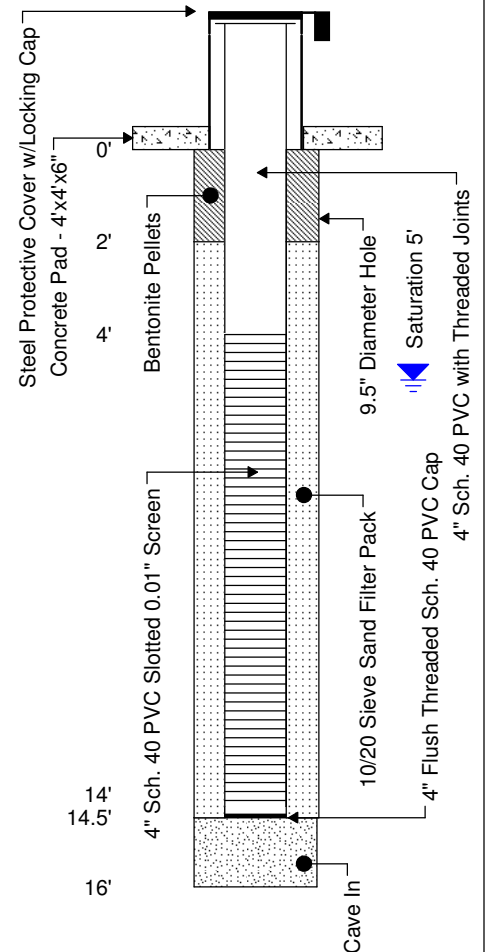
PROFESSIONAL LAND SURVEYING SERVICES
P. O. Box 770 • Ramah, NM 87321 • Tel: (505) 870-6901 • HEISurveys@yahoo.com

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.346' W 108°25.782'; Boring ID - HA1

Total Depth: 16' bgl
Ground Water: Saturated @ 5' bgl
Elev., TOC (ft. msl): 6920.67
Elev., PAD (ft. msl): 6918.28
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,864.41 **E** 2,545,561.73

Well No.: MKTF-01
Start Date: 11/14/2013
Finish Date: 11/14/2013

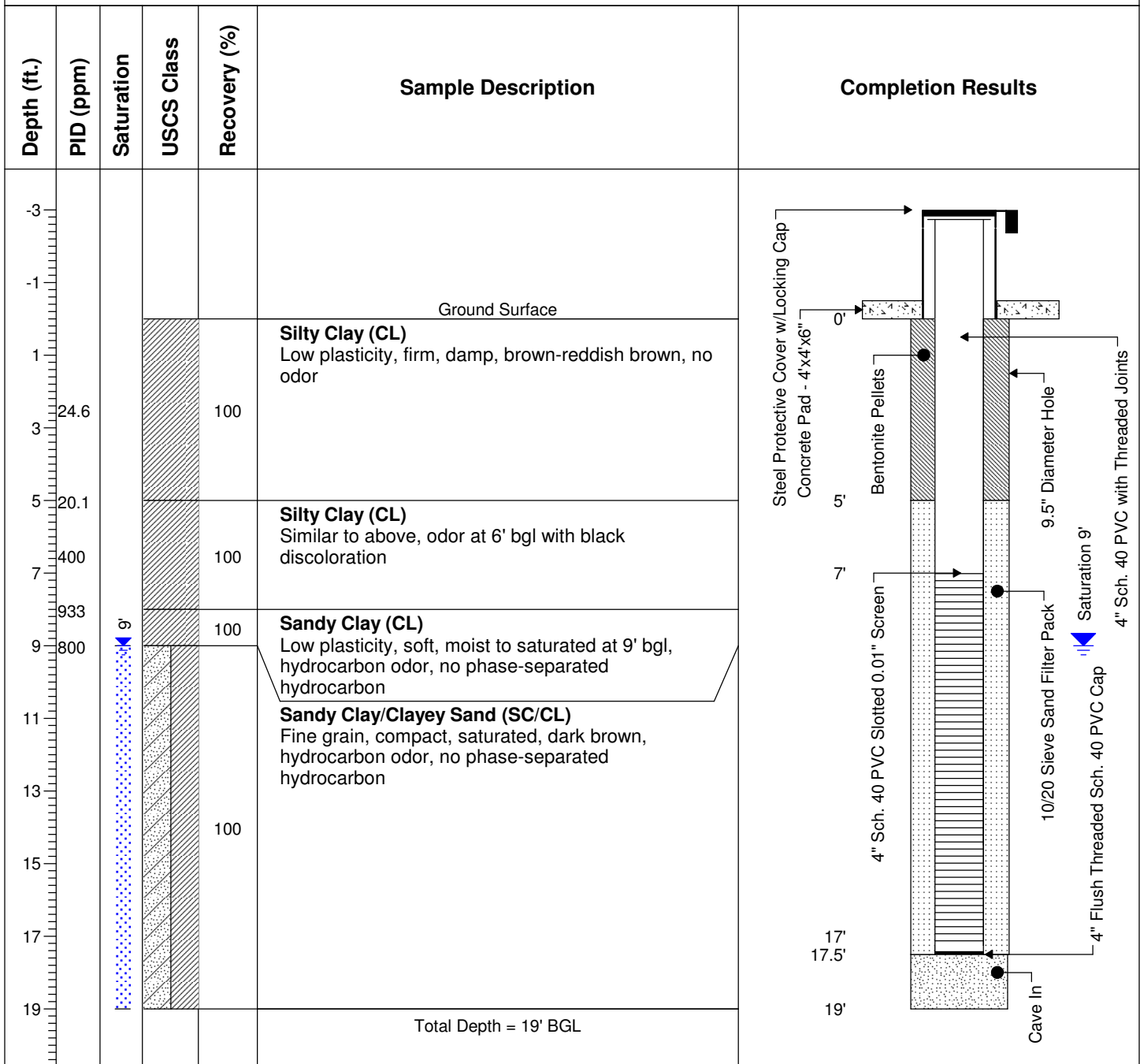
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1					Ground Surface	
3				100	Silty Clay (CL) Low plasticity, soft, damp, reddish brown to brown, no odor	
5		5'				
7				100	Silty Clay/Clayey Silt (CL/ML) Low plasticity, very soft, moist to saturated, brown grading to black, gravelly, bio odor, no phase-separated hydrocarbon	
9						
11						
13						
15						
17					Total Depth = 16' BGL	
19						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.360' W 108°25.789'; Boring ID HA3

Total Depth: 19' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6917.45
Elev., PAD (ft. msl): 6915.00
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,946.93 **E** 2,545,530.46

Well No.: MKTF-02
Start Date: 11/14/2013
Finish Date: 11/14/2013



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.328' W108°25.743'; Boring ID - SB01

Total Depth: 19' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6931.31
Elev., PAD (ft. msl): 6931.73
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,746.53 **E** 2,545,756.87

Well No.: MKTF-03
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	164			60	Fill (Silt/Sand) Fine grain, loose, dry to damp, brown, no odor	
3	423			40	Silty Clay (CL) Low plasticity, firm, damp, brown/reddish brown, no odor	
5	330			70	Silty Clay (CL) Similar to above, no odor	
7	75			90	Silty Clay (CL) Similar to above, sandy at base from 7.75-8.0' bgl, no odor	
9	326			90	Silty Clay (CL) Fine grain sand seams throughout, saturated, phase-separated hydrocarbon, hydrocarbon odor, clear phase-separated hydrocarbon poured out of split spoon	
11	312			90	Silty Clay (CL) Similar to above with sand seams, saturated with phase-separated hydrocarbon, hydrocarbon odor, dark brown	
13	368			80	Gravelly Sand (SW) Fine to medium to coarse grain, loose, saturated with phase-separated hydrocarbon, black, hydrocarbon odor	
15	700			60	Gravelly Sand (SW) Similar to above	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.328' W108°25.743'; Boring ID - SB01

Total Depth: 19' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6931.31
Elev., PAD (ft. msl): 6931.73
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,746.53 **E** 2,545,756.87

Well No.: MKTF-03
Start Date: 11/7/2013
Finish Date: 11/7/2013

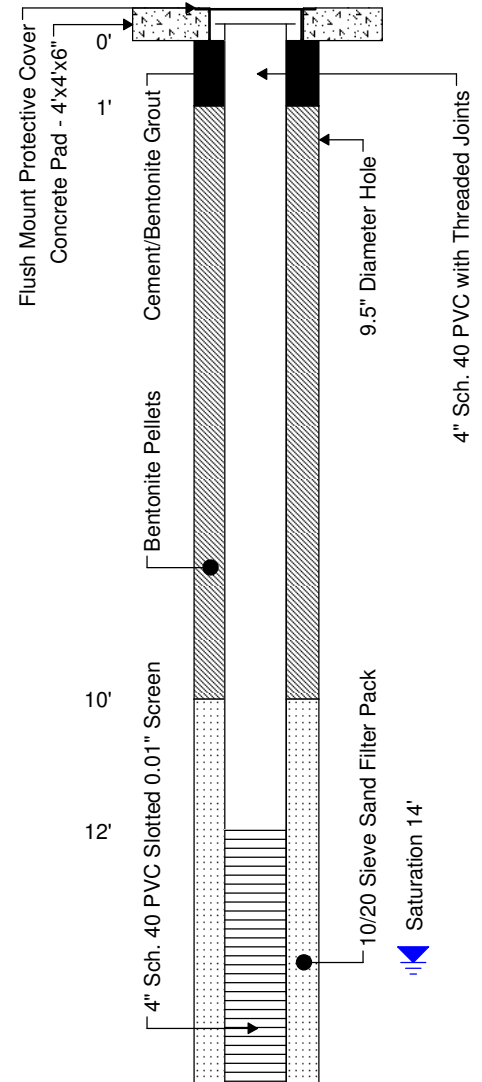
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17				10	Silty Sand/Silty Clay (SM/CL) Low plasticity, firm, moist, brown, faint odor, no phase-separated hydrocarbon	4" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack Cave In 4" Flush Threaded Sch. 40 PVC Cap
19	225			80	Silty Clay (CL) Poor recovery Clay (CH) High plasticity, very dense, damp, light reddish brown, faint odor	
21					Total Depth = 19' BGL	
23						
25						
27						
29						
31						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.310' W 108°25.742'; Boring ID SB03

Total Depth: 24' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6933.57
Elev., PAD (ft. msl): 6933.90
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,649.46 **E** 2,545,752.83

Well No.: MKTF-04
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	10.2			90	Fill (Silt/Gravel) Low plasticity, very dense, dry, light brown, no odor	
3	11.7			80	Fill (Silt/Gravel) Similar to above, black, dense at base, no odor	
5	16			90	Silty Clay (CL) Low plasticity, stiff, damp, reddish brown, no odor, calcareous	
7	26			90	Gravelly Sandy Clay (CL) Low plasticity, loose to firm, damp, brown, no odor	
9	708			70	Silty Clay (CL) Low plasticity, very soft, damp, reddish brown, hydrocarbon odor	
11	369			80	Clay (CH) High plasticity, firm, damp, reddish brown, hydrocarbon odor	
13	660			90	Sandy Clay/Clayey Sand (SC/CL) Low plasticity, fine grain, soft, damp, reddish brown, hydrocarbon odor	
15	85			90	Sandy Clay (SC) Similar to above, saturated sand seams, hydrocarbon odor, brown	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.310' W 108°25.742'; Boring ID SB03

Total Depth: 24' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6933.57
Elev., PAD (ft. msl): 6933.90
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,649.46 **E** 2,545,752.83

Well No.: MKTF-04
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	64			70	Sandy Clay (SC) Similar to above, moist to saturated, hydrocarbon odor, brown	22' 22.5' 24' 4" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 4" Flush Threaded Sch. 40 PVC Cap Cave In
19	33			90	Sandy Clay (SC) Low plasticity, fine grain, soft, moist to saturated, light reddish brown, hydrocarbon odor, gravelly at base Silty Clay (CL) Low plasticity, stiff, damp, light reddish brown grading to yellowish/greenish gray, becomes more silty at base	
21						
23						
25					Total Depth = 24' BGL	
27						
29						
31						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.282' W 108°25.739'; Boring ID - SB06

Total Depth: 15' bgl
Ground Water: Saturated @ 10' bgl
Elev., TOC (ft. msl): 6942.22
Elev., PAD (ft. msl): 6939.49
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,472.30 **E** 2,545,769.95

Well No.: MKTF-05
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3					Ground Surface	
1	52.6			60	Fill (Silty Clay/Gravel) Low plasticity, firm, damp, brown, faint odor	
3	180			100	Silty Clay (CL) Low plasticity, firm, damp, reddish brown, odor, calcareous	
5	224			90	Sandy Clay/Clayey Sand (CL/SC) Low plasticity, fine grain, damp, dark brown, hydrocarbon odor, sand seams present	
7	1202			90	Sandy Clay/Clayey Sand (CL) Similar to above	
9	1228			90	Sandy Silty Clay (CL) Low plasticity, soft, damp, dark brown, hydrocarbon odor	
11	1525			90	Sandy Clay (CL) Similar to above, with moist to saturated sand seams, hydrocarbon odor	
13	377			90	Clayey Sand (SC) Fine grain, loose to compact, saturated, hydrocarbon odor, dark brown	
15					Sandy Clay (CL) Low plasticity, soft to firm, moist, dark brown, hydrocarbon odor	
17					Total Depth = 15' BGL	
19						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.732'; Boring ID - SB08

Total Depth: 21' bgl
Ground Water: Saturated @ 17.5' bgl
Elev., TOC (ft. msl): 6946.81
Elev., PAD (ft. msl): 6944.24
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,556.28 **E** 2,545,811.85

Well No.: MKTF-06
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3					Ground Surface	
1	15.9			70	Fill (Silt/Silty Clay) Low plasticity, stiff, dry, light brown, no odor	
3	228			60	Fill (Silty Clay/Gravel) Similar to above, dry, no odor	
5	177			60	Fill (Silty Clay) Similar to above, damp, no odor	
7	264			40	Fill (Silty Clay) Low plasticity, soft, damp, brown, gravel and wood debris	
9				--	No recovery	
11	90			10	Fill (Silty Clay/Gravel) Similar to above	
13	660			100	Sandy Silty Clay (CL) Low plasticity, soft, damp to moist at base, brown, hydrocarbon odor	
15						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.732'; Boring ID - SB08

Total Depth: 21' bgl
Ground Water: Saturated @ 17.5' bgl
Elev., TOC (ft. msl): 6946.81
Elev., PAD (ft. msl): 6944.24
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,556.28 **E** 2,545,811.85

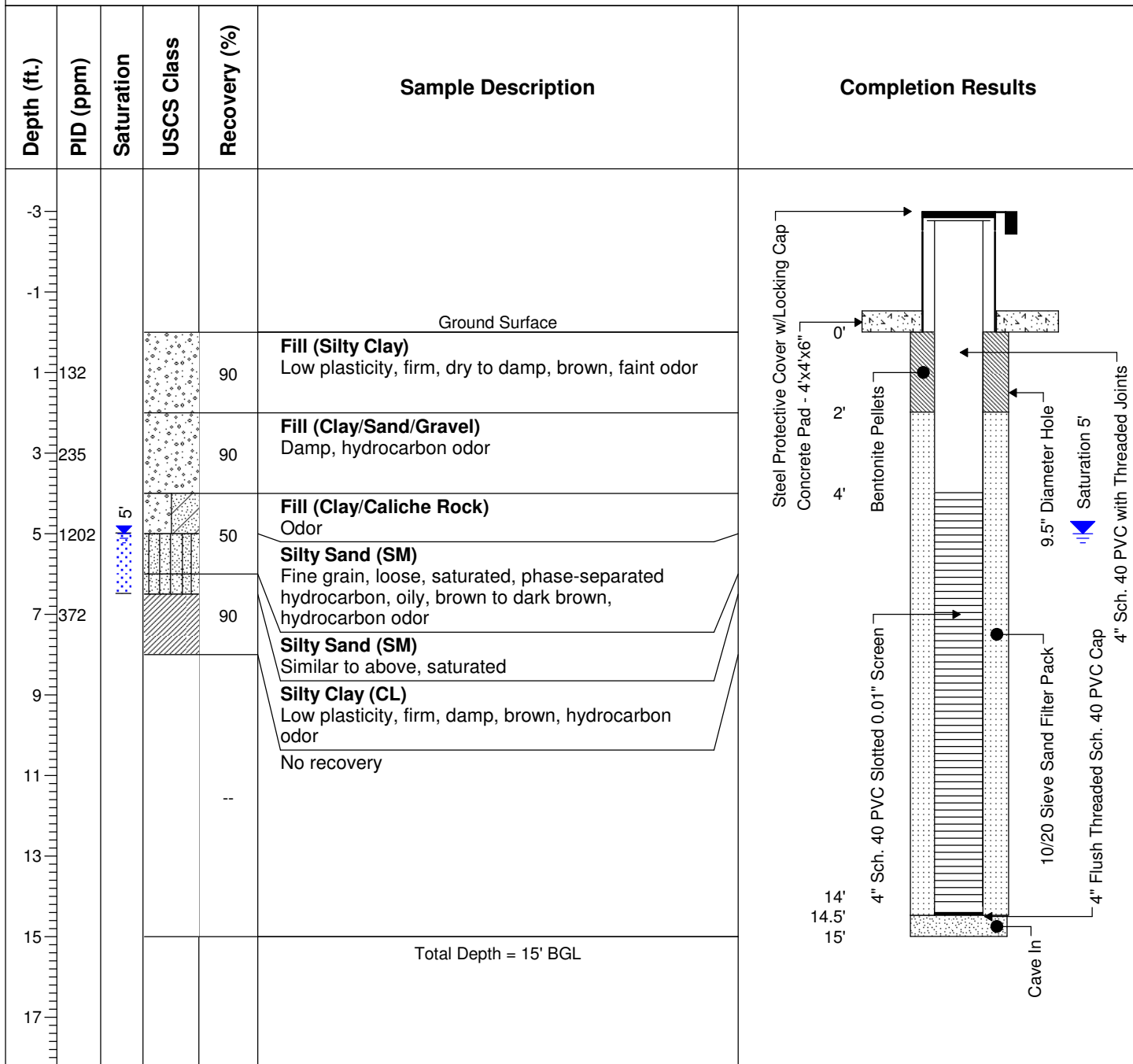
Well No.: MKTF-06
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
1115		17.5'		100	Sandy Silty Clay (CL) Similar to above, moist, oily, hydrocarbon odor	20' 20.5' 21' 10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen Cave In 4" Flush Threaded Sch. 40 PVC Cap Saturation 17.5'
17				100	Gravelly Sandy Clay (CL) Low plasticity, firm, moist, oily, 1" gravel, strong hydrocarbon odor	
19				100	Clayey Gravel Sand (SC) Fine to medium grain, loose, saturated, phase-separated hydrocarbon present, black, hydrocarbon odor	
21				100	Sandy Clay (CL) Low plasticity, firm, moist, black hydrocarbon odor	
Total Depth = 21' BGL						
23						
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.710'; Boring ID - SB10

Total Depth: 15' bgl
Ground Water: Saturated @ 5' bgl
Elev., TOC (ft. msl): 6947.18
Elev., PAD (ft. msl): 6944.40
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,555.11 **E** 2,545,885.42

Well No.: MKTF-07
Start Date: 11/11/2013
Finish Date: 11/11/2013

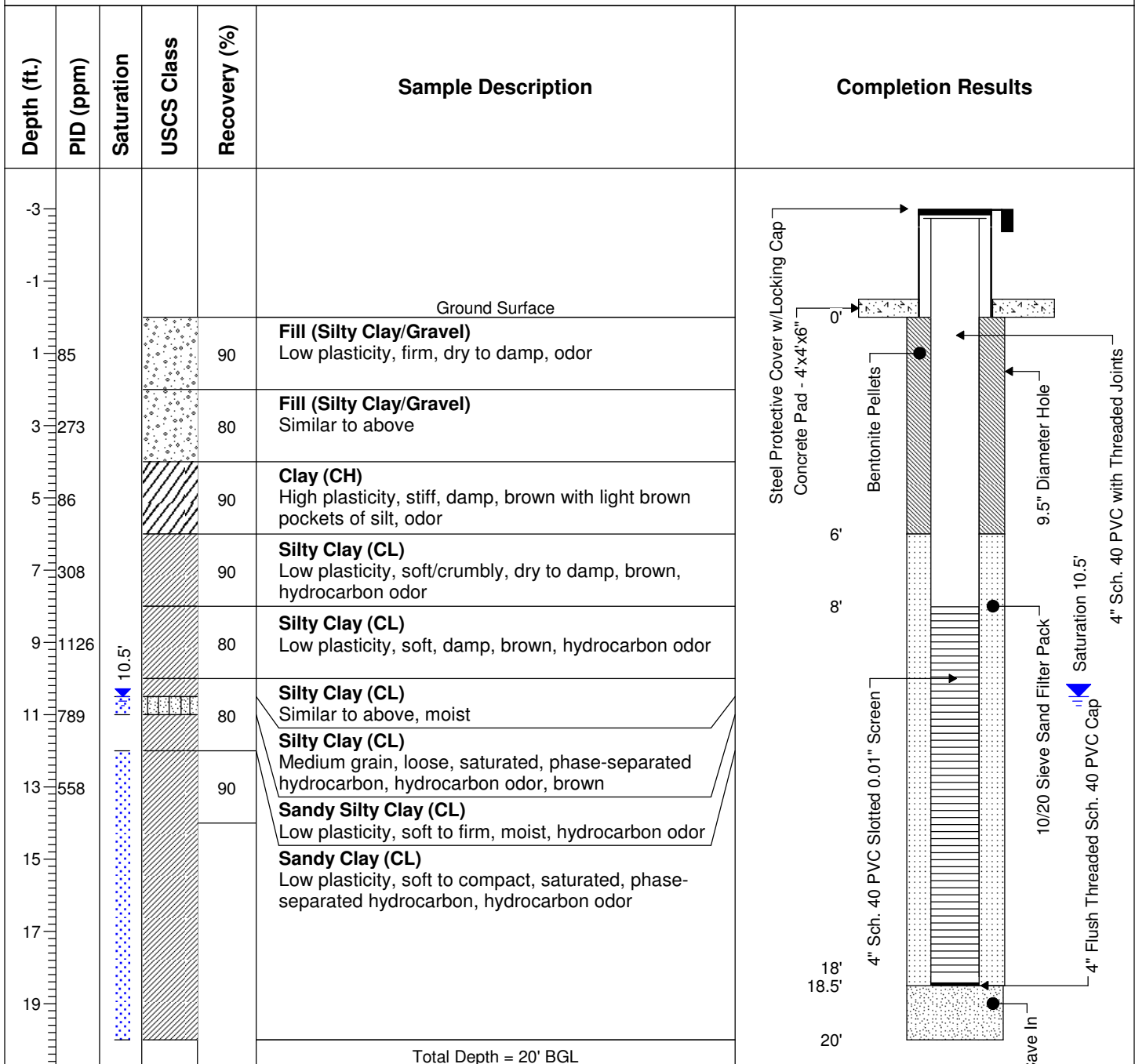


WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.302' W 108°25.716'; Bo

Total Depth: 20' bgl
Ground Water: Saturated @ 10.5' bgl
Elev., TOC (ft. msl): 6947.09
Elev., PAD (ft. msl): 6944.02
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,598.94 **E** 2,545,885.02

Well No.: MKTF-08
Start Date: 11/11/2013
Finish Date: 11/11/2013



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.316' W 108°25.715'; Boring ID - SB13

Total Depth: 22' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6946.50
Elev., PAD (ft. msl): 6943.57
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,681.33 **E** 2,545,895.93

Well No.: MKTF-09
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1	21.9			90	Fill (Silty Clay) Low plasticity, stiff, dry to damp, no odor, brown	Steel Protective Cover w/Locking Cap Concrete Pad - 4'x4'x6" Bentonite Pellets 9.5" Diameter Hole 4" Sch. 40 PVC with Threaded Joints 10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen Saturation 12'
3	32.7			90	Fill (Silty Clay) Similar to above, gravel	
5	36.1			90	Silty Clay (CL) Low plasticity, soft, damp, brown, faint odor	
7	37			90	Silty Clay (CL) Similar to above	
9	533			90	Silty Clay (CL) Similar to above	
11	314			90	Sandy Clay (CL) Similar to above, increase in sand and moisture	
13	651			90	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor, dark brown	
15	587			90	Sandy Clay/Clayey Sand (CL/SC) Fine to medium grain, compact, moist to saturated, hydrocarbon odor	
					Sandy Clay/Clayey Sand (CL/SC) Similar to above, saturated, sheen observed on split spoon, black, hydrocarbon odor	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.316' W 108°25.715'; Boring ID - SB13

Total Depth: 22' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6946.50
Elev., PAD (ft. msl): 6943.57
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,681.33 **E** 2,545,895.93

Well No.: MKTF-09
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17				90	Sandy Clay/Clayey Sand (CL/SC) Fine to medium grain, compact, saturated, sheen observed on split spoon, black, hydrocarbon odor	10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen Cave In 4" Flush Threaded Sch. 40 PVC Cap
19					Total Depth = 22' BGL	
21						
23						
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.336' W 108°25.724'; Boring ID SB16

Total Depth: 18' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6937.16
Elev., PAD (ft. msl): 6937.51
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,807.47 **E** 2,545,853.54

Well No.: MKTF-10
Start Date: 10/31/2013
Finish Date: 10/31/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	90		Fill (Silt/Gravel)	90	Low plasticity, loose, dry, light brown	
3	14		Fill (Silty Clay/Gravel)	90	Similar to above	
5	431		Silty Clay (CL)	90	Low plasticity, stiff, dry, reddish brown, odor, calcareous	
7	448		Sand (SP)	60	Fine grain, loose, dry, reddish brown, odor	
9	654	9	Sand (SP)	60	Similar to above, saturated at 9' bgl, phase-separated hydrocarbon, hydrocarbon odor	
11	1559		Clayey Sand (SC)	90	Fine grain, soft, saturated, phase-separated hydrocarbon, brown to black, hydrocarbon odor	
13	713		Clayey Sand/Sandy Clay (SC/CL)	90	Low plasticity, firm to stiff, moist to saturated, hydrocarbon odor, dark brown	
15				90		
17						
19					Total Depth = 18' BGL	
21						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.336' W 108°25.739'; Boring ID - SB17

Total Depth: 19' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6931.34
Elev., PAD (ft. msl): 6931.61
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,806.93 **E** 2,545,754.77

Well No.: MKTF-11
Start Date: 10/31/2013
Finish Date: 10/31/2013

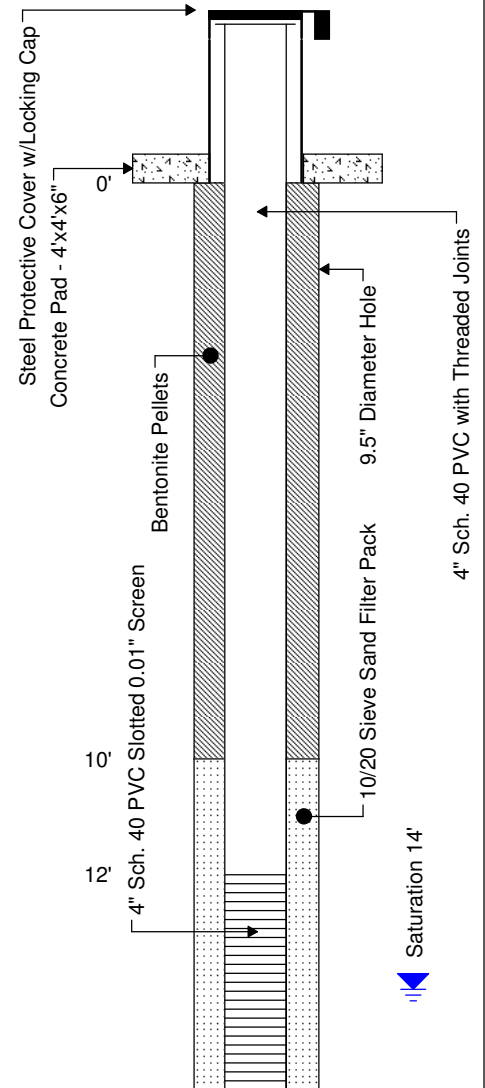
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	14			60	Fill (Silty Clay/Gravel) Low plasticity, stiff, dry, light brown	
3	36			70	Fill (Silty Clay) Similar to above	
5	80			90	Silty Clay (CL) Low plasticity, firm, damp, brown, calcareous	
7	125			80	Silty Clay (CL) Similar to above	
9	1259			80	Silty Clay (CL) Low plasticity, firm, damp, oily, hydrocarbon odor, dark brown	
11	860	12		70	Silty Clay (CL) Similar to above, moist, hydrocarbon odor, oily, phase-separated hydrocarbon	
13	1716			60	Sandy Clay (CL) Low plasticity, soft, moist to saturated, hydrocarbon odor, dark brown	
15	1050			70	Silty Sand (SM) Medium grain, loose, saturated, hydrocarbon odor, dark brown to black	
17				70	Sandy/Silty Clay (CL) Low plasticity, firm, saturated, dark brown to black, hydrocarbon odor	
19					Total Depth = 19' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.294' W 108°25.754'; Boring ID - SB19

Total Depth: 23' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6942.11
Elev., PAD (ft. msl): 6939.70
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,542.07 **E** 2,545,688.29

Well No.: MKTF-12
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	8.7			90	Silt/Gravel (ML) Low plasticity, soft, dry/damp, no odor, brown	
3	54			80	Silt/Gravel (ML) Similar to above	
5	7			70	Gravel/Silt (GW) 1/2 to 1" gravel, loose, compact, dry, no odor	
7	7.5			70	Clayey Sandy Silt (ML) Very fine grain, compact, dry to damp, brown, no odor	
9	5.5			60	Sandy Clay (CL) Low plasticity, firm, damp, light brown, no odor	
11	5.8			70	Sandy Clay (CL) Similar to above, brown, no odor	
13	10			70	Sandy Clay (CL) Similar to above	
13		14'			Silty Sand (SM) Fine to medium grain, loose, damp, brown, no odor	
15	225			50	Sandy Clay (CL) Low plasticity, firm, moist to saturated in sand seams, hydrocarbon odor, dark brown	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.294' W 108°25.754'; Boring ID - SB19

Total Depth: 23' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6942.11
Elev., PAD (ft. msl): 6939.70
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,542.07 **E** 2,545,688.29

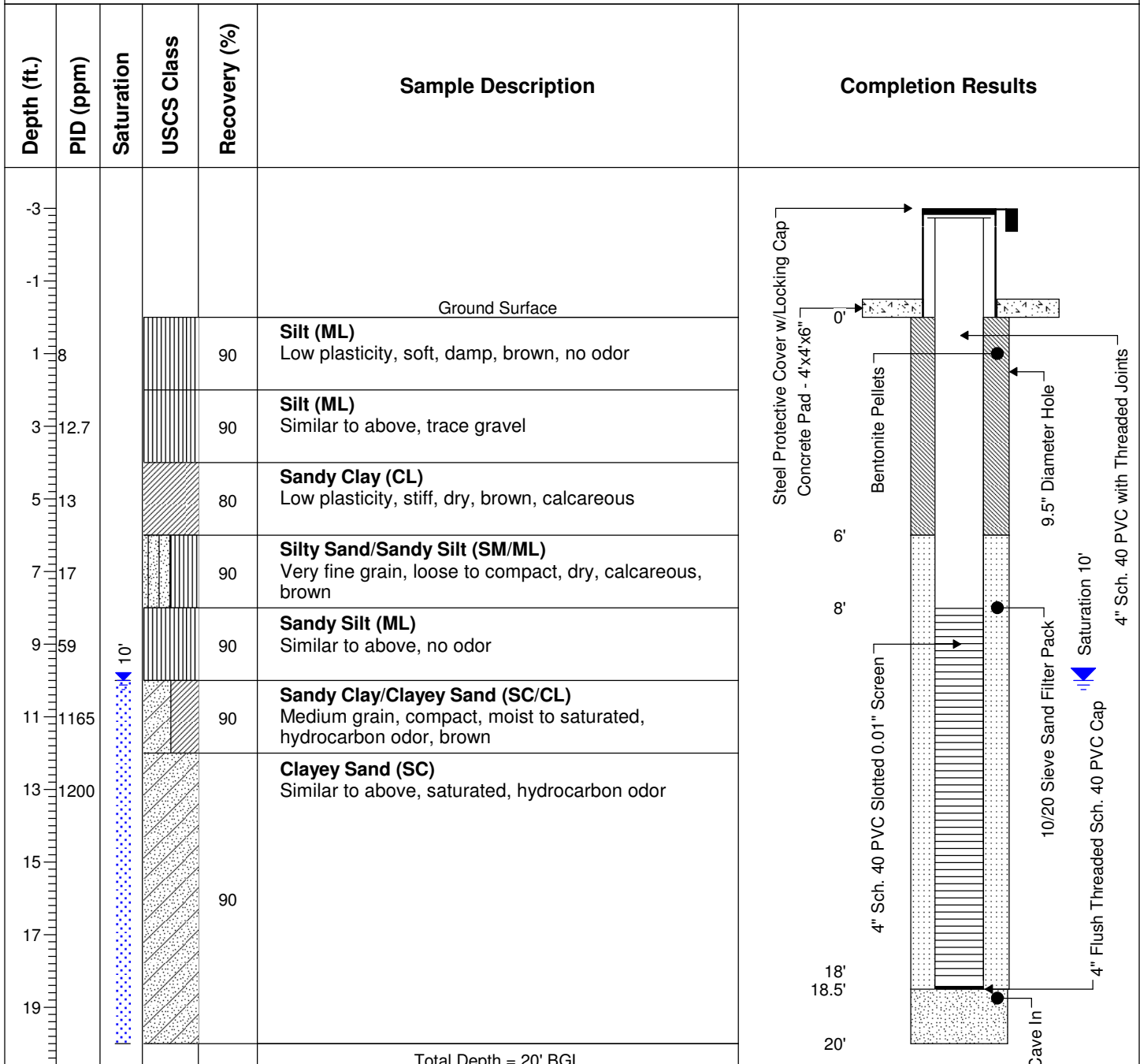
Well No.: MKTF-12
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	319			70	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor	10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen 4" Flush Threaded Sch. 40 PVC Cap Cave In
19	400			--	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor	
21	532			--	Sandy Clay/Clayey Sand (CL) Very fine grain, compact, moist to saturated, sheen observed in split spoon, hydrocarbon odor	
23					Total Depth = 23' BGL	
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.307' W 108°25.755'; Boring ID - SB20

Total Depth: 20' bgl
Ground Water: Saturated @ 10' bgl
Elev., TOC (ft. msl): 6935.18
Elev., PAD (ft. msl): 6933.67
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,625.25 **E** 2,545,697.39

Well No.: MKTF-13
Start Date: 11/12/2013
Finish Date: 11/12/2013

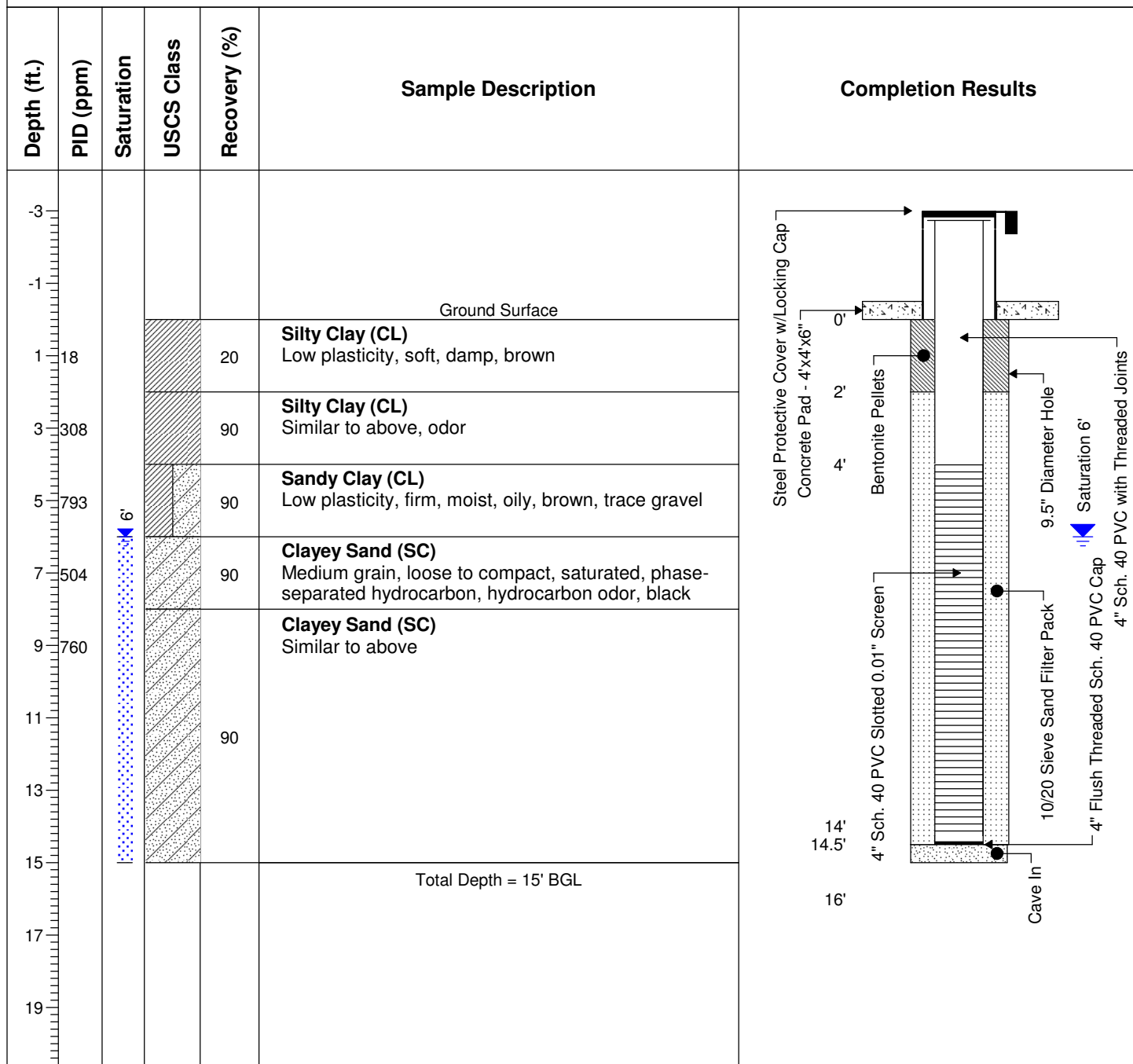


WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.323' W 108°25.769'; Bo

Total Depth: 15' bgl
Ground Water: Saturated @ 6' bgl
Elev., TOC (ft. msl): 6928.02
Elev., PAD (ft. msl): 6925.65
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,719.43 **E** 2,545,625.96

Well No.: MKTF-14
Start Date: 11/12/2013
Finish Date: 11/12/2013

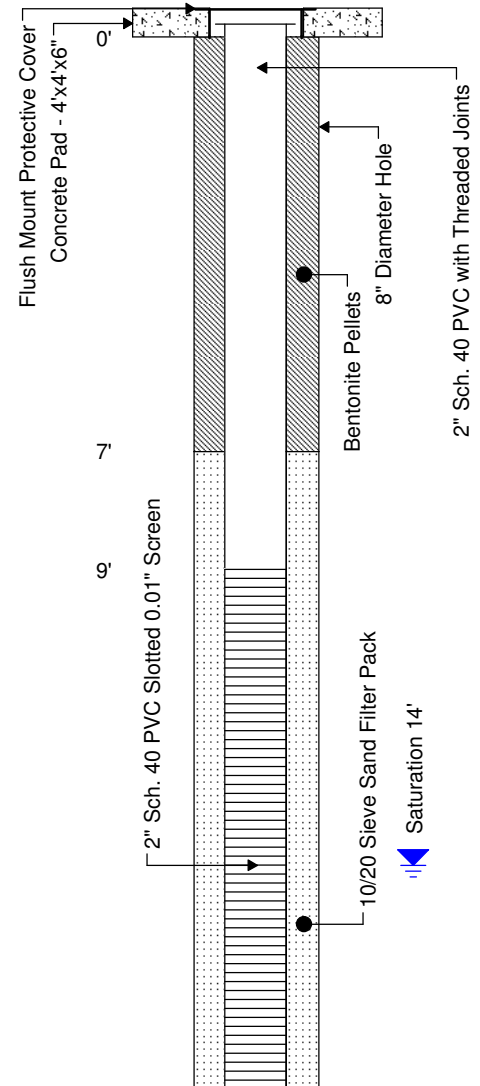


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.343' W 108°25.708'; Boring ID - SB31

Total Depth: 22' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6943.48
Elev., PAD (ft. msl): 6943.74
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,845.57 **E** 2,545,934.58

Well No.: MKTF-15
Start Date: 10/29/2013 09:30
Finish Date: 10/29/2013 12:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	6.7			0	Fill (Clay and Gravel) No recovery	
3	14.6			90	Fill (Clay and Gravel) Reddish brown	
5				90	Fill (Clay and Gravel) Similar to above, no odor	
7	823			90	Fill (Silty Clay) Reddish brown, hydrocarbon odor	
9	1004			90	Silty Sandy Clay (CL) Low plasticity, firm to soft, damp, reddish brown, hydrocarbon odor	
11	293			70	Silty Sand (SM) Fine grain, compact, damp, light reddish brown, no odor	
13	221			80	Sand (SP) Similar to above, odor, moist to very moist	
15				80	Sand (SP) Fine to medium grain, loose, saturated, brown, hydrocarbon odor, phase-separated hydrocarbon present	
17				60	Sandy Silt (ML) Low plasticity, very soft, damp to moist, brown, hydrocarbon odor	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.343' W 108°25.708'; Boring ID - SB31

Total Depth: 22' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6943.48
Elev., PAD (ft. msl): 6943.74
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,845.57 **E** 2,545,934.58

Well No.: MKTF-15
Start Date: 10/29/2013 09:30
Finish Date: 10/29/2013 12:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
19				90	Sandy Silt/Silty Sand (ML/SM) Fine grain, loose to compact, moist to saturated, hydrocarbon odor, dark brown to black	19' 19.33' 22' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack Bentonite Pellets 2" Flush Threaded Sch. 40 PVC Cap
					Sandy Silt/Silty Sand (ML/SM) Similar to above, saturated in silty sand lenses, hydrocarbon odor	
21				90	Silty Clay (CL) Low plasticity, firm, damp, brown, faint odor	
					Silty Clay (CL) Similar to above, odor	
23					Total Depth = 22' BGL	
25						
27						
29						
31						
33						
35						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.323' W 108°25.680'; Boring ID - SB32

Total Depth: 16' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6950.58
Elev., PAD (ft. msl): 6951.00
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,718.14 **E** 2,546,068.55

Well No.: MKTF-16
Start Date: 11/7/2013 08:40
Finish Date: 11/7/2013 11:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	Flush Mount Protective Cover Concrete Pad - 4'x4'x6" Bentonite Pellets 2" Flush Threaded Sch. 40 PVC Cap 10/20 Sieve Sand Filter Pack 8" Diameter Hole Saturation 9' 2" Sch. 40 PVC with Threaded Joints
1				0	Fill (Clay/Gravel) No recovery	
3	469			10	Fill (Clay/Gravel) Similar to above	
5				0	Fill (Clay/Gravel) Similar to above	
7				0	Fill (Clay/Gravel) Similar to above	
9	1445	9'		90	Fill (Clay/Gravel) Saturated at 9' bgl, black discoloration, hydrocarbon odor	
11	1255			90	Gravelly Sand (SW) High plasticity, firm, damp, dark brown, hydrocarbon odor	
13	1412			40	Clayey Sand (SC) Similar to above, hydrocarbon odor	
15	439			80	Clayey Sand (SC) Moderate plasticity, firm, damp, brown, hydrocarbon odor	
17					Total Depth = 16' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.248' W 108°25.724'; Boring ID - SB33

Total Depth: 25' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6945.76
Elev., PAD (ft. msl): 6945.79
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,268.93 **E** 2,545,850.73

Well No.: MKTF-17
Start Date: 11/14/2013 13:00
Finish Date: 11/14/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1				10	Fill (Asphalt/Base/Clay) Low plasticity, soft, damp, brown	
3	150			10	Fill (Clay) Similar to above	
5	157			90	Fill (Sand/Gravel/Clay) Moist to very moist, reddish brown, no odor	
7	92.1			20	Fill (Sand/Gravel/Clay) Similar to above, saturated, odor	
9	65.9			90	Clay (CH) High plasticity, firm, damp, faint odor, brown	
11	17			60	Clay (CH) Similar to above	
13	55			70	Clay (CH) High plasticity, soft, damp, dark brown and black, odor	
15	17.5			60	Clay (CH) Similar to above, faint odor	
17	11.3			10	Clay (CH) Similar to above, trace fine grain sand	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.248' W 108°25.724'; Boring ID - SB33

Total Depth: 25' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6945.76
Elev., PAD (ft. msl): 6945.79
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,268.93 **E** 2,545,850.73

Well No.: MKTF-17
Start Date: 11/14/2013 13:00
Finish Date: 11/14/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17.2		20'		10	Clay (CH) High plasticity, soft, damp, brown	24' 24.33' 25' 10/20 Sieve Sand Filter Pack 2" Sch. 40 PVC Slotted 0.01" Screen 2" Flush Threaded Sch. 40 PVC Cap Saturation 20'
20				70	Sandy Clay (CH) Moderate plasticity, soft, very moist to saturated in sand seams	
17.5				80	Silty Clayey Gravel (GM) Compact to loose, medium grain sand to 1/4" gravel - angular, saturated, brown	
22				90	Clay (CH) Moderate plasticity, firm to stiff, damp, greenish gray	
24					Total Depth = 25' BGL	
26						
28						
30						
32						
34						
36						

WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.692'; Boring ID - SB34

Total Depth: 27' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6950.65
Elev., PAD (ft. msl): 6950.97
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,497.53 **E** 2,546,006.29

Well No.: MKTF-18
Start Date: 11/15/2013 10:00
Finish Date: 11/15/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1				--	Fill (Gravel and Silty Clay)	
3	1009			20	Fill (Gravel and Silty Clay) Similar to above, strong hydrocarbon odor, damp	
5	693			60	Fill (Gravel and Silty Clay) Similar to above	
7	1108			70	Fill (Silty Clay) Low plasticity, firm, damp, brown, gravel present, strong hydrocarbon odor	
9	901			90	Fill (Clay/Sand/Gravel) Similar to above, saturated, odor, sheen observed	
11	803			60	Clay (CH) High plasticity, stiff, damp, brown, hydrocarbon odor	
13	254			70	Clay (CH) Similar to above, very fine grain, sand in partings	
15	200			30	Clay (CH) Similar to above	
17				--	No recovery	

WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.692'; Boring ID - SB34

Total Depth: 27' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6950.65
Elev., PAD (ft. msl): 6950.97
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,497.53 **E** 2,546,006.29

Well No.: MKTF-18
Start Date: 11/15/2013 10:00
Finish Date: 11/15/2013 15:00

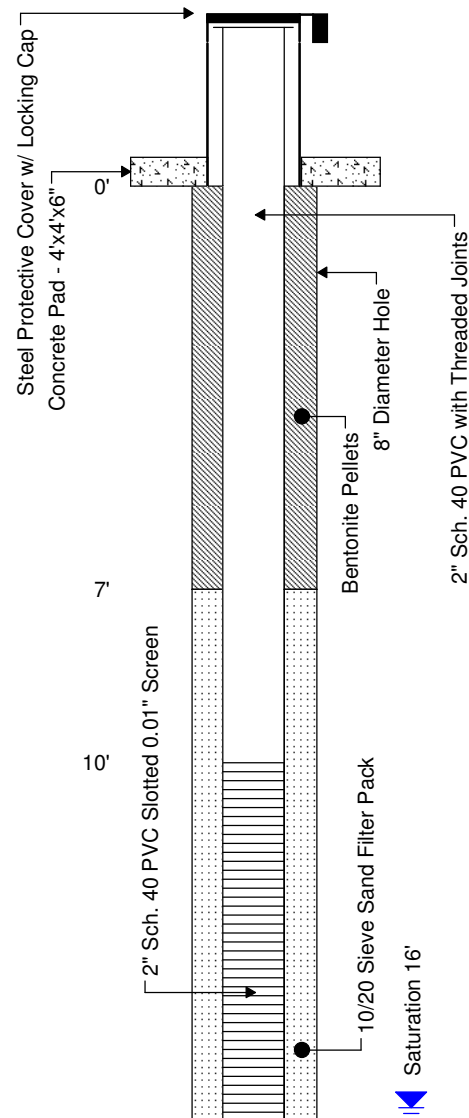
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
112				30	Clay (CH) High plasticity, firm, damp, brown, faint odor	2" Sch. 40 PVC Slotted 0.01" Screen 27' 27.5' 10/20 Sieve Sand Filter Pack Saturation 23' 2" Flush Threaded Sch. 40 PVC Cap
20				20	Clay (CH) Similar to above	
55						
22						
323				80	Clay (CH) Similar to above	
24					Sandy Clay/Clayey Sand (SC/CL) Fine grain, compact, very moist to saturated, brown, hydrocarbon present	
					Clayey Sand (SC) Similar to above, saturated	
26				90	Sandy Clay (CL) Low plasticity, firm, damp, hydrocarbon odor, greenish gray	
28					Total Depth = 27' BGL	
30						
32						
34						
36						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1				-	Fill (Asphate/Base/Clay) Odor	
3	1178			50	Fill (Silty Clay/Sandy Gravel) Brown, strong hydrocarbon odor	
5	1232			90	Fill (Silty Clay/Sandy Gravel) Similar to above, gray discoloration, strong hydrocarbon odor	
7	120			80	Clay (CH) High plasticity, stiff, damp, brown, odor, calcareous, sampling tube is oily	
9	375			70	Clay (CH) Similar to above, odor, oily	
11	601			70	Silty Sandy Clay (CL) Moderate plasticity, firm, damp, brown, hydrocarbon odor, sampling tube is oily	
13	1279			70	Sandy Clay (CL) Low plasticity, soft, damp to moist in sand seams, brown, strong hydrocarbon odor	
15	249			90	Sandy Clay (CL) Similar to above, hydrocarbon odor, tube is oily	
16'						



WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

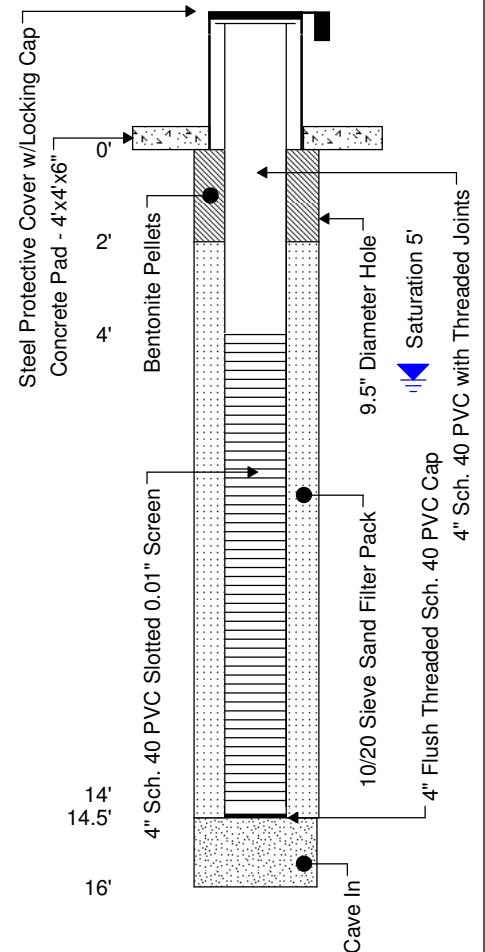
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
18				90	Silty Sand (SM) Fine grain, loose, saturated, oily/phase-separated hydrocarbon, hydrocarbon odor, clay at base	20' 20.33' 20.5' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 2" Flush Threaded Sch. 40 PVC Cap
20				90	Silty Sand (SM) Similar to above	
					Total Depth = 20' BGL	
22						
24						
26						
28						
30						
32						
34						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.346' W 108°25.782'; Boring ID - HA1

Total Depth: 16' bgl
Ground Water: Saturated @ 5' bgl
Elev., TOC (ft. msl): 6920.67
Elev., PAD (ft. msl): 6918.28
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,864.41 **E** 2,545,561.73

Well No.: MKTF-01
Start Date: 11/14/2013
Finish Date: 11/14/2013

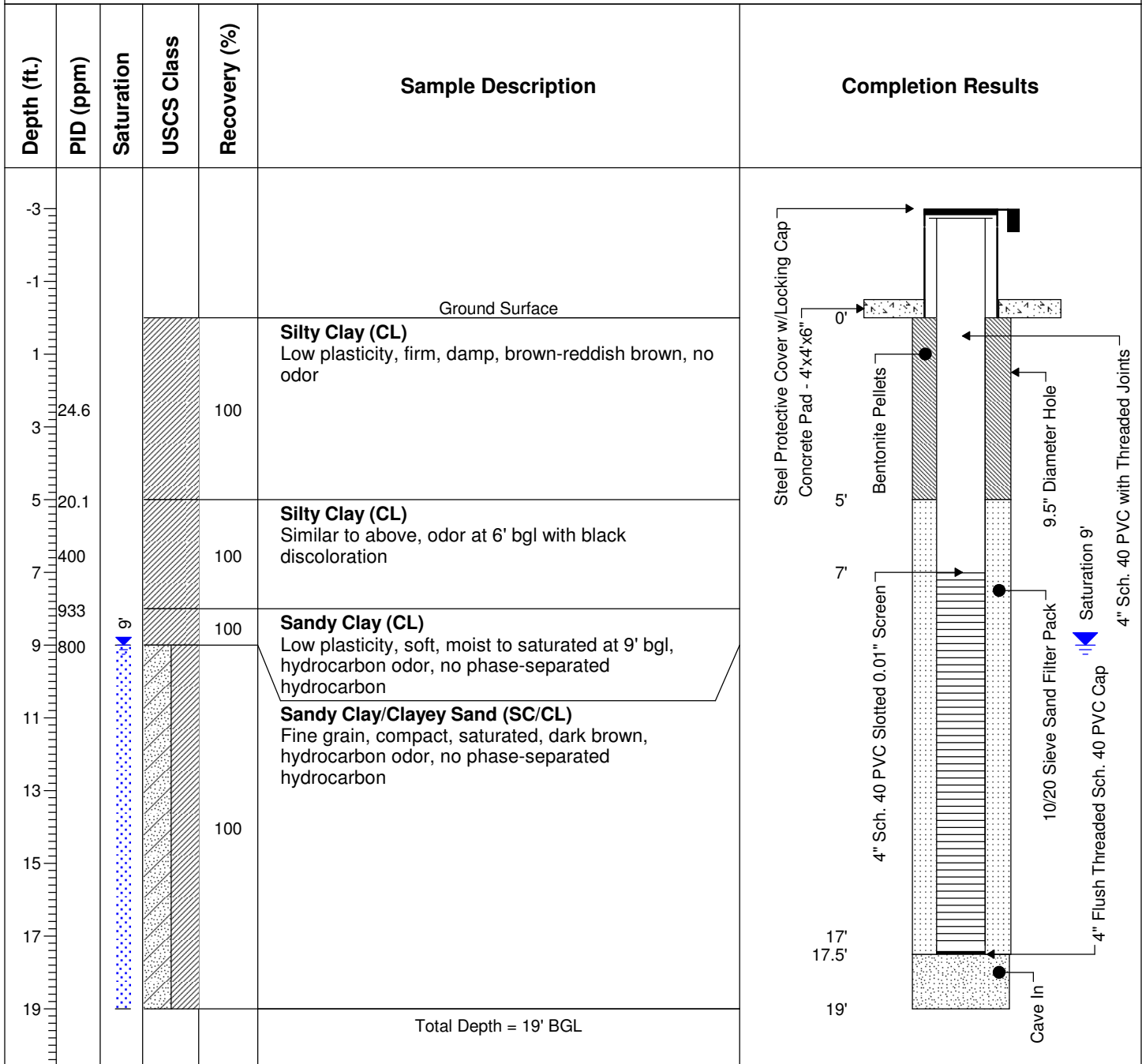
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1					Ground Surface	
3				100	Silty Clay (CL) Low plasticity, soft, damp, reddish brown to brown, no odor	
5		5'				
7				100	Silty Clay/Clayey Silt (CL/ML) Low plasticity, very soft, moist to saturated, brown grading to black, gravelly, bio odor, no phase-separated hydrocarbon	
9						
11						
13						
15						
17					Total Depth = 16' BGL	
19						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.360' W 108°25.789'; Boring ID HA3

Total Depth: 19' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6917.45
Elev., PAD (ft. msl): 6915.00
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,946.93 **E** 2,545,530.46

Well No.: MKTF-02
Start Date: 11/14/2013
Finish Date: 11/14/2013



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.328' W108°25.743'; Boring ID - SB01

Total Depth: 19' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6931.31
Elev., PAD (ft. msl): 6931.73
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,746.53 **E** 2,545,756.87

Well No.: MKTF-03
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	164			60	Fill (Silt/Sand) Fine grain, loose, dry to damp, brown, no odor	
3	423			40	Silty Clay (CL) Low plasticity, firm, damp, brown/reddish brown, no odor	
5	330			70	Silty Clay (CL) Similar to above, no odor	
7	75			90	Silty Clay (CL) Similar to above, sandy at base from 7.75-8.0' bgl, no odor	
9	326			90	Silty Clay (CL) Fine grain sand seams throughout, saturated, phase-separated hydrocarbon, hydrocarbon odor, clear phase-separated hydrocarbon poured out of split spoon	
11	312			90	Silty Clay (CL) Similar to above with sand seams, saturated with phase-separated hydrocarbon, hydrocarbon odor, dark brown	
13	368			80	Gravelly Sand (SW) Fine to medium to coarse grain, loose, saturated with phase-separated hydrocarbon, black, hydrocarbon odor	
15	700			60	Gravelly Sand (SW) Similar to above	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.328' W108°25.743'; Boring ID - SB01

Total Depth: 19' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6931.31
Elev., PAD (ft. msl): 6931.73
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,746.53 **E** 2,545,756.87

Well No.: MKTF-03
Start Date: 11/7/2013
Finish Date: 11/7/2013

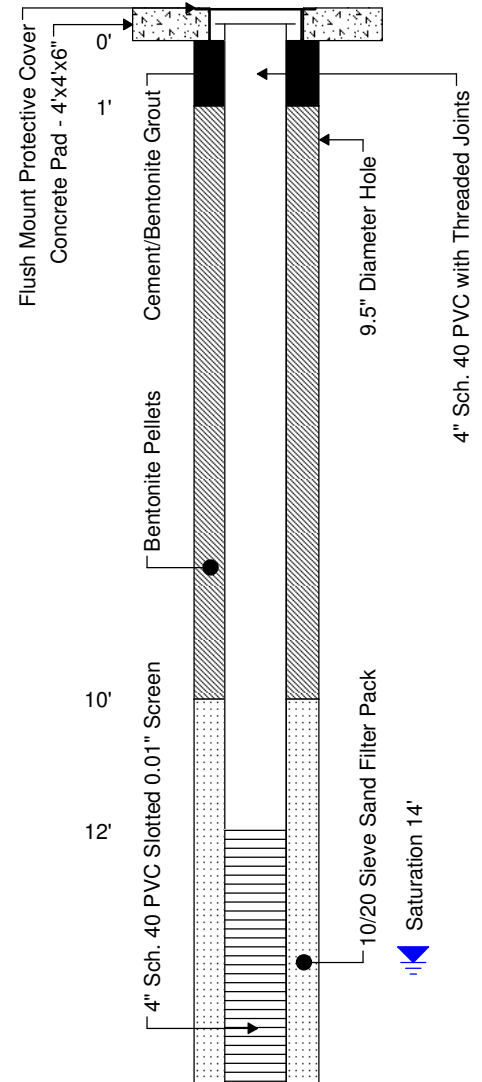
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17				10	Silty Sand/Silty Clay (SM/CL) Low plasticity, firm, moist, brown, faint odor, no phase-separated hydrocarbon	4" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack Cave In 4" Flush Threaded Sch. 40 PVC Cap
19	225			80	Silty Clay (CL) Poor recovery Clay (CH) High plasticity, very dense, damp, light reddish brown, faint odor	
21					Total Depth = 19' BGL	
23						
25						
27						
29						
31						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.310' W 108°25.742'; Boring ID SB03

Total Depth: 24' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6933.57
Elev., PAD (ft. msl): 6933.90
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,649.46 **E** 2,545,752.83

Well No.: MKTF-04
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	10.2			90	Fill (Silt/Gravel) Low plasticity, very dense, dry, light brown, no odor	
3	11.7			80	Fill (Silt/Gravel) Similar to above, black, dense at base, no odor	
5	16			90	Silty Clay (CL) Low plasticity, stiff, damp, reddish brown, no odor, calcareous	
7	26			90	Gravelly Sandy Clay (CL) Low plasticity, loose to firm, damp, brown, no odor	
9	708			70	Silty Clay (CL) Low plasticity, very soft, damp, reddish brown, hydrocarbon odor	
11	369			80	Clay (CH) High plasticity, firm, damp, reddish brown, hydrocarbon odor	
13	660			90	Sandy Clay/Clayey Sand (SC/CL) Low plasticity, fine grain, soft, damp, reddish brown, hydrocarbon odor	
15	85			90	Sandy Clay (SC) Similar to above, saturated sand seams, hydrocarbon odor, brown	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.310' W 108°25.742'; Boring ID SB03

Total Depth: 24' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6933.57
Elev., PAD (ft. msl): 6933.90
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,649.46 **E** 2,545,752.83

Well No.: MKTF-04
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	64			70	Sandy Clay (SC) Similar to above, moist to saturated, hydrocarbon odor, brown	22' 22.5' 24' 4" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 4" Flush Threaded Sch. 40 PVC Cap Cave In
19	33			90	Sandy Clay (SC) Low plasticity, fine grain, soft, moist to saturated, light reddish brown, hydrocarbon odor, gravelly at base Silty Clay (CL) Low plasticity, stiff, damp, light reddish brown grading to yellowish/greenish gray, becomes more silty at base	
21						
23						
25					Total Depth = 24' BGL	
27						
29						
31						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.282' W 108°25.739'; Boring ID - SB06

Total Depth: 15' bgl
Ground Water: Saturated @ 10' bgl
Elev., TOC (ft. msl): 6942.22
Elev., PAD (ft. msl): 6939.49
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,472.30 **E** 2,545,769.95

Well No.: MKTF-05
Start Date: 11/12/2013
Finish Date: 11/12/2013

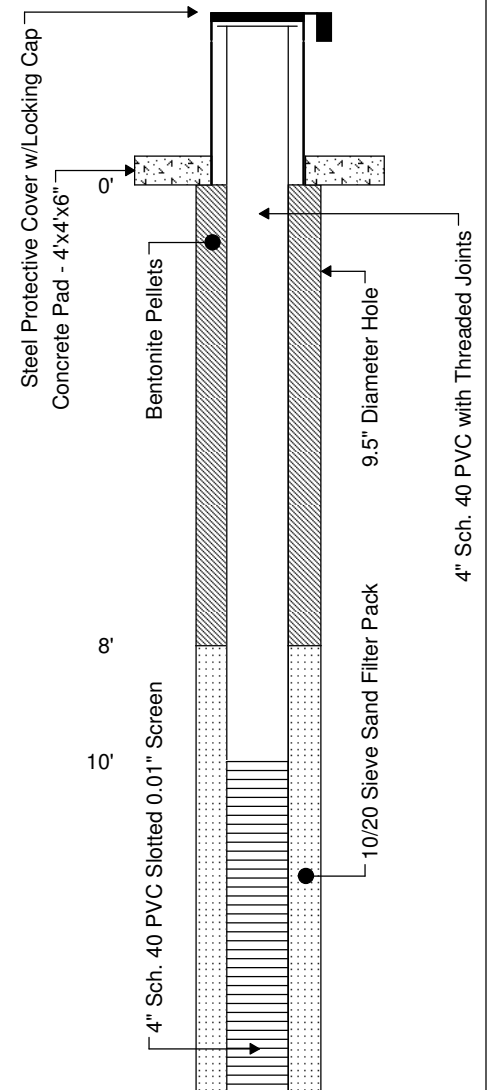
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3					Ground Surface	
1	52.6			60	Fill (Silty Clay/Gravel) Low plasticity, firm, damp, brown, faint odor	
3	180			100	Silty Clay (CL) Low plasticity, firm, damp, reddish brown, odor, calcareous	
5	224			90	Sandy Clay/Clayey Sand (CL/SC) Low plasticity, fine grain, damp, dark brown, hydrocarbon odor, sand seams present	
7	1202			90	Sandy Clay/Clayey Sand (CL) Similar to above	
9	1228			90	Sandy Silty Clay (CL) Low plasticity, soft, damp, dark brown, hydrocarbon odor	
11	1525			90	Sandy Clay (CL) Similar to above, with moist to saturated sand seams, hydrocarbon odor	
13	377			90	Clayey Sand (SC) Fine grain, loose to compact, saturated, hydrocarbon odor, dark brown	
15					Sandy Clay (CL) Low plasticity, soft to firm, moist, dark brown, hydrocarbon odor	
17					Total Depth = 15' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.732'; Boring ID - SB08

Total Depth: 21' bgl
Ground Water: Saturated @ 17.5' bgl
Elev., TOC (ft. msl): 6946.81
Elev., PAD (ft. msl): 6944.24
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,556.28 **E** 2,545,811.85

Well No.: MKTF-06
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	15.9			70	Fill (Silt/Silty Clay) Low plasticity, stiff, dry, light brown, no odor	
3	228			60	Fill (Silty Clay/Gravel) Similar to above, dry, no odor	
5	177			60	Fill (Silty Clay) Similar to above, damp, no odor	
7	264			40	Fill (Silty Clay) Low plasticity, soft, damp, brown, gravel and wood debris	
9				--	No recovery	
11	90			10	Fill (Silty Clay/Gravel) Similar to above	
13	660			100	Sandy Silty Clay (CL) Low plasticity, soft, damp to moist at base, brown, hydrocarbon odor	
15						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.732'; Boring ID - SB08

Total Depth: 21' bgl
Ground Water: Saturated @ 17.5' bgl
Elev., TOC (ft. msl): 6946.81
Elev., PAD (ft. msl): 6944.24
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,556.28 **E** 2,545,811.85

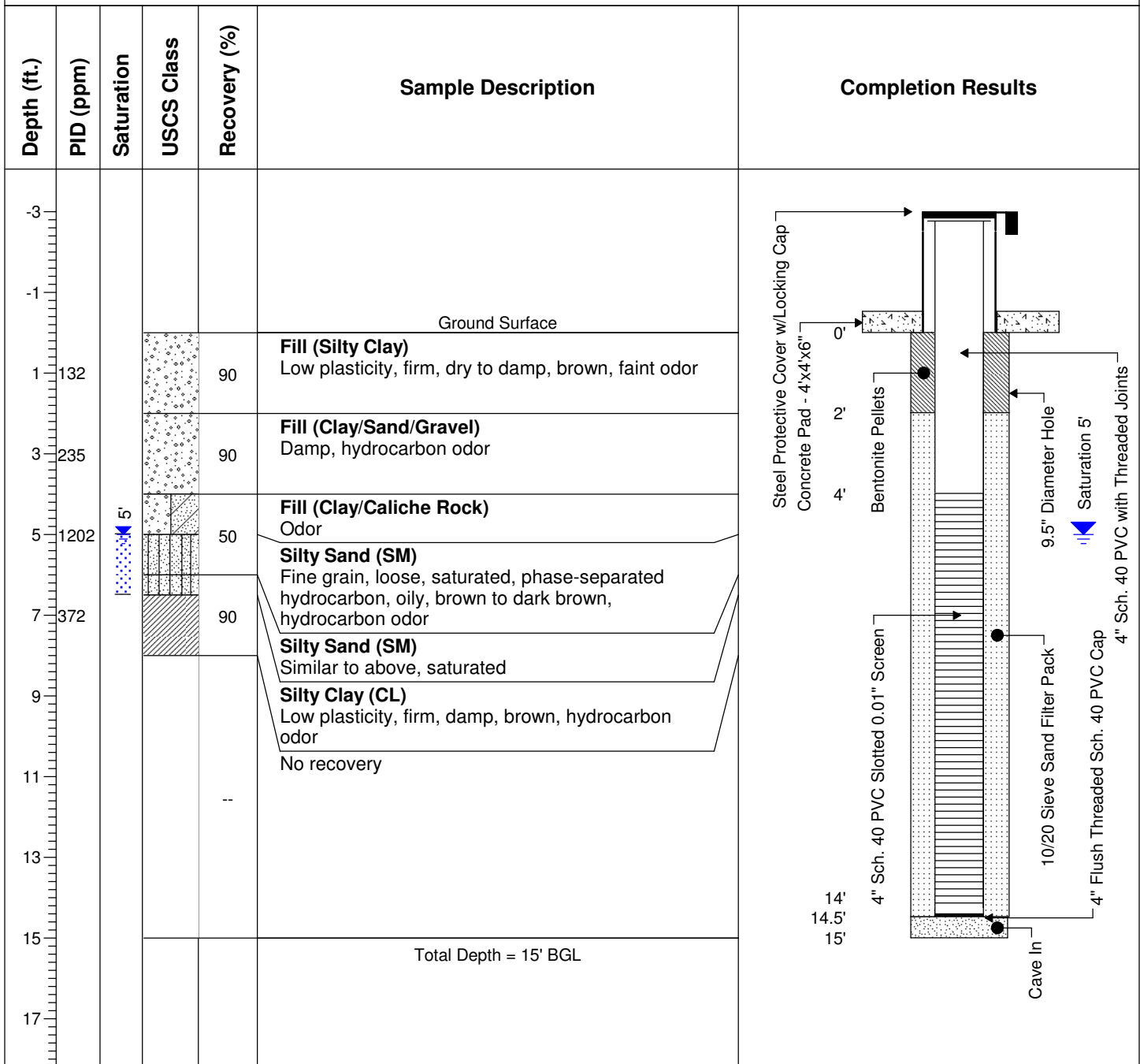
Well No.: MKTF-06
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
1115		17.5'		100	Sandy Silty Clay (CL) Similar to above, moist, oily, hydrocarbon odor	10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen 20.5' 20' 21' Cave In 4" Flush Threaded Sch. 40 PVC Cap Saturation 17.5'
17				100	Gravelly Sandy Clay (CL) Low plasticity, firm, moist, oily, 1" gravel, strong hydrocarbon odor	
19				100	Clayey Gravel Sand (SC) Fine to medium grain, loose, saturated, phase-separated hydrocarbon present, black, hydrocarbon odor	
225				100	Sandy Clay (CL) Low plasticity, firm, moist, black hydrocarbon odor	
21					Total Depth = 21' BGL	
23						
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.295' W 108°25.710'; Boring ID - SB10

Total Depth: 15' bgl
Ground Water: Saturated @ 5' bgl
Elev., TOC (ft. msl): 6947.18
Elev., PAD (ft. msl): 6944.40
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,555.11 **E** 2,545,885.42

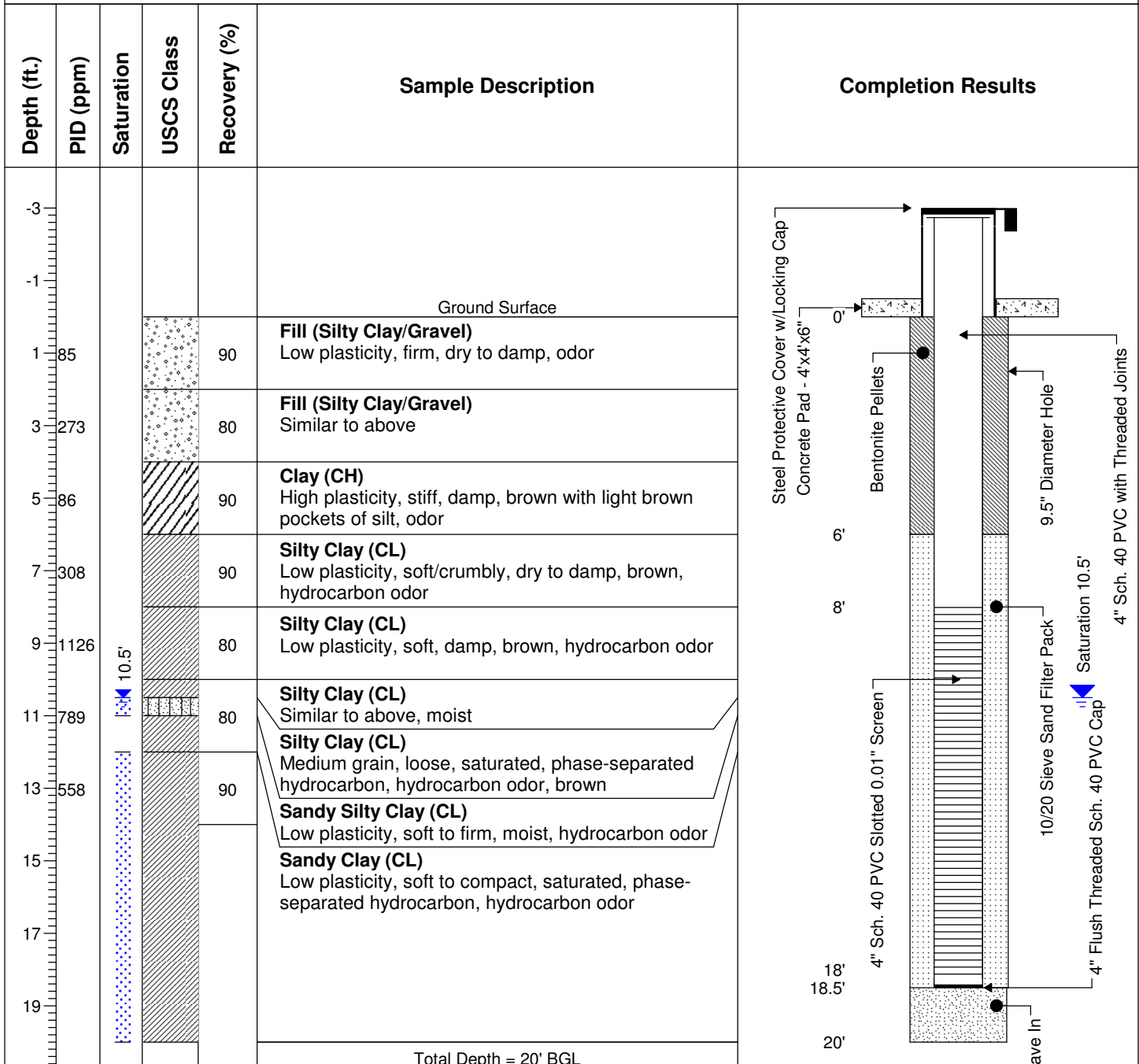
Well No.: MKTF-07
Start Date: 11/11/2013
Finish Date: 11/11/2013



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.302' W 108°25.716'; Boring ID - SB11

Total Depth: 20' bgl
Ground Water: Saturated @ 10.5' bgl
Elev., TOC (ft. msl): 6947.09
Elev., PAD (ft. msl): 6944.02
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,598.94 **E** 2,545,885.02

Well No.: MKTF-08
Start Date: 11/11/2013
Finish Date: 11/11/2013



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.316' W 108°25.715'; Boring ID - SB13

Total Depth: 22' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6946.50
Elev., PAD (ft. msl): 6943.57
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,681.33 **E** 2,545,895.93

Well No.: MKTF-09
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1	21.9			90	Fill (Silty Clay) Low plasticity, stiff, dry to damp, no odor, brown	Steel Protective Cover w/Locking Cap Concrete Pad - 4'x4'x6" Bentonite Pellets 9.5" Diameter Hole 4" Sch. 40 PVC with Threaded Joints 10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen Saturation 12'
3	32.7			90	Fill (Silty Clay) Similar to above, gravel	
5	36.1			90	Silty Clay (CL) Low plasticity, soft, damp, brown, faint odor	
7	37			90	Silty Clay (CL) Similar to above	
9	533			90	Silty Clay (CL) Similar to above	
11	314			90	Sandy Clay (CL) Similar to above, increase in sand and moisture	
13	651			90	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor, dark brown	
15	587			90	Sandy Clay/Clayey Sand (CL/SC) Fine to medium grain, compact, moist to saturated, hydrocarbon odor	
					Sandy Clay/Clayey Sand (CL/SC) Similar to above, saturated, sheen observed on split spoon, black, hydrocarbon odor	

WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.316' W 108°25.715'; Boring ID - SB13

Total Depth: 22' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6946.50
Elev., PAD (ft. msl): 6943.57
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,681.33 **E** 2,545,895.93

Well No.: MKTF-09
Start Date: 11/11/2013
Finish Date: 11/11/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17				90	Sandy Clay/Clayey Sand (CL/SC) Fine to medium grain, compact, saturated, sheen observed on split spoon, black, hydrocarbon odor	10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen Cave In 4" Flush Threaded Sch. 40 PVC Cap
19					Total Depth = 22' BGL	
21						
23						
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.336' W 108°25.724'; Boring ID SB16

Total Depth: 18' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6937.16
Elev., PAD (ft. msl): 6937.51
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,807.47 **E** 2,545,853.54

Well No.: MKTF-10
Start Date: 10/31/2013
Finish Date: 10/31/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	90			90	Fill (Silt/Gravel) Low plasticity, loose, dry, light brown	
3	14			90	Fill (Silty Clay/Gravel) Similar to above	
5	431			90	Silty Clay (CL) Low plasticity, stiff, dry, reddish brown, odor, calcareous	
7	448			60	Sand (SP) Fine grain, loose, dry, reddish brown, odor	
9	654	9		60	Sand (SP) Similar to above, saturated at 9' bgl, phase-separated hydrocarbon, hydrocarbon odor	
11	1559			90	Clayey Sand (SC) Fine grain, soft, saturated, phase-separated hydrocarbon, brown to black, hydrocarbon odor	
13	713			90	Clayey Sand/Sandy Clay (SC/CL) Low plasticity, firm to stiff, moist to saturated, hydrocarbon odor, dark brown	
15				90		
17						
19					Total Depth = 18' BGL	
21						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.336' W 108°25.739'; Boring ID - SB17

Total Depth: 19' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6931.34
Elev., PAD (ft. msl): 6931.61
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,806.93 **E** 2,545,754.77

Well No.: MKTF-11
Start Date: 10/31/2013
Finish Date: 10/31/2013

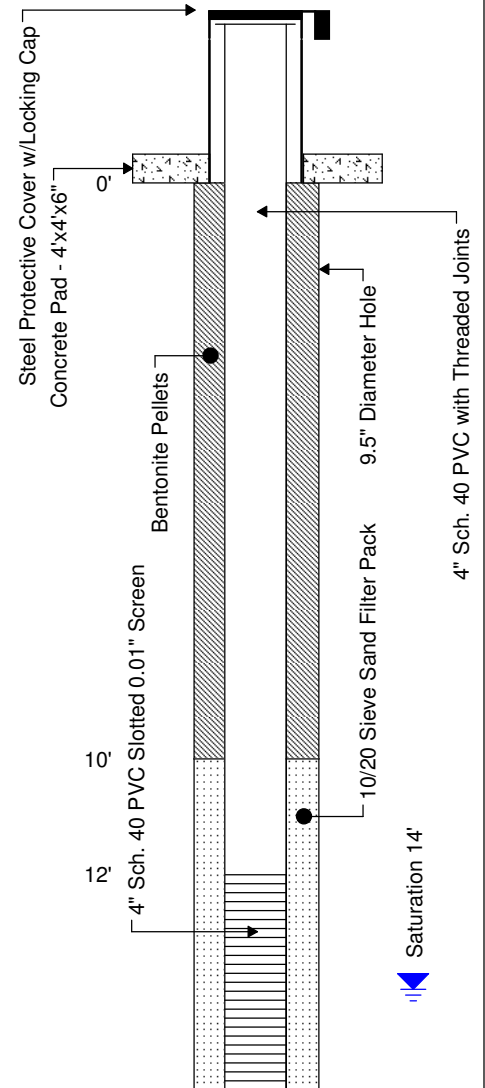
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	14			60	Fill (Silty Clay/Gravel) Low plasticity, stiff, dry, light brown	
3	36			70	Fill (Silty Clay) Similar to above	
5	80			90	Silty Clay (CL) Low plasticity, firm, damp, brown, calcareous	
7	125			80	Silty Clay (CL) Similar to above	
9	1259			80	Silty Clay (CL) Low plasticity, firm, damp, oily, hydrocarbon odor, dark brown	
11	860	12		70	Silty Clay (CL) Similar to above, moist, hydrocarbon odor, oily, phase-separated hydrocarbon	
13	1716			60	Sandy Clay (CL) Low plasticity, soft, moist to saturated, hydrocarbon odor, dark brown	
15	1050			70	Silty Sand (SM) Medium grain, loose, saturated, hydrocarbon odor, dark brown to black	
17				70	Sandy/Silty Clay (CL) Low plasticity, firm, saturated, dark brown to black, hydrocarbon odor	
19					Total Depth = 19' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.294' W 108°25.754'; Boring ID - SB19

Total Depth: 23' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6942.11
Elev., PAD (ft. msl): 6939.70
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,542.07 **E** 2,545,688.29

Well No.: MKTF-12
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	8.7			90	Silt/Gravel (ML) Low plasticity, soft, dry/damp, no odor, brown	
3	54			80	Silt/Gravel (ML) Similar to above	
5	7			70	Gravel/Silt (GW) 1/2 to 1" gravel, loose, compact, dry, no odor	
7	7.5			70	Clayey Sandy Silt (ML) Very fine grain, compact, dry to damp, brown, no odor	
9	5.5			60	Sandy Clay (CL) Low plasticity, firm, damp, light brown, no odor	
11	5.8			70	Sandy Clay (CL) Similar to above, brown, no odor	
13	10			70	Sandy Clay (CL) Similar to above	
13		14'			Silty Sand (SM) Fine to medium grain, loose, damp, brown, no odor	
15	225			50	Sandy Clay (CL) Low plasticity, firm, moist to saturated in sand seams, hydrocarbon odor, dark brown	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.294' W 108°25.754'; Boring ID - SB19

Total Depth: 23' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6942.11
Elev., PAD (ft. msl): 6939.70
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,542.07 **E** 2,545,688.29

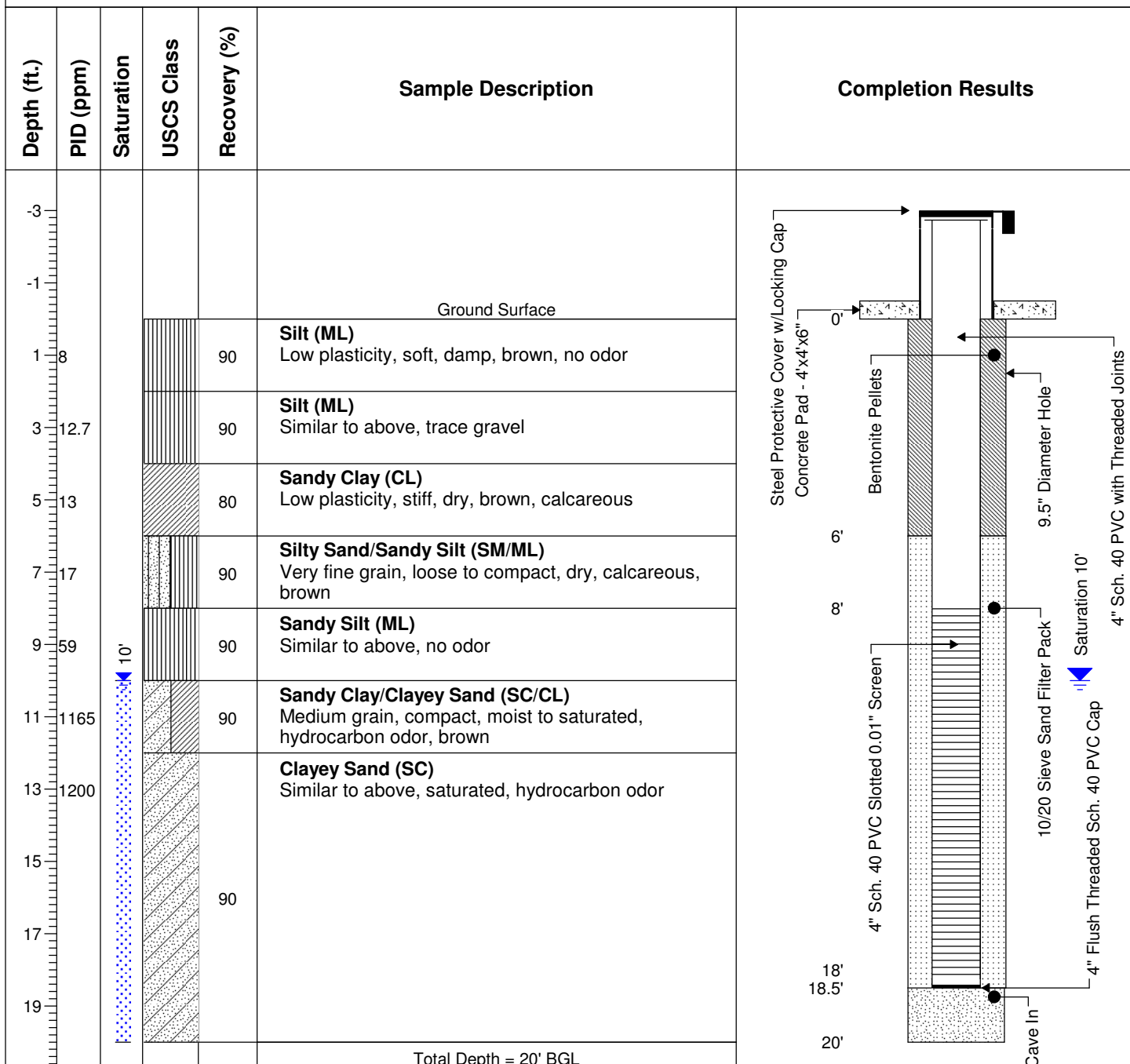
Well No.: MKTF-12
Start Date: 11/7/2013
Finish Date: 11/7/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	319			70	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor	10/20 Sieve Sand Filter Pack 4" Sch. 40 PVC Slotted 0.01" Screen 4" Flush Threaded Sch. 40 PVC Cap Cave In
19	400			--	Sandy Clay (CL) Similar to above, moist, hydrocarbon odor	
21	532			--	Sandy Clay/Clayey Sand (CL) Very fine grain, compact, moist to saturated, sheen observed in split spoon, hydrocarbon odor	
23					Total Depth = 23' BGL	
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.307' W 108°25.755'; Boring ID - SB20

Total Depth: 20' bgl
Ground Water: Saturated @ 10' bgl
Elev., TOC (ft. msl): 6935.18
Elev., PAD (ft. msl): 6933.67
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,625.25 **E** 2,545,697.39

Well No.: MKTF-13
Start Date: 11/12/2013
Finish Date: 11/12/2013

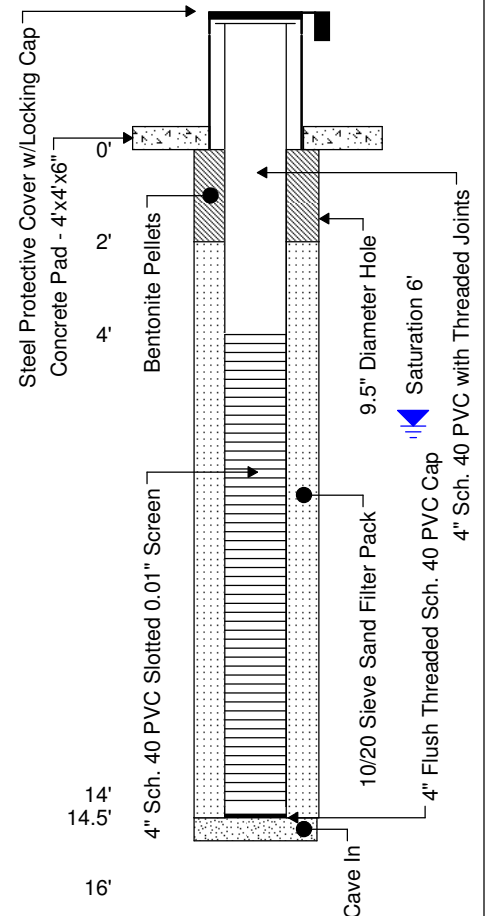


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.323' W 108°25.769'; Boring ID SB22

Total Depth: 15' bgl
Ground Water: Saturated @ 6' bgl
Elev., TOC (ft. msl): 6928.02
Elev., PAD (ft. msl): 6925.65
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,719.43 **E** 2,545,625.96

Well No.: MKTF-14
Start Date: 11/12/2013
Finish Date: 11/12/2013

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	18			20	Silty Clay (CL) Low plasticity, soft, damp, brown	
3	308			90	Silty Clay (CL) Similar to above, odor	
5	793	6'		90	Sandy Clay (CL) Low plasticity, firm, moist, oily, brown, trace gravel	
7	504			90	Clayey Sand (SC) Medium grain, loose to compact, saturated, phase-separated hydrocarbon, hydrocarbon odor, black	
9	760			90	Clayey Sand (SC) Similar to above	
11						
13						
15					Total Depth = 15' BGL	
17						
19						

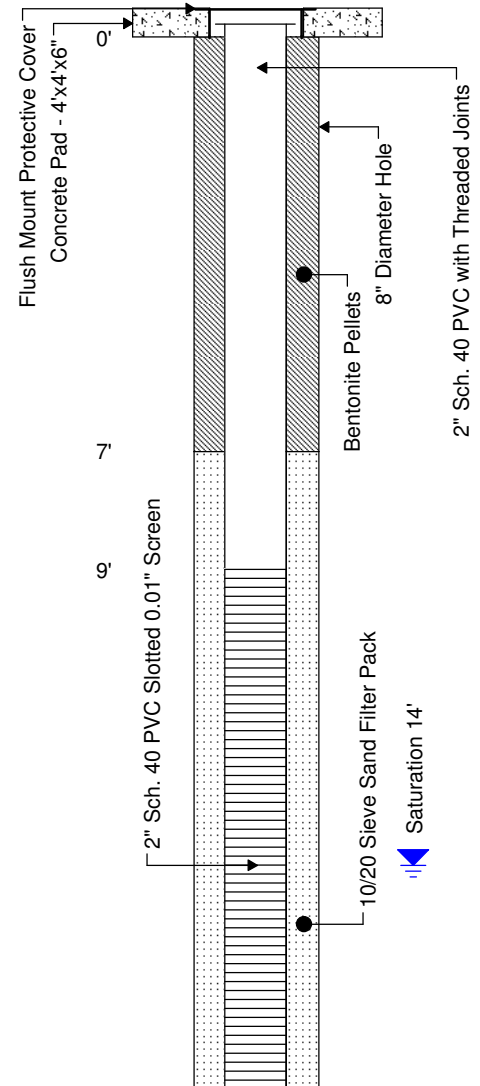


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.343' W 108°25.708'; Boring ID - SB31

Total Depth: 22' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6943.48
Elev., PAD (ft. msl): 6943.74
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,845.57 **E** 2,545,934.58

Well No.: MKTF-15
Start Date: 10/29/2013 09:30
Finish Date: 10/29/2013 12:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1	6.7			0	Fill (Clay and Gravel) No recovery	
3	14.6			90	Fill (Clay and Gravel) Reddish brown	
5				90	Fill (Clay and Gravel) Similar to above, no odor	
7	823			90	Fill (Silty Clay) Reddish brown, hydrocarbon odor	
9	1004			90	Silty Sandy Clay (CL) Low plasticity, firm to soft, damp, reddish brown, hydrocarbon odor	
11	293			70	Silty Sand (SM) Fine grain, compact, damp, light reddish brown, no odor	
13	221			80	Sand (SP) Similar to above, odor, moist to very moist	
15				80	Sand (SP) Fine to medium grain, loose, saturated, brown, hydrocarbon odor, phase-separated hydrocarbon present	
17				60	Sandy Silt (ML) Low plasticity, very soft, damp to moist, brown, hydrocarbon odor	



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.343' W 108°25.708'; Boring ID - SB31

Total Depth: 22' bgl
Ground Water: Saturated @ 14' bgl
Elev., TOC (ft. msl): 6943.48
Elev., PAD (ft. msl): 6943.74
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,845.57 **E** 2,545,934.58

Well No.: MKTF-15
Start Date: 10/29/2013 09:30
Finish Date: 10/29/2013 12:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
19				90	Sandy Silt/Silty Sand (ML/SM) Fine grain, loose to compact, moist to saturated, hydrocarbon odor, dark brown to black	19' 19.33' 22' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack Bentonite Pellets 2" Flush Threaded Sch. 40 PVC Cap
					Sandy Silt/Silty Sand (ML/SM) Similar to above, saturated in silty sand lenses, hydrocarbon odor	
21				90	Silty Clay (CL) Low plasticity, firm, damp, brown, faint odor	
					Silty Clay (CL) Similar to above, odor	
23					Total Depth = 22' BGL	
25						
27						
29						
31						
33						
35						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.323' W 108°25.680'; Boring ID - SB32

Total Depth: 16' bgl
Ground Water: Saturated @ 9' bgl
Elev., TOC (ft. msl): 6950.58
Elev., PAD (ft. msl): 6951.00
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,718.14 **E** 2,546,068.55

Well No.: MKTF-16
Start Date: 11/7/2013 08:40
Finish Date: 11/7/2013 11:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	Flush Mount Protective Cover Concrete Pad - 4'x4'x6" Bentonite Pellets 2" Flush Threaded Sch. 40 PVC Cap 10/20 Sieve Sand Filter Pack 8" Diameter Hole Saturation 9' 2" Sch. 40 PVC with Threaded Joints
1				0	Fill (Clay/Gravel) No recovery	
3	469			10	Fill (Clay/Gravel) Similar to above	
5				0	Fill (Clay/Gravel) Similar to above	
7				0	Fill (Clay/Gravel) Similar to above	
9	1445	9'		90	Fill (Clay/Gravel) Saturated at 9' bgl, black discoloration, hydrocarbon odor	
11	1255			90	Gravelly Sand (SW) High plasticity, firm, damp, dark brown, hydrocarbon odor	
13	1412			40	Clayey Sand (SC) Similar to above, hydrocarbon odor	
15	439			80	Clayey Sand (SC) Moderate plasticity, firm, damp, brown, hydrocarbon odor	
17					Total Depth = 16' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.248' W 108°25.724'; Boring ID - SB33

Total Depth: 25' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6945.76
Elev., PAD (ft. msl): 6945.79
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,268.93 **E** 2,545,850.73

Well No.: MKTF-17
Start Date: 11/14/2013 13:00
Finish Date: 11/14/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	Flush Mount Protective Cover Concrete Pad - 4'x4'x6" 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints Bentonite Pellets 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 12' 14'
1				10	Fill (Asphalt/Base/Clay) Low plasticity, soft, damp, brown	
3	150			10	Fill (Clay) Similar to above	
5	157			90	Fill (Sand/Gravel/Clay) Moist to very moist, reddish brown, no odor	
7	92.1			20	Fill (Sand/Gravel/Clay) Similar to above, saturated, odor	
9	65.9			90	Clay (CH) High plasticity, firm, damp, faint odor, brown	
11	17			60	Clay (CH) Similar to above	
13	55			70	Clay (CH) High plasticity, soft, damp, dark brown and black, odor	
15	17.5			60	Clay (CH) Similar to above, faint odor	
17	11.3			10	Clay (CH) Similar to above, trace fine grain sand	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.248' W 108°25.724'; Boring ID - SB33

Total Depth: 25' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6945.76
Elev., PAD (ft. msl): 6945.79
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,268.93 **E** 2,545,850.73

Well No.: MKTF-17
Start Date: 11/14/2013 13:00
Finish Date: 11/14/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17.2		20'		10	Clay (CH) High plasticity, soft, damp, brown	24' 24.33' 25' 10/20 Sieve Sand Filter Pack 2" Sch. 40 PVC Slotted 0.01" Screen 2" Flush Threaded Sch. 40 PVC Cap Saturation 20'
20				70	Sandy Clay (CH) Moderate plasticity, soft, very moist to saturated in sand seams	
22				80	Silty Clayey Gravel (GM) Compact to loose, medium grain sand to 1/4" gravel - angular, saturated, brown	
24				90	Clay (CH) Moderate plasticity, firm to stiff, damp, greenish gray	
Total Depth = 25' BGL						
26						
28						
30						
32						
34						
36						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.692'; Boring ID - SB34

Total Depth: 27' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6950.65
Elev., PAD (ft. msl): 6950.97
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,497.53 **E** 2,546,006.29

Well No.: MKTF-18
Start Date: 11/15/2013 10:00
Finish Date: 11/15/2013 15:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-1					Ground Surface	
1				--	Fill (Gravel and Silty Clay)	
3	1009			20	Fill (Gravel and Silty Clay) Similar to above, strong hydrocarbon odor, damp	
5	693			60	Fill (Gravel and Silty Clay) Similar to above	
7	1108			70	Fill (Silty Clay) Low plasticity, firm, damp, brown, gravel present, strong hydrocarbon odor	
9	901			90	Fill (Clay/Sand/Gravel) Similar to above, saturated, odor, sheen observed	
11	803			60	Clay (CH) High plasticity, stiff, damp, brown, hydrocarbon odor	
13	254			70	Clay (CH) Similar to above, very fine grain, sand in partings	
15	200			30	Clay (CH) Similar to above	
17				--	No recovery	

WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.692'; Boring ID - SB34

Total Depth: 27' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6950.65
Elev., PAD (ft. msl): 6950.97
Elev., GL (ft. msl): --
Site Coordinates:
N 1,633,497.53 **E** 2,546,006.29

Well No.: MKTF-18
Start Date: 11/15/2013 10:00
Finish Date: 11/15/2013 15:00

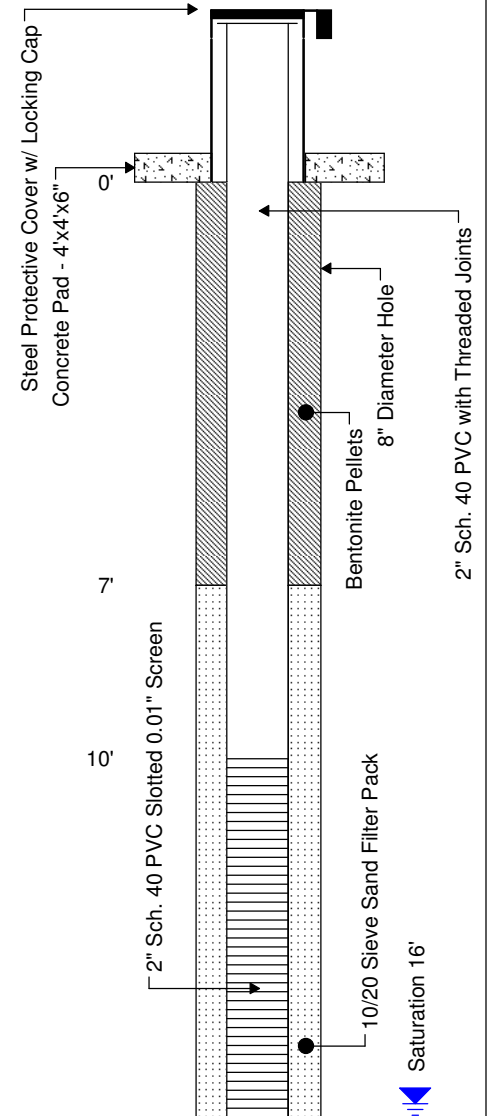
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
112				30	Clay (CH) High plasticity, firm, damp, brown, faint odor	2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack Saturation 23' 2" Flush Threaded Sch. 40 PVC Cap 27' 27.5'
20				20	Clay (CH) Similar to above	
55						
22						
323				80	Clay (CH) Similar to above	
24					Sandy Clay/Clayey Sand (SC/CL) Fine grain, compact, very moist to saturated, brown, hydrocarbon present	
					Clayey Sand (SC) Similar to above, saturated	
26				90	Sandy Clay (CL) Low plasticity, firm, damp, hydrocarbon odor, greenish gray	
28					Total Depth = 27' BGL	
30						
32						
34						
36						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1				-	Fill (Asphate/Base/Clay) Odor	
3	1178			50	Fill (Silty Clay/Sandy Gravel) Brown, strong hydrocarbon odor	
5	1232			90	Fill (Silty Clay/Sandy Gravel) Similar to above, gray discoloration, strong hydrocarbon odor	
7	120			80	Clay (CH) High plasticity, stiff, damp, brown, odor, calcareous, sampling tube is oily	
9	375			70	Clay (CH) Similar to above, odor, oily	
11	601			70	Silty Sandy Clay (CL) Moderate plasticity, firm, damp, brown, hydrocarbon odor, sampling tube is oily	
13	1279			70	Sandy Clay (CL) Low plasticity, soft, damp to moist in sand seams, brown, strong hydrocarbon odor	
15	249			90	Sandy Clay (CL) Similar to above, hydrocarbon odor, tube is oily	
16'						



WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): --
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): --
Site Coordinates:
N **W**

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

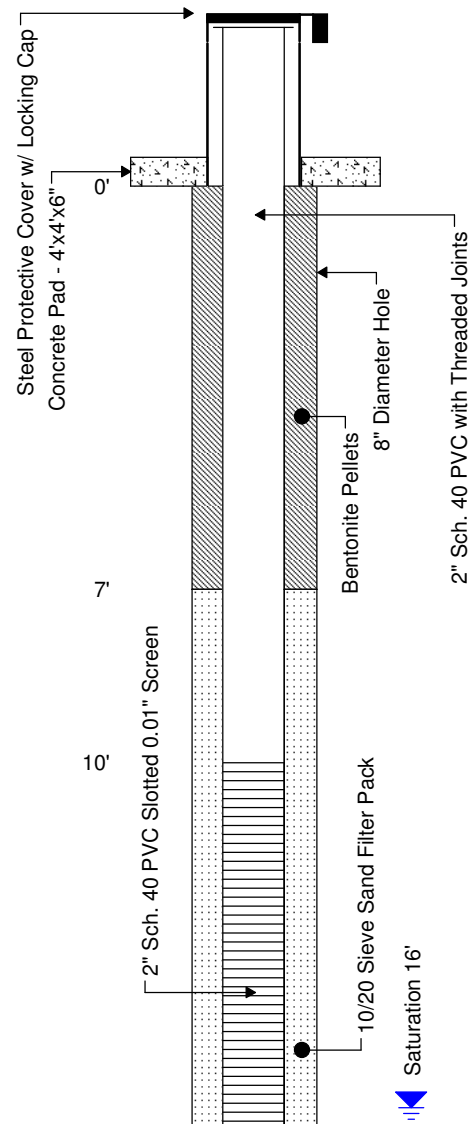
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
18				90	Silty Sand (SM) Fine grain, loose, saturated, oily/phase-separated hydrocarbon, hydrocarbon odor, clay at base	20' 20.33' 20.5' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 2" Flush Threaded Sch. 40 PVC Cap
20				90	Silty Sand (SM) Similar to above	
20					Total Depth = 20' BGL	
22						
24						
26						
28						
30						
32						
34						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): 6944.67
Elev., PAD (ft. msl): 6944.89
Elev., GL (ft. msl): 6944.34
Site Coordinates:
N 1633381.19 **E** 2545842.82

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1				-	Fill (Asphalt/Base/Clay) Odor	
3	1178			50	Fill (Silty Clay/Sandy Gravel) Brown, strong hydrocarbon odor	
5	1232			90	Fill (Silty Clay/Sandy Gravel) Similar to above, gray discoloration, strong hydrocarbon odor	
7	120			80	Clay (CH) High plasticity, stiff, damp, brown, odor, calcareous, sampling tube is oily	
9	375			70	Clay (CH) Similar to above, odor, oily	
11	601			70	Silty Sandy Clay (CL) Moderate plasticity, firm, damp, brown, hydrocarbon odor, sampling tube is oily	
13	1279			70	Sandy Clay (CL) Low plasticity, soft, damp to moist in sand seams, brown, strong hydrocarbon odor	
15	249			90	Sandy Clay (CL) Similar to above, hydrocarbon odor, tube is oily	
16'						



WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.268' W 108°25.726'; Boring ID - SB35

Total Depth: 20' bgl
Ground Water: Saturated @ 16' bgl
Elev., TOC (ft. msl): 6944.67
Elev., PAD (ft. msl): 6944.89
Elev., GL (ft. msl): 6944.34
Site Coordinates:
N 1633381.19 **E** 2545842.82

Well No.: MKTF-19
Start Date: 11/5/2013 08:50
Finish Date: 11/5/2013 11:20

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
18				90	Silty Sand (SM) Fine grain, loose, saturated, oily/phase-separated hydrocarbon, hydrocarbon odor, clay at base	20' 20.33' 20.5' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 2" Flush Threaded Sch. 40 PVC Cap
20				90	Silty Sand (SM) Similar to above	
20					Total Depth = 20' BGL	
22						
24						
26						
28						
30						
32						
34						

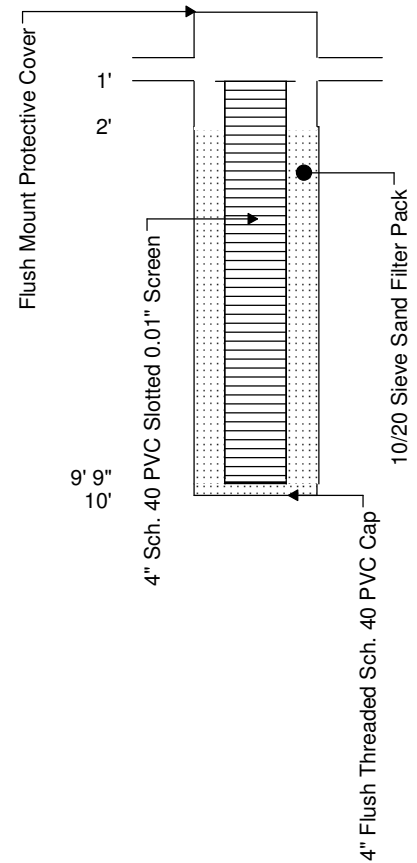
WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Not Applicable
Driller: Western Refining Southwest, Inc.
Drilling Rig: Not Applicable
Drilling Method: Not Applicable
Sampling Method: Not Applicable
Comments: N 35°29.319' W 108°25.674'; Boring ID: Sump-N

Total Depth: 10' bgl
Ground Water: 7.86' ft. BTOC
Elev., TOC (ft. msl): 6951.78
Elev., PAD (ft. msl): 6951.89
Elev., GL (ft. msl): 6951.17
Site Coordinates:
N 1633698.28 **E** 2546111.23

Well No.: MKTF-20
Start Date: 2/10/2014
Finish Date: 2/10/2014

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1					Ground Surface	
3					Fill Material	
5						
7						
9						
11					Total Depth = 10' BGL	
13						
15						
17						
19						



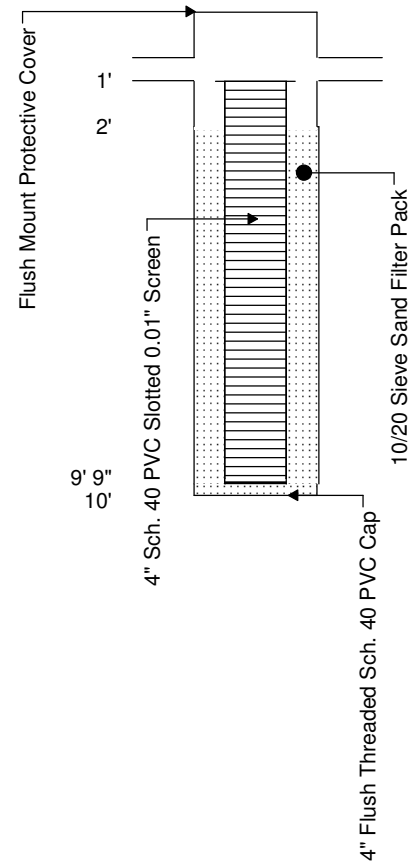
WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Not Applicable
Driller: Western Refining Southwest, Inc.
Drilling Rig: Not Applicable
Drilling Method: Not Applicable
Sampling Method: Not Applicable
Comments: N 35°29.295' W 108°25.675'; Boring ID: Sump-S

Total Depth: 10' bgl
Ground Water: 7.60' ft. BTOC
Elev., TOC (ft. msl): 6952.57
Elev., PAD (ft. msl): 6952.68
Elev., GL (ft. msl): 6952.00
Site Coordinates:
N 1633570.30 **E** 2546110.00

Well No.: MKTF-21
Start Date: 2/10/2014
Finish Date: 2/10/2014

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1						
1					Ground Surface	
3					Fill Material	
5						
7						
9						
11					Total Depth = 10' BGL	
13						
15						
17						
19						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.802'; Boring ID - SB23

Total Depth: 32' bgl
Ground Water: Saturated @ 26' bgl
Elev., TOC (ft. msl): 6942.31
Elev., PAD (ft. msl): 6939.76
Elev., GL (ft. msl): 6938.57
Site Coordinates:
N 1633501.64 **E** 2545478.20

Well No.: MKTF-22
Start Date: 11/8/2013 12:15
Finish Date: 11/8/2013 15:30

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						Steel Protective Cover w/Locking Cap Concrete Pad 4'x4'x6" 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints Bentonite Pellets
-1					Ground Surface	
1	3.4			10	Clayey Silt (ML) Low plasticity, very fine grain, compact to loose, damp, tan, no odor	
3	8.9			20	Clayey Silt (ML) Similar to above	
5	7.0			20	Clayey Silt (ML) Similar to above	
7	7.9			50	Clayey Silt (ML) Similar to above, light brown, no odor	
9	6.4			40	Clayey Silt (ML) Low plasticity, stiff, damp, light brown, no odor	
11	13.7			50	Clayey Silt (ML) Similar to above	
13	12.7			10	Clayey Silt (ML) Similar to above, very stiff	
15	10.1			70	Clayey Silt (ML) Very fine grain, stiff, damp, brown, no odor, becomes sandy at base	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.288' W 108°25.802'; Boring ID - SB23

Total Depth: 32' bgl
Ground Water: Saturated @ 26' bgl
Elev., TOC (ft. msl): 6942.31
Elev., PAD (ft. msl): 6939.76
Elev., GL (ft. msl): 6938.57
Site Coordinates:
N 1633501.64 **E** 2545478.20

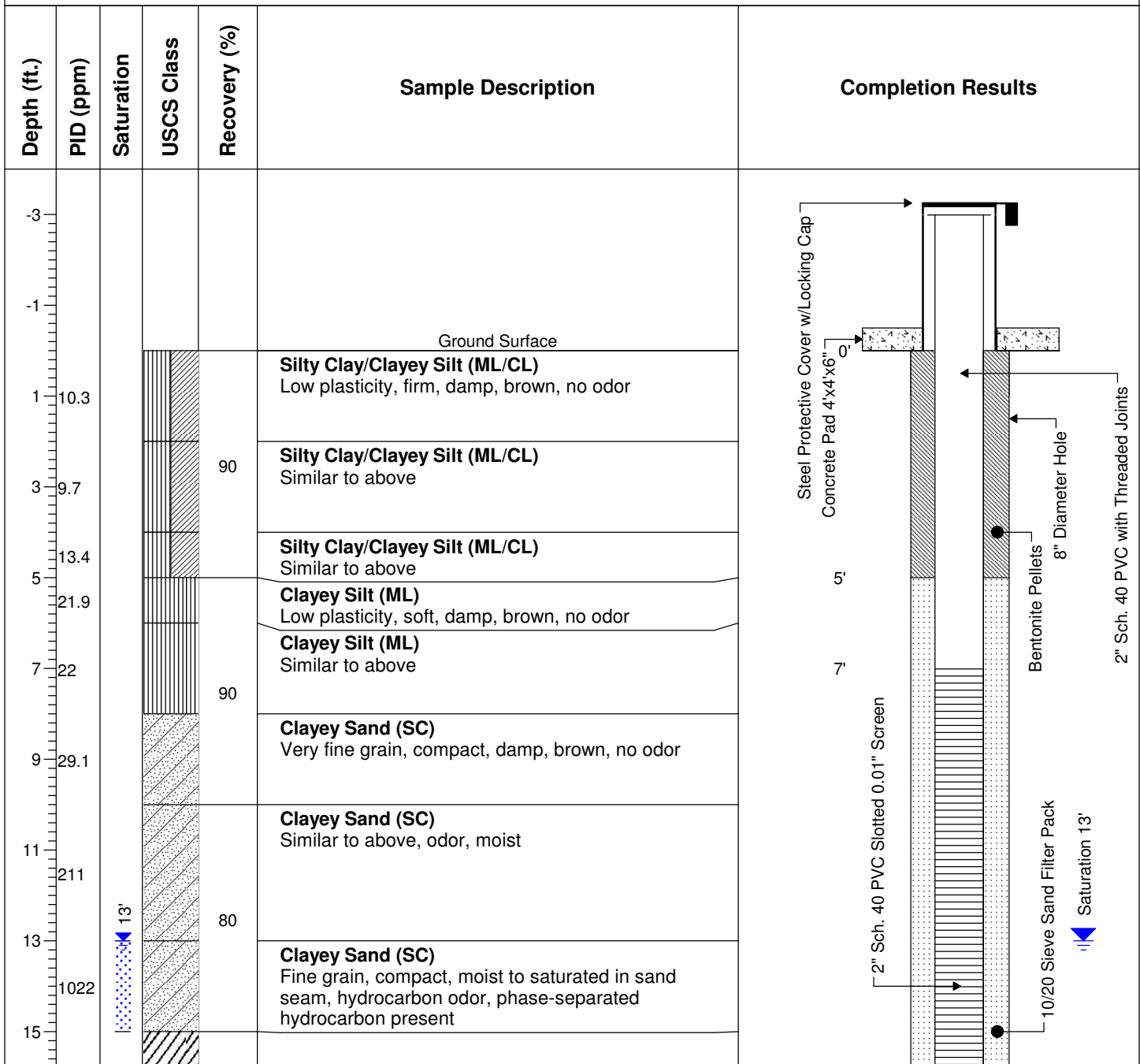
Well No.: MKTF-22
Start Date: 11/8/2013 12:15
Finish Date: 11/8/2013 15:30

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	13.2			10	Silty Clay/Clayey Silt (CL) Similar to above, increase in clay, damper, no odor	
19	17.2			90	Silty Clay (CL) Low plasticity, firm, damp, brown, no odor	
21	14.1			90	Sandy Clay (CL) Low plasticity, soft, damp, brown, no odor	
23	43.1			90	Sandy Clay (CL) Similar to above, damp, faint odor	
25	73.1			90	Sandy Clay (CL) Similar to above, very moist in sand seams, hydrocarbon odor	
27				90	Silty Sand (SM) Fine to medium grain, loose, saturated, brownish gray, hydrocarbon odor	
29				90	Clayey Silt (ML) Very fine grain, soft, moist, dark brown, hydrocarbon odor	
31				90	Silty Clay (CL) Low to moderate plasticity, firm, damp, brown and light olive/gray, no odor at base	
33					Silty Clay (CL) Low plasticity, firm, damp, greenish gray, no odor	
					Total Depth = 32' BGL	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.327' W 108°25.795'; Boring ID - SB25

Total Depth: 20' bgl
Ground Water: Saturated @ 13' bgl
Elev., TOC (ft. msl): 6929.98
Elev., PAD (ft. msl): 6927.23
Elev., GL (ft. msl): 6925.79
Site Coordinates:
N 1633750.93 **E** 2545503.70

Well No.: MKTF-23
Start Date: 11/4/2013 14:00
Finish Date: 11/4/2013 16:00



WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Five-Foot Core Barrel
Comments: N 35°29.327' W 108°25.795'; Boring ID - SB25

Total Depth: 20' bgl
Ground Water: Saturated @ 13' bgl
Elev., TOC (ft. msl): 6929.98
Elev., PAD (ft. msl): 6927.23
Elev., GL (ft. msl): 6925.79
Site Coordinates:
N 1633750.93 **E** 2545503.70

Well No.: MKTF-23
Start Date: 11/4/2013 14:00
Finish Date: 11/4/2013 16:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
32.6					Clay (CH) High plasticity, stiff, damp, brown, no odor	
17				90		
28.9					Sandy Clay (CL) Moderate plasticity, firm, damp, brown and gray, no odor	
19						
22.7						
21					Total Depth = 20' BGL	
23						
25						
27						
29						
31						
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.342' W 108°25.800'; Boring ID - SB26

Total Depth: 30' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6928.72
Elev., PAD (ft. msl): 6926.07
Elev., GL (ft. msl): 6924.62
Site Coordinates:
N 1633853.19 **E** 2545468.48

Well No.: MKTF-24
Start Date: 10/29/2013 13:15
Finish Date: 10/29/2013 16:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						Steel Protective Cover w/Locking Cap Concrete Pad 4'x4'x6" 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints Bentonite Pellets
-1					Ground Surface	
1	14.1			90	Silt/Silty Sand (ML/SM) Very fine to fine grain, loose, dry, brown	
3	11.2			10	Silty Sand (SM) Fine grain, compact/very dense, damp, brown	
5	12.5			90	Silty Sandy Clay (CL) Low plasticity, very dense, damp, brown	
7	11.8			90	Silty Sandy Clay (CL) Similar to above	
9	14.8			60	Silty Sandy Clay (CL) Similar to above	
11	12.5			90	Silty Sandy Clay (CL) Similar to above	
13	12.8			90	Silty Sandy Clay (CL) Similar to above	
15	13.4			90	Clay (CH) High plasticity, firm, damp, brown, trace silt, no odor	

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.342' W 108°25.800'; Boring ID - SB26

Total Depth: 30' bgl
Ground Water: Saturated @ 20' bgl
Elev., TOC (ft. msl): 6928.72
Elev., PAD (ft. msl): 6926.07
Elev., GL (ft. msl): 6924.62
Site Coordinates:
N 1633853.19 **E** 2545468.48

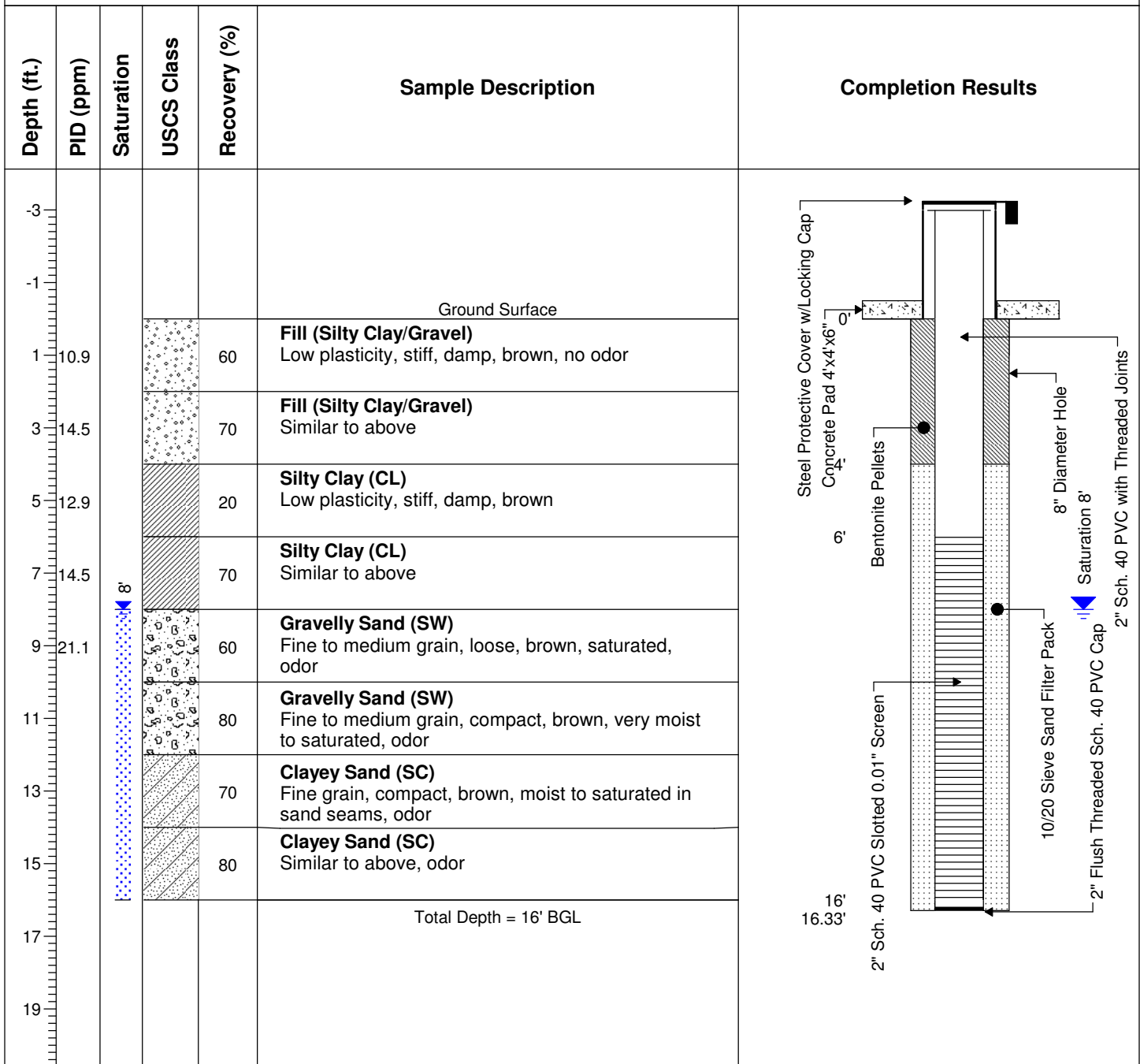
Well No.: MKTF-24
Start Date: 10/29/2013 13:15
Finish Date: 10/29/2013 16:15

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
17	16.8			70	Silty Sandy Clay (CL) Low plasticity, firm, damp, brown, no odor	16' 18' 20' Saturation 28' 28.33' 30' 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 2" Flush Threaded Sch. 40 PVC Cap Cave In
19	33.7			90	Sandy Clay (CL) Low plasticity, soft, damp, brown, no odor	
21	40.8			90	Sandy Clay/Clayey Sand (CL/SC) Fine grain, compact to soft, moist to saturated, brown, no odor	
23				90	Sandy Clay/Clayey Sand (CL/SC) Similar to above, moist to saturated, no odor	
25				90	Sandy Clay/Clayey Sand (CL/SC) Similar to above, moist to saturated, no odor	
27				90	Sandy Clay/Clayey Sand (CL/SC) Similar to above, moist to saturated, greenish gray sand at base	
29				90	Silt/Siltstone (ML) Low plasticity, very dense, dry, crumbly, brown/reddish brown, no odor	
31					Total Depth = 30' BGL	
33						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.372' W 108°25.840'; Boring ID - SB28

Total Depth: 16' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6916.19
Elev., PAD (ft. msl): 6913.35
Elev., GL (ft. msl): 6911.79
Site Coordinates:
N 1634015.86 **E** 2545275.68

Well No.: MKTF-25
Start Date: 10/30/2013 14:45
Finish Date: 10/30/2013 16:30

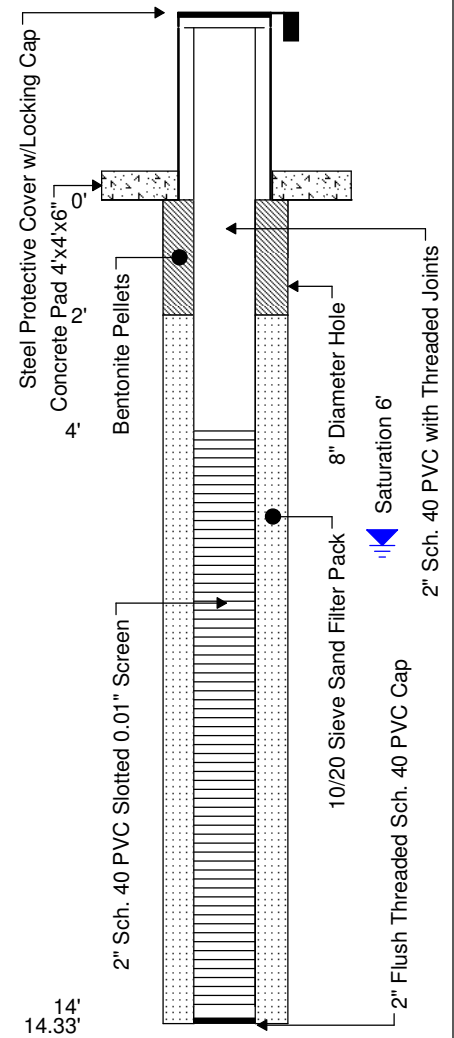


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.373' W 108°25.796'; Boring ID - SB29

Total Depth: 14' bgl
Ground Water: Saturated @ 6' bgl
Elev., TOC (ft. msl): 6915.31
Elev., PAD (ft. msl): 6912.55
Elev., GL (ft. msl): 6911.35
Site Coordinates:
N 1634033.63 **E** 2545492.39

Well No.: MKTF-26
Start Date: 10/30/2013 10:40
Finish Date: 10/30/2013 12:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	17.5			80	Silty Clay (CL) Low plasticity, soft, damp, brown, no odor, trace small gravel	
3	9.4			60	Silty Clay (CL) Similar to above	
5	4.8			60	Silty Clay (CL) Similar to above	
7	34.8	6		90	Sandy Clay/Clayey Sand (SC/CL) Very fine grain, compact/soft, brown, moist, faint odor, saturated at base	
9				70	Sandy Clay (SC) Low plasticity, stiff, damp, brown, no odor	
11				60	Silt/Siltstone (ML) Low plasticity, very dense, dry, reddish brown, very fine grain sand in fissures, no odor	
13				60	Silt/Siltstone (ML) Similar to above	
15					Total Depth = 14' BGL	

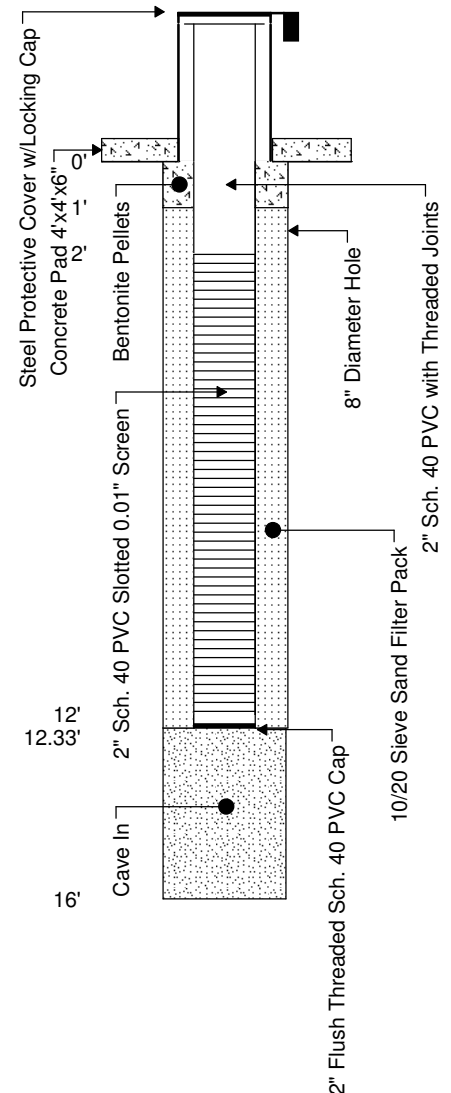


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01809
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: Split Spoon
Comments: N 35°29.387' W 108°25.771'; Boring ID - SB30

Total Depth: 16' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): 6917.90
Elev., PAD (ft. msl): 6915.36
Elev., GL (ft. msl): 6914.18
Site Coordinates:
N 1634115.56 **E** 2545620.98

Well No.: MKTF-27
Start Date: 10/30/2013 09:00
Finish Date: 10/30/2013 10:20

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	3.3			90	Silty Clay (CL) Low plasticity, firm, damp, brown, occasional gravel	
3	4.1			80	Silty Clay (CL) Similar to above	
5	2.4			90	Silty Clay (CL) Similar to above	
7	4.1			90	Silty Clay (CL) Low to moderate plasticity, firm to soft, damp, brown, no odor, calcareous organics present	
9	3.3			80	Silt/Siltstone (ML) Low plasticity, very dense, dry, reddish brown with greenish gray very fine grain sand in fissures, no odor	
11	3.7			80	Silt/Siltstone (ML) Similar to above	
13	4.5			80	Silt/Siltstone (ML) Similar to above	
15	3.9			80	Silt/Siltstone (ML) Similar to above	
17					Total Depth = 16' BGL	
19						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.412' W 108°25.763', Air Temp: 48°F

Total Depth: 30' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): 6921.52
Elev., PAD (ft. msl): 6918.67
Elev., GL (ft. msl): 6917.51
Site Coordinates:
N 1634263.44 **E** 2545650.04

Well No.: MKTF-28
Start Date: 4/2/2014 11:30
Finish Date: 4/2/2014 14:25

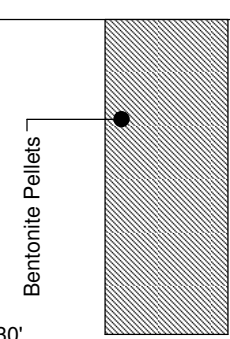
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
-3						
-1					Ground Surface	
1	2.6			90	Fill (Silty Clay) Low plasticity, soft, damp, brown, no odor, sandy at base, moist	Steel Protective Cover w/Locking Cap Concrete Pad - 4'x4'x6" Bentonite Pellets 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints 2" Flush Threaded Sch. 40 PVC Cap Bentonite Pellets
3	5.0					
5	3.6				Silty Clay (CL) Similar to above, damp to moist at 7.5' bgl	
7	7.6			60		
9	8.2					
11	8.1			60	Silty Clay (CL) Low plasticity, stiff, damp to dry, crumbly, brown, no odor	Steel Protective Cover w/Locking Cap Concrete Pad - 4'x4'x6" Bentonite Pellets 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints 2" Flush Threaded Sch. 40 PVC Cap Bentonite Pellets
13	7.5					
15	9.1				Silty Clay (CL) Similar to above	
17	5.5			60		
19	7.8					
21	3.5			60	Silty Clay (CL) Similar to above	Steel Protective Cover w/Locking Cap Concrete Pad - 4'x4'x6" Bentonite Pellets 2" Sch. 40 PVC Slotted 0.01" Screen 10/20 Sieve Sand Filter Pack 8" Diameter Hole 2" Sch. 40 PVC with Threaded Joints 2" Flush Threaded Sch. 40 PVC Cap Bentonite Pellets

WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.412' W 108°25.763', Air Temp: 48°F

Total Depth: 30' bgl
Ground Water: Not Encountered
Elev., TOC (ft. msl): 6921.52
Elev., PAD (ft. msl): 6918.67
Elev., GL (ft. msl): 6917.51
Site Coordinates:
N 1634263.44 **E** 2545650.04

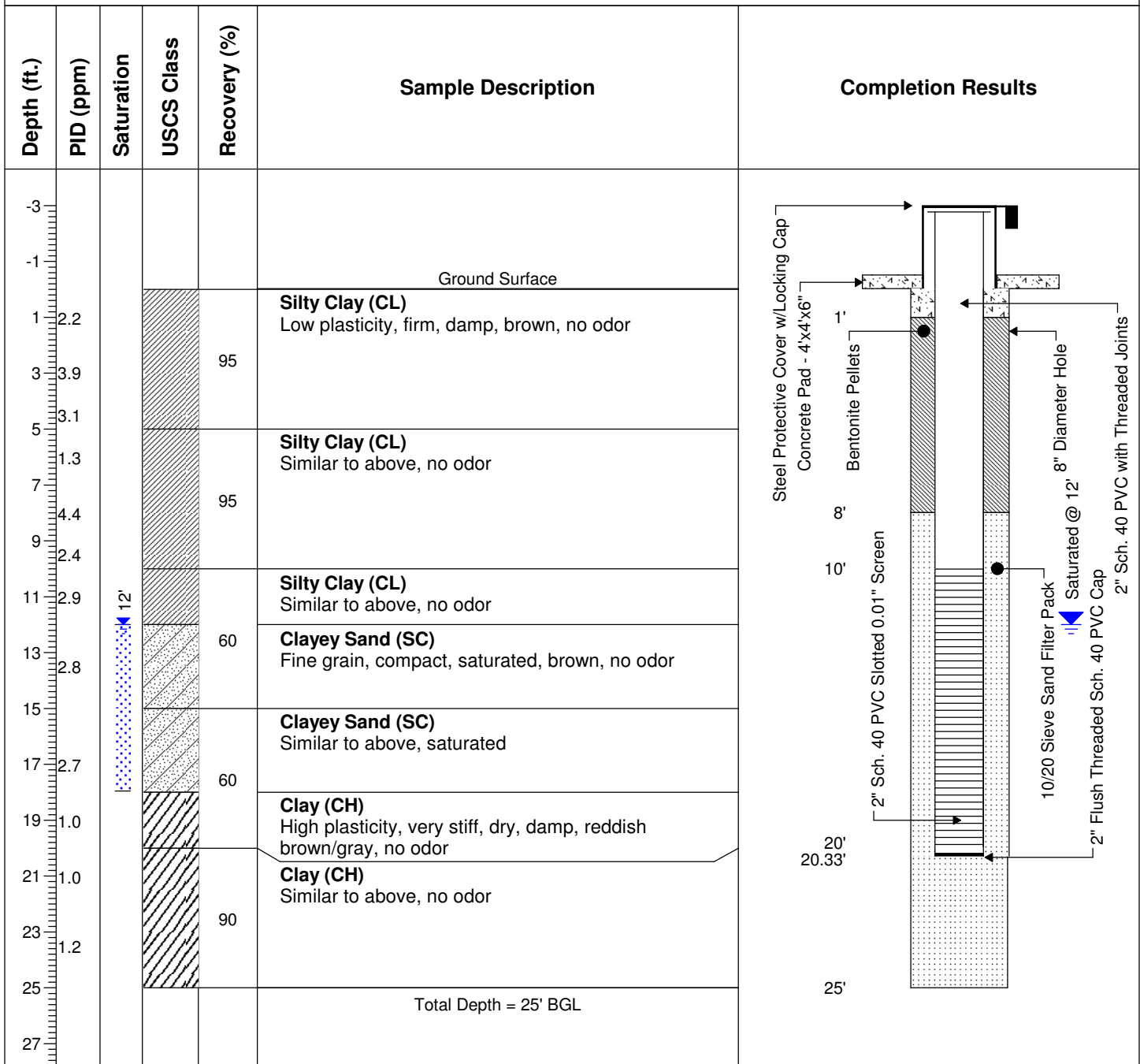
Well No.: MKTF-28
Start Date: 4/2/2014 11:30
Finish Date: 4/2/2014 14:25

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
24	4.3				Clay (CH) High plasticity, very stiff, reddish brown and gray, no odor, crumbly	
26	4.1			60	Clay (CH) Similar to above	
28	3.3					
30					Total Depth = 30' BGL	
32						
34						
36						
38						
40						
42						
44						
46						
48						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.406' W 108°25.846', Air Temp: 41 °F

Total Depth: 25' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6901.62
Elev., PAD (ft. msl): 6898.83
Elev., GL (ft. msl): 6897.67
Site Coordinates:
N 1634249.76 **E** 2545258.34

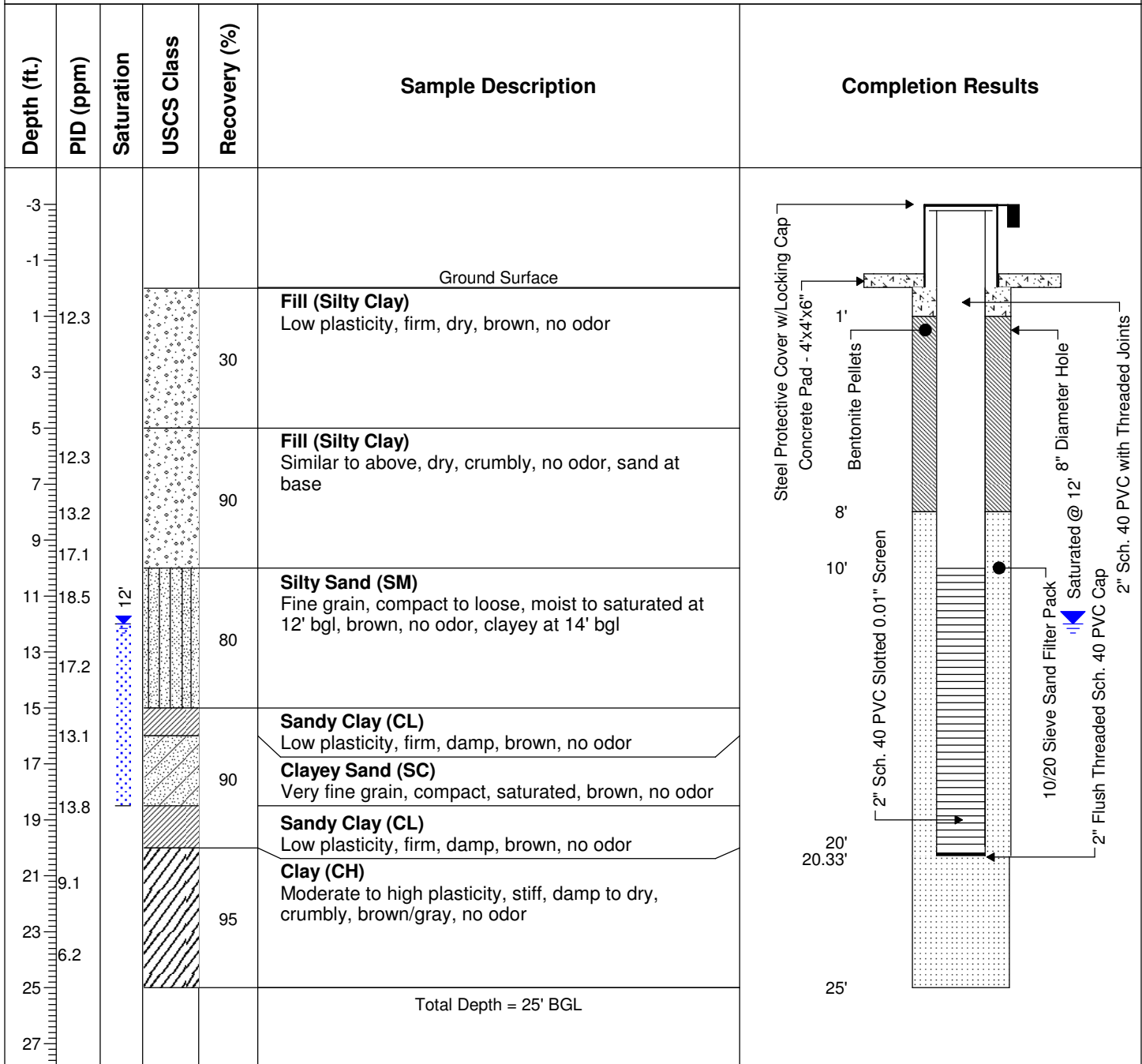
Well No.: MKTF-29
Start Date: 4/2/2014 08:30
Finish Date: 4/2/2014 11:15



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.405' W 108°25.910', Air Temp: 58°F

Total Depth: 25' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6900.80
Elev., PAD (ft. msl): 6898.10
Elev., GL (ft. msl): 6896.68
Site Coordinates:
N 1634225.67 **E** 2544937.91

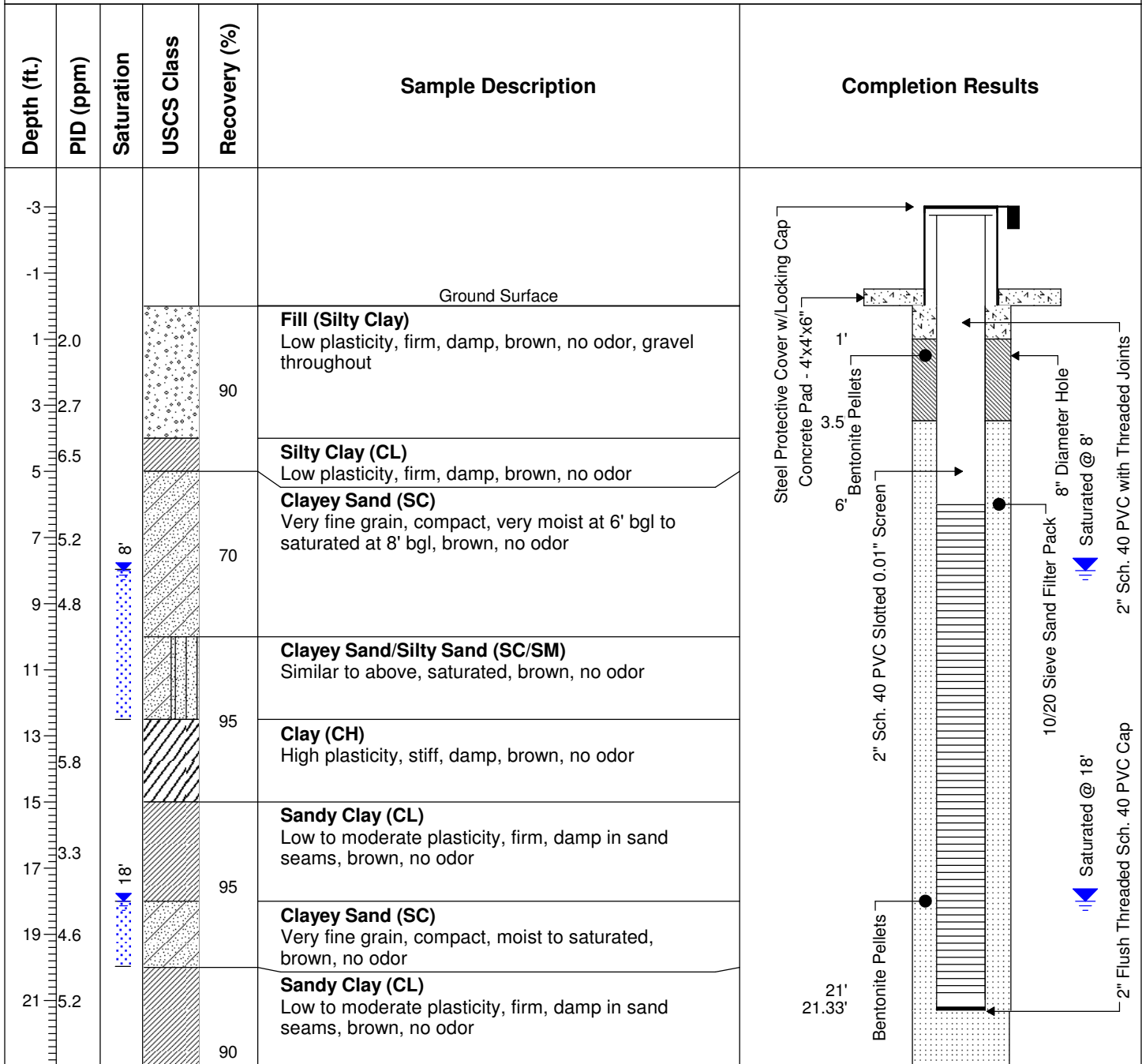
Well No.: MKTF-30
Start Date: 4/1/2014 13:00
Finish Date: 4/1/2014 15:00



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.350' W 108°25.909', Air Temp: 48°F; Boring ID - SB20

Total Depth: 30' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6906.87
Elev., PAD (ft. msl): 6904.26
Elev., GL (ft. msl): 6903.11
Site Coordinates:
N 1633898.83 **E** 2544938.99

Well No.: MKTF-31
Start Date: 4/1/2014 08:20
Finish Date: 4/1/2014 12:00



WELL INSTALLATION

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.350' W 108°25.909', Air Temp: 48°F; Boring ID - SB20

Total Depth: 30' bgl
Ground Water: Saturated @ 8' bgl
Elev., TOC (ft. msl): 6906.87
Elev., PAD (ft. msl): 6904.26
Elev., GL (ft. msl): 6903.11
Site Coordinates:
N 1633898.83 **E** 2544938.99

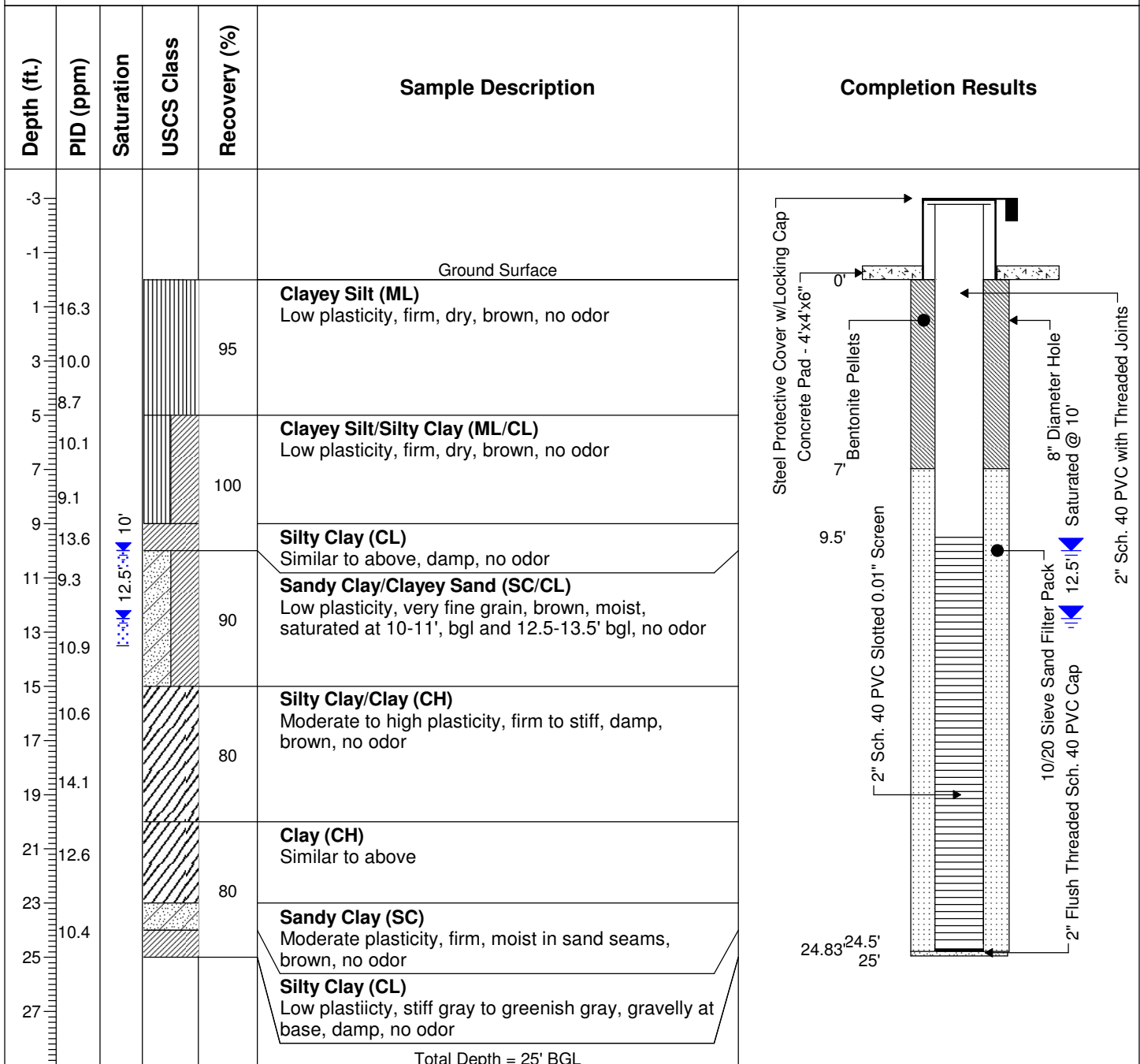
Well No.: MKTF-31
Start Date: 4/1/2014 08:20
Finish Date: 4/1/2014 12:00

Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
24	7.2					
26	2.5			90	Clay (CH) Moderate plasticity, firm, dry to damp, crumbly, reddish brown, no odor	
28	2.3					
30					Total Depth = 30' BGL	30' 10/20 Sieve Sand Filter Pack
32						
34						
36						
38						
40						
42						
44						
46						
48						

Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.275' W 108°25.928', Air Temp: 58°F

Total Depth: 25' bgl
Ground Water: Saturated @ 10' bgl
Elev., TOC (ft. msl): 6911.11
Elev., PAD (ft. msl): 6908.44
Elev., GL (ft. msl): 6907.16
Site Coordinates:
N 1633443.56 **E** 2544840.32

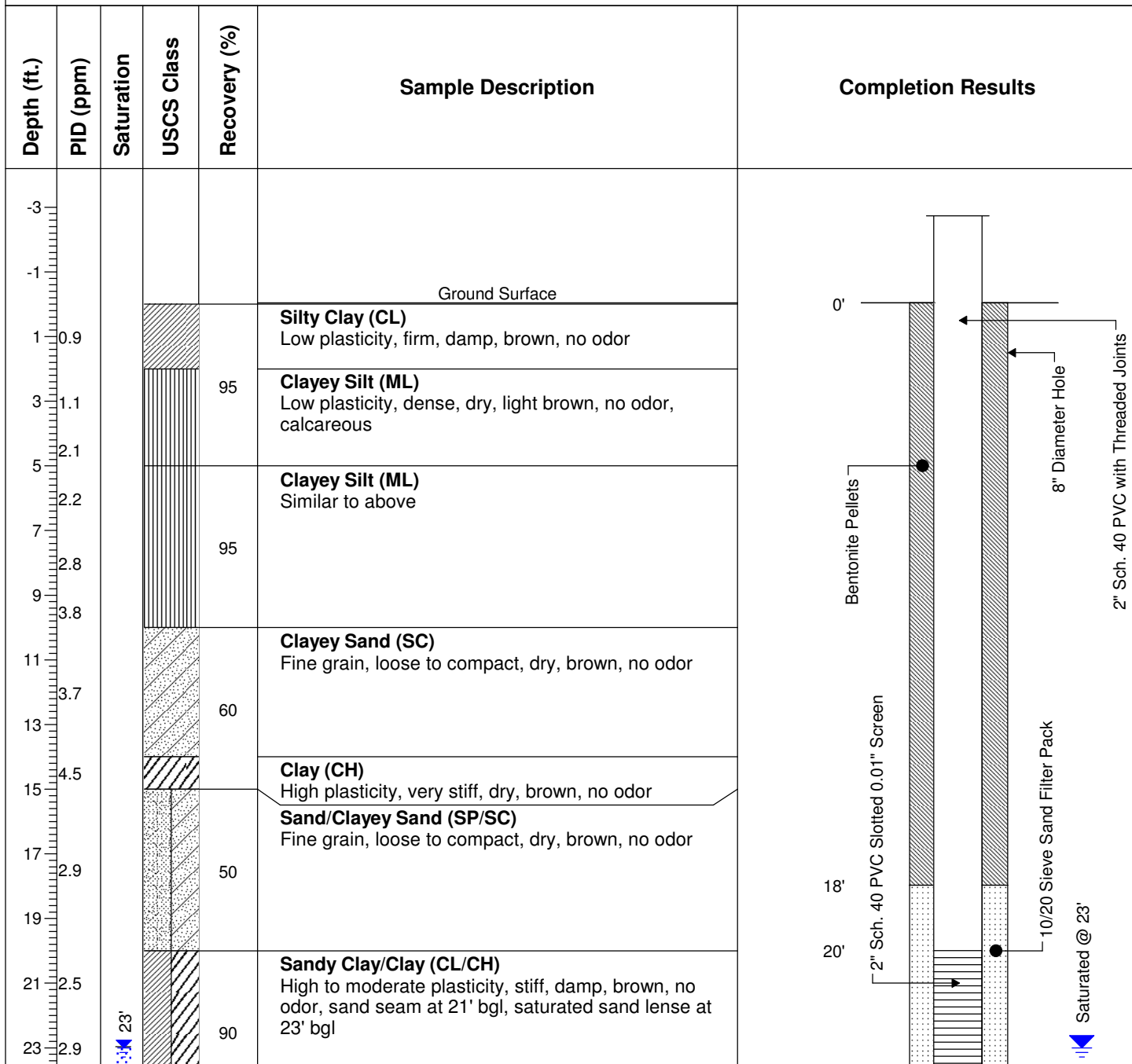
Well No.: MKTF-32
Start Date: 3/31/2014 14:40
Finish Date: 3/31/2014 16:30



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.246' W 108°25.830', Air Temp: 30°F

Total Depth: 35' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6939.75
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): 6936.59
Site Coordinates:
N 1633261.99 **E** 2545318.27

Well No.: MKTF-33
Start Date: 4/3/2014 08:40
Finish Date: 4/3/2014 12:00

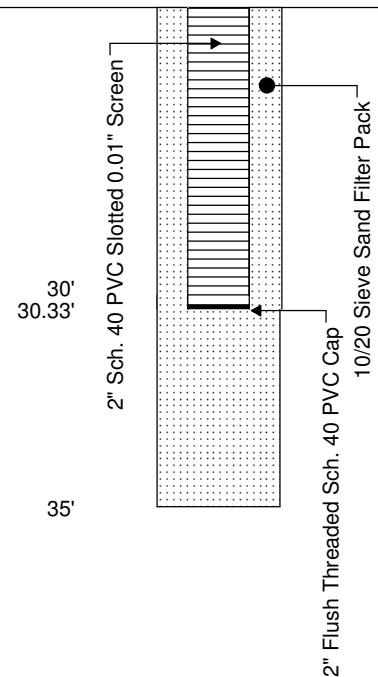


Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.246' W 108°25.830', Air Temp: 30°F

Total Depth: 35' bgl
Ground Water: Saturated @ 23' bgl
Elev., TOC (ft. msl): 6939.75
Elev., PAD (ft. msl): --
Elev., GL (ft. msl): 6936.59
Site Coordinates:
N 1633261.99 **E** 2545318.27

Well No.: MKTF-33
Start Date: 4/3/2014 08:40
Finish Date: 4/3/2014 12:00

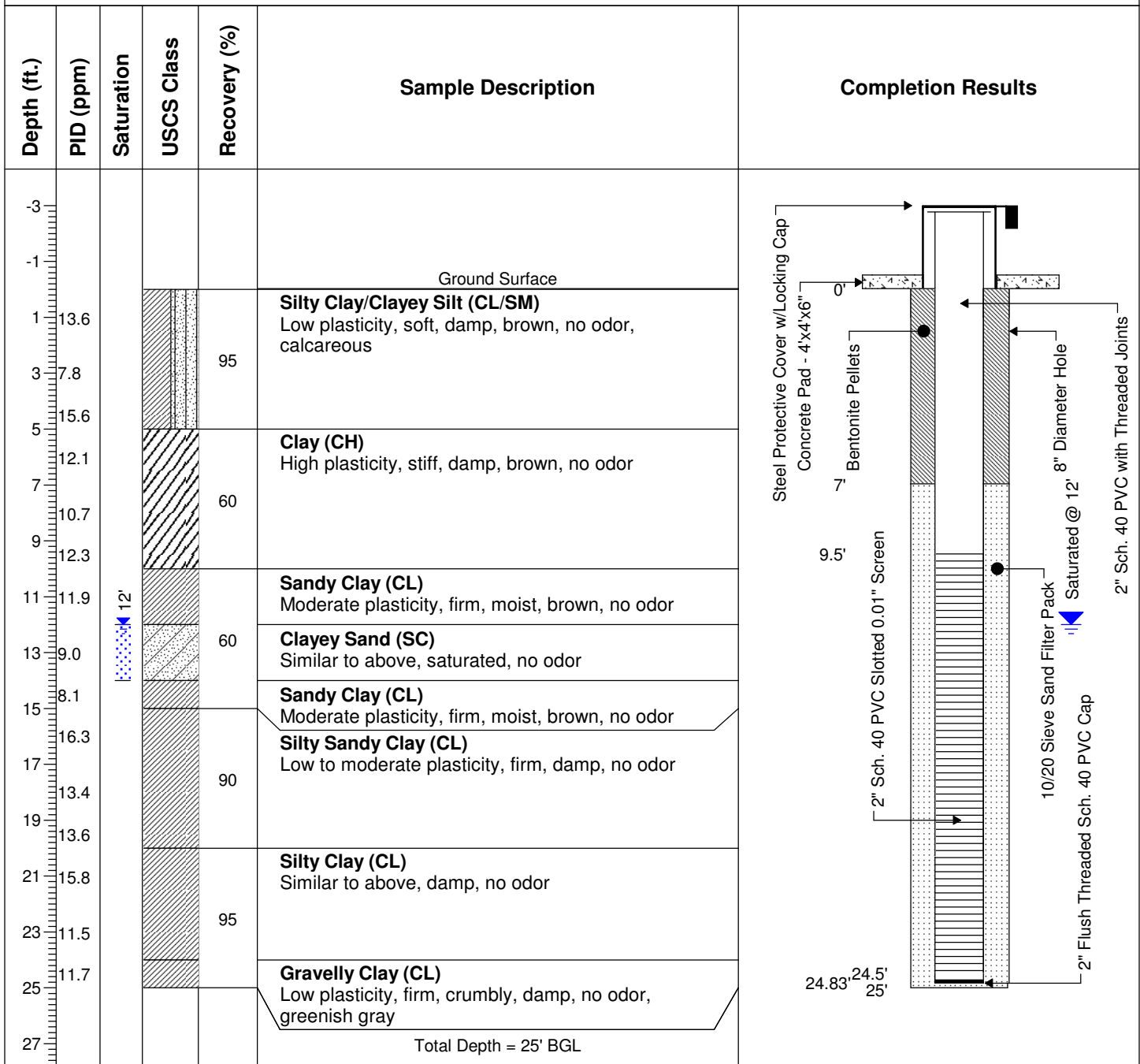
Depth (ft.)	PID (ppm)	Saturation	USCS Class	Recovery (%)	Sample Description	Completion Results
25	3.4					
27	1.6			90	Clayey Sand/Sandy Clay (SC/CL) Moderate plasticity, firm, moist to saturated throughout interval, brown, interbedded sand/clay, no odor	
29	2.5					
31				95	Clay (CH) High plasticity, very stiff, brown, damp, no odor	
33						
35					Total Depth = 35' BGL	
37						
39						
41						
43						
45						
47						
49						



Client: Western Refining Southwest, Inc.
Site: Gallup Refinery - Seep West of Tank 102
Job No.: UEC01867
Geologist: Tracy Payne
Driller: Enviro-Drill, Inc.
Drilling Rig: CME 75
Drilling Method: Hollow Stem Augers
Sampling Method: 5-Foot Split Spoon
Comments: N 35°29.224' W 108°25.757', Air Temp: 49-51 °F

Total Depth: 25' bgl
Ground Water: Saturated @ 12' bgl
Elev., TOC (ft. msl): 6945.35
Elev., PAD (ft. msl): 6942.42
Elev., GL (ft. msl): 6943.52
Site Coordinates:
N 1633118.42 **E** 2545681.30

Well No.: MKTF-34
Start Date: 3/31/2014 11:00
Finish Date: 3/31/2014 13:45





APPENDIX G

SUMMARY OF EPA/NMED/RCRA ACTIVITY

2014 Major Refinery Activities and Events

February

- The Facility Response Plan was revised.
- Completed biennial hazardous waste report for 2013 and sent to NMED HWB.

August

- The EPA conducted a hazardous waste compliance assurance inspection. Part of the inspection focused on the SWMUs and AOCs.
- 2013 Groundwater Discharge report completed and sent to NMED/OCD.
- An energy assessment was conducted of the majority of the refineries fuel burning heaters and boilers.

September

- The annual groundwater sampling was conducted.
- Conducted annual SWPPP inspection.

December

- During the later part of December the WWTP switched from MPPE technology to carbon canisters as the primary benzene removal before flow to STP-1.
- The tank farm earthen berms were surveyed. A few berms showed signs of erosion since the last survey done in 1999. Repairs of .5 inch to 10 inches of berm height will take place in 2015.

Year 2014

- During numerous months of 2014, contractors performed repair/improvements to the evaporation pond earthen berms improving slope and stability.



APPENDIX H

SUMMARY OF ALL LEAKS, SPILLS, AND RELEASES

SPILL SUMMARY REPORT – 2014

DATE	INCIDENT
3/19/2014	An estimated 17.4 barrels of evaporation pond water was released from a breach in the pond dike at 1515 hours. The breach was discovered on the northwest area of Pond 7 earthen dike. Dike was immediately repaired using earth moving equipment that was in the area. The release did not reach a watercourse or waters of the U.S. Spill was reported to appropriate agencies and Form C-141 was filed. A Right of Entry Permit was obtained through the State of New Mexico Commissioner of Public Lands to commence cleanup of spill site which occurred on state lands directly west of the pond. Spill site has been cleaned up and confirmation soil samples were collected.
6/22/2014	At 2030 hours, an underground PVC line containing sewage from the lift station started leaking east of Pond 9. All flow was diverted from the Pilot Travel Center and the lift station to Pond 9. Line from the lift station was blocked in. Chlorine tablets were used to sanitize the affected area from potential biological activity. PVC line was repaired and area cleaned using vacuum truck and sanitized using chlorine tablets. Leak was estimated to be less than 10 barrels. Spill was reported to appropriate agencies and Form C-141 was filed.
8/5/2014	At approximately 1405 hours, oily sewer water from a secondary baker frac tank at the WWTP overflowed to the ground and along a conveyance ditch. It is estimated that 14 barrels of oily sewer water was spilled. Area was cleaned up using a vacuum truck and contaminated soil removed. Spill was reported to appropriate agencies and a Form C-141 was filed.
11/30/2014	At approximately 1715 hours, a 1/8 inch pinhole was discovered in the inlet piping to the NHT fin fan. Line was isolated at 1740 hours. Release was estimated to be 10 barrels of NHT feed stream containing naphtha and hydrogen which occurred for approximately 45 minutes. Spill occurred on a concrete containment pad and no soil was impacted with the leak. Spill was reported to appropriate agencies and a Form C-141 was filed.

Attached are copies of all the Form C-141 filed for 2014.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Western Refining Southwest, Incorporated	Contact	Ed Riege
Address	92 Giant Crossing Road Gallup NM 87301	Telephone No.	505-722-0217
Facility Name	Western Refining Southwest Gallup Refinery	Facility Type	Petroleum Refinery

Surface Owner	Mineral Owner	API No.
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LOCATION OF RELEASE

Unit Letter	Section 23 and 33	Township 15N	Range 15W	Feet from the	North/South Line	Feet from the	East/West Line	County	Mckinley
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Latitude 35° 29' 22" Longitude 108° 25' 24"

NATURE OF RELEASE

Type of Release	Pond Water	Volume of Release	17.4 bbls	Volume Recovered	None
Source of Release	Evaporation Pond #7	Date and Hour of Occurrence	03-19-2014 1500 hr	Date and Hour of Discovery	03-19-2014 1515 hr
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?			
		Message Brandon Powell	phone / email		
		Carl Chavez	phone / email		
		Kristen Van Horn	phone / email		
By Whom?	Ed Riege	Date and Hour	03-19-2014 1805 hr		
			03-19-2014 1810 hr		
			03-19-2014 1815 hr		
Was a Watercourse Reached?	☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A Western employee observed a breach in the pond 7 dike. Western was in the process of improving the pond dikes and earth moving equipment, which was operating nearby, immediately responded to make repairs and stopped the release at 1630Hr.

Western has collected a sample of the water, which flowed through the breach, and soil samples from the impacted area. These samples are being analyzed for volatile organic compounds (VOCs), SVOCs, Diesel Range Organics (extended), New Mexico Water Quality Control Criteria metals, and major cation/anions. The results of the above listed analyses will help to direct any subsequent corrective action steps. The NM State land map indicates the owner of the property west of Pond 7 belongs to the state of New Mexico.

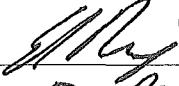
To address any concerns about seepage through the dikes or failure of the perimeter dikes, Western contracted Franklin Earthmoving Inc. to improve approximately 80% of the existing pond dikes. This work began in late January 2014 and is expected to continue through mid to late April. This work consists of widening the dikes and improving the outside slope of the berms, and repairing water and wind erosion to the top of the dikes (see enclosed pictures). The area of the breach at pond 7 was the original dike that had not yet been improved by Franklin as they were working approximately 150 yards northeast of the breach. The area impacted by the breach will be rebuilt to prevent any future breaches/seeps.

In addition to the physical improvement of the pond perimeter dikes, Western is pursuing the installation of a more aggressive evaporation system and water conservation measures. These measures should control free board levels and help prevent future seepage through the dikes and breaching of the dikes. Shallow groundwater is routinely monitored in the area and there is no indication of impacts to groundwater from the evaporation ponds.

Describe Area Affected and Cleanup Action Taken.*

It is estimated that 17.4 bbls of wastewater left the pond with possibly half crossing the fence line west of the dike. The small volume of water was absorbed by the dry soil and the release did not reach a watercourse or waters of the U.S. The results of the above listed analyses will help to direct any subsequent corrective action steps

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: <u>Ed Riege</u>		Approved by Environmental Specialist:	
Title: <u>Environmental Manager</u>		Approval Date:	Expiration Date:
E-mail Address: <u>ed.riege@wnr.com</u>		Conditions of Approval:	
Date: <u>4-1-14</u> Phone: <u>505-722-0217</u>			
		Attached ☐	

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: WESTERN REFINING	Contact: Beck Larsen
Address: I-40 / EXIT 39, JAMESTOWN, NM 87347	Telephone No. (505) 722-0258
Facility Name: WESTERN REFINING (GALLUP REFINERY)	Facility Type: Petroleum Refinery

Surface Owner	Mineral Owner	API No.
---------------	---------------	---------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	28	15 N	15 W					MCKINLEY

Latitude 35° 029' 024" Longitude 108° 024' 024"

NATURE OF RELEASE

Type of Release: Sewage	Volume of Release < 10 bbls	Volume Recovered: N/A
Source of Release: Sanitary Line Rupture from Lift Station	Date and Hour of Occurrence 6/22/14 - 2030 hrs	Date and Hour of Discovery 6/22/14 - 2030
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD (Carl Chavez, Msg) / (6/23/14 Brandon Powell, Msg)	
By Whom? Beck Larsen	Date and Hour: (6/23/14- 1330 hrs, Msg) / (6/23/14- 1340 hrs, Msg)	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*

The pvc (underground) line from the lift station started leaking east of Pond 9. Diverted all flow from the Pilot Travel Cent and the Lift Station to Pond 9. Line from Lift Station was blocked in. Chlorine tables were used to sanitize the affected area from potential biological activity.

Describe Area Affected and Cleanup Action Taken.*

Pooling of sanitary wastewater near pipe rupture, east of road near Pond 9. Excess water crossed roadway toward Pond 9. Chlorine tables were used to sanitize the affected area from potential biological activity. A Work Request has been submitted to clean up area and reaping piping.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Beck Larsen:		Approved by Environmental Specialist:	
Title: Environmental Engineer		Approval Date:	Expiration Date:
E-mail Address: Thurman.larsen@wnr.com		Conditions of Approval:	
Date: 6/23/2014 Phone: (505) 722-0258		Attached ☐	

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: WESTERN REFINING	Contact: Beck Larsen
Address: I-40 / EXIT 39, JAMESTOWN, NM 87347	Telephone No. (505) 722-0258
Facility Name: WESTERN REFINING (GALLUP REFINERY)	Facility Type: Petroleum Refinery

Surface Owner	Mineral Owner	API No.
---------------	---------------	---------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	28	15 N	15 W					MCKINLEY

Latitude 35° 029' 024" Longitude 108° 024' 024"

NATURE OF RELEASE

Type of Release: Dirty Sewer Water	Volume of Release- Oil-14 bbls	Volume Recovered: Oil- 14 bbls
Source of Release: Secondary Baker Frac Tanks at WWTP	Date and Hour of Occurrence 8/5/14 @ 1405 hrs	Date and Hour of Discovery 8/5/14 @ 1405 hrs
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD (C. Chavez) / NMED HWB (Kristen Van Horn)	
By Whom? Beck Larsen	Date and Hour: 8/6/14 C. Chavez @ 1335 hrs / K. Van Horn @ 1345 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully. * N/A

Describe Cause of Problem and Remedial Action Taken. * Oily Sewer Water from the Secondary Baker Frac Tank at the WWTP overflowed to the ground and along a conveyance ditch. Cleanup operations started promptly using a vacuum truck to remove standing liquids from the soil and conveyance ditch. Initial soil samples were collected and submitted to the laboratory for analysis in order to make a proper determination of the extent of penetration of the oil and to determine the amount of cleanup that is required. Analytical results indicated that this material was TPH soil and it was characteristically RCRA non-hazardous.

Describe Area Affected and Cleanup Action Taken. * Approximately 18 cubic yards of soil was excavated from the contaminated area. Five (5) initial soil samples (B-1, B-2, B-3, B-4, and B-5) (lab # 1408348) were collected along the conveyance ditch in the area of contamination and submitted to the laboratory for analysis which gave a preliminary findings. A secondary soil was collected also (B-6, B-7, B-8, B-9, B-10, and B-11) (lab # 1408F15) that was more comprehensive in scope. These findings indicated that only one area (B-7) reflected a higher level of TPH, DRO, and MRO. Additional soils was removed for sample point (B-7) and resubmitted under sample points (C-12 and C-13) (lab # 1409D84). A composite sample was collected for Bin # 2051 (lab # 1409350) for the material that is to be shipped offsite. A Waste Determination indicated that this material is RCRA Non-hazardous TPH soil (PCS, Petroleum Contaminated Soil) and was shipped to a RCRA Non-hazardous Subtitle D Landfill for proper disposal on November 3, 2014 (manifest # D68606) Refer to the attached analysis for further detail.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Beck Larsen	Approved by Environmental Specialist:		
Title: Environmental Engineer	Approval Date:	Expiration Date:	
E-mail Address: Thurman.larsen@wnr.com	Conditions of Approval:		Attached ☐
Date: 2/25/2015	Phone: (505) 722-0258		

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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1000 Rio Brazos Road, Aztec, NM 87410
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State of New Mexico
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Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: WESTERN REFINING	Contact: Beck Larsen
Address: I-40 / EXIT 39, JAMESTOWN, NM 87347	Telephone No. (505) 722-0258
Facility Name: WESTERN RENINING (GALLUP REFINERY)	Facility Type: Petroleum Refinery

Surface Owner	Mineral Owner	API No.
---------------	---------------	---------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	28	15 N	15 W					MCKINLEY

Latitude 35° 029' 024" Longitude 108° 024' 024"

NATURE OF RELEASE

Type of Release: NHT Feed stream containing Naphtha and Hydrogen	Volume of Release ~ 10 bbls	Volume Recovered: N/A
Source of Release: pinhole in the NHT Piping inlet going to the Fin Fan	Date and Hour of Occurrence 11/30/14 @ 1715 hrs	Date and Hour of Discovery 11/30/14 @ 1715 hrs
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD (B. Powel/ C. Chavez); NMED (R Horowitz/K. Vanhorn)	
By Whom? Beck Larsen	Date and Hour: 12/01/14 1712 / 1715; 1719/ 1722 hrs	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.* No

Describe Cause of Problem and Remedial Action Taken.*

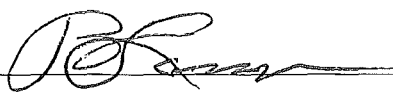
A 1/8 inch pinhole was found in the inlet piping to the NHT Fin Fan. Valve was closed and isolating the fin fan at 1740 hrs. Release was from 1715 hrs to 1820 hrs with the last 45 minutes with foam applied. Operations applied steam to release until ERT team responded within the first 20 minutes and began applying foam to the affected area.

Describe Area Affected and Cleanup Action Taken.*

Concrete containment pad in the NHT Unit. Area was cleaned up. No contamination to soil was impacted.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION

Signature: 	Approved by Environmental Specialist:		
Printed Name: Beck Larsen			
Title: Environmental Engineer	Approval Date:	Expiration Date:	
E-mail Address: thurman.larsen@wnr.com	Conditions of Approval:		Attached ☐
Date: 12/8/2014	Phone: (505) 722-0258		



APPENDIX I

BLANK



APPENDIX J

TEMPORARY LAND FARM ANALYTICAL RESULTS



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 10, 2014

Ed Riege

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1403323

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 9 sample(s) on 3/7/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-01-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:00:00 AM

Lab ID: 1403323-001

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	180	30		mg/Kg	20	3/12/2014 3:30:22 PM	12145
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	3/12/2014 1:53:48 PM	12124
Toluene	ND	0.047		mg/Kg	1	3/12/2014 1:53:48 PM	12124
Ethylbenzene	ND	0.047		mg/Kg	1	3/12/2014 1:53:48 PM	12124
Xylenes, Total	ND	0.093		mg/Kg	1	3/12/2014 1:53:48 PM	12124
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	3/12/2014 1:53:48 PM	12124
Surr: 4-Bromofluorobenzene	94.9	70-130		%REC	1	3/12/2014 1:53:48 PM	12124
Surr: Dibromofluoromethane	104	70-130		%REC	1	3/12/2014 1:53:48 PM	12124
Surr: Toluene-d8	93.9	70-130		%REC	1	3/12/2014 1:53:48 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 1 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-02-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 9:25:00 AM

Lab ID: 1403323-002

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	65	7.5		mg/Kg	5	3/12/2014 4:44:51 PM	12145
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	3/12/2014 3:19:54 PM	12124
Toluene	ND	0.047		mg/Kg	1	3/12/2014 3:19:54 PM	12124
Ethylbenzene	ND	0.047		mg/Kg	1	3/12/2014 3:19:54 PM	12124
Xylenes, Total	ND	0.095		mg/Kg	1	3/12/2014 3:19:54 PM	12124
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	3/12/2014 3:19:54 PM	12124
Surr: 4-Bromofluorobenzene	92.9	70-130		%REC	1	3/12/2014 3:19:54 PM	12124
Surr: Dibromofluoromethane	101	70-130		%REC	1	3/12/2014 3:19:54 PM	12124
Surr: Toluene-d8	88.4	70-130		%REC	1	3/12/2014 3:19:54 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-03-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:50:00 AM

Lab ID: 1403323-003

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	130	30		mg/Kg	20	3/12/2014 5:22:05 PM	12145
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	3/12/2014 3:48:40 PM	12124
Toluene	ND	0.048		mg/Kg	1	3/12/2014 3:48:40 PM	12124
Ethylbenzene	ND	0.048		mg/Kg	1	3/12/2014 3:48:40 PM	12124
Xylenes, Total	ND	0.095		mg/Kg	1	3/12/2014 3:48:40 PM	12124
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	3/12/2014 3:48:40 PM	12124
Surr: 4-Bromofluorobenzene	92.6	70-130		%REC	1	3/12/2014 3:48:40 PM	12124
Surr: Dibromofluoromethane	97.5	70-130		%REC	1	3/12/2014 3:48:40 PM	12124
Surr: Toluene-d8	86.4	70-130		%REC	1	3/12/2014 3:48:40 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-04-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 8:50:00 AM

Lab ID: 1403323-004

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	140	7.5		mg/Kg	5	3/12/2014 5:34:30 PM	12145
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	3/12/2014 4:17:31 PM	12124
Toluene	ND	0.047		mg/Kg	1	3/12/2014 4:17:31 PM	12124
Ethylbenzene	ND	0.047		mg/Kg	1	3/12/2014 4:17:31 PM	12124
Xylenes, Total	ND	0.093		mg/Kg	1	3/12/2014 4:17:31 PM	12124
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	3/12/2014 4:17:31 PM	12124
Surr: 4-Bromofluorobenzene	92.2	70-130		%REC	1	3/12/2014 4:17:31 PM	12124
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/12/2014 4:17:31 PM	12124
Surr: Toluene-d8	94.9	70-130		%REC	1	3/12/2014 4:17:31 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014

Lab ID: 1403323-005

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	95	7.5		mg/Kg	5	3/12/2014 5:59:20 PM	12145
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	0.047		mg/Kg	1	3/12/2014 4:46:07 PM	12124
Toluene	ND	0.047		mg/Kg	1	3/12/2014 4:46:07 PM	12124
Ethylbenzene	ND	0.047		mg/Kg	1	3/12/2014 4:46:07 PM	12124
Xylenes, Total	ND	0.093		mg/Kg	1	3/12/2014 4:46:07 PM	12124
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%REC	1	3/12/2014 4:46:07 PM	12124
Surr: 4-Bromofluorobenzene	96.2	70-130		%REC	1	3/12/2014 4:46:07 PM	12124
Surr: Dibromofluoromethane	98.8	70-130		%REC	1	3/12/2014 4:46:07 PM	12124
Surr: Toluene-d8	85.0	70-130		%REC	1	3/12/2014 4:46:07 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:35:00 AM

Lab ID: 1403323-006

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 504.1 MODIFIED: EDB							Analyst: LRW
1,2-Dibromoethane	ND	0.10		µg/Kg	1	3/17/2014 9:25:53 AM	12197
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1221	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1232	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1242	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1248	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1254	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Aroclor 1260	ND	0.10		mg/Kg	1	3/15/2014 12:23:05 PM	12183
Surr: Decachlorobiphenyl	72.0	37.8-143		%REC	1	3/15/2014 12:23:05 PM	12183
Surr: Tetrachloro-m-xylene	58.0	13.8-144		%REC	1	3/15/2014 12:23:05 PM	12183
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	310	9.9		mg/Kg	1	3/13/2014 12:16:33 PM	12115
Motor Oil Range Organics (MRO)	420	49		mg/Kg	1	3/13/2014 12:16:33 PM	12115
Surr: DNOP	112	66-131		%REC	1	3/13/2014 12:16:33 PM	12115
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMP
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/12/2014 12:33:04 PM	12124
Surr: BFB	84.2	74.5-129		%REC	1	3/12/2014 12:33:04 PM	12124
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	9.1	0.30		mg/Kg	1	3/12/2014 6:24:11 PM	12145
Chloride	91	30		mg/Kg	20	3/12/2014 6:36:35 PM	12145
Nitrogen, Nitrate (As N)	8.0	0.30		mg/Kg	1	3/12/2014 6:24:11 PM	12145
Sulfate	890	30		mg/Kg	20	3/12/2014 6:36:35 PM	12145
EPA METHOD 7471: MERCURY							Analyst: JML
Mercury	0.22	0.031		mg/Kg	1	3/13/2014 8:11:53 PM	12137
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Barium	300	0.20		mg/Kg	2	3/18/2014 10:37:39 AM	12198
Cadmium	ND	0.10		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Chromium	15	0.30		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Copper	11	0.30		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Iron	15000	100	B	mg/Kg	100	3/18/2014 10:57:18 AM	12198
Lead	35	0.25		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Manganese	340	0.20		mg/Kg	2	3/18/2014 10:37:39 AM	12198
Selenium	ND	2.5		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Silver	ND	0.25		mg/Kg	1	3/18/2014 10:29:18 AM	12198

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:35:00 AM

Lab ID: 1403323-006

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Uranium	ND	5.0		mg/Kg	1	3/18/2014 10:29:18 AM	12198
Zinc	61	2.5		mg/Kg	1	3/18/2014 10:29:18 AM	12198
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Acenaphthylene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Aniline	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Anthracene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Azobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benz(a)anthracene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzo(a)pyrene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzo(b)fluoranthene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzo(g,h,i)perylene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzo(k)fluoranthene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzoic acid	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Benzyl alcohol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Bis(2-chloroethoxy)methane	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Bis(2-chloroethyl)ether	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Bis(2-chloroisopropyl)ether	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Bis(2-ethylhexyl)phthalate	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Bromophenyl phenyl ether	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Butyl benzyl phthalate	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Carbazole	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Chloro-3-methylphenol	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Chloroaniline	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Chloronaphthalene	ND	2.5		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Chlorophenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Chlorophenyl phenyl ether	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Chrysene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Di-n-butyl phthalate	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Di-n-octyl phthalate	ND	4.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Dibenz(a,h)anthracene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Dibenzofuran	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
1,2-Dichlorobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
1,3-Dichlorobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
1,4-Dichlorobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
3,3'-Dichlorobenzidine	ND	2.5		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Diethyl phthalate	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Dimethyl phthalate	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,4-Dichlorophenol	ND	4.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:35:00 AM

Lab ID: 1403323-006

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dimethylphenol	ND	3.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4,6-Dinitro-2-methylphenol	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,4-Dinitrophenol	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,4-Dinitrotoluene	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,6-Dinitrotoluene	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Fluoranthene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Fluorene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Hexachlorobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Hexachlorobutadiene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Hexachlorocyclopentadiene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Hexachloroethane	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Indeno(1,2,3-cd)pyrene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Isophorone	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
1-Methylnaphthalene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Methylnaphthalene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Methylphenol	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
3+4-Methylphenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
N-Nitrosodi-n-propylamine	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
N-Nitrosodiphenylamine	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Naphthalene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Nitroaniline	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
3-Nitroaniline	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Nitroaniline	ND	4.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Nitrobenzene	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2-Nitrophenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
4-Nitrophenol	ND	2.5		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Pentachlorophenol	ND	4.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Phenanthrene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Phenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Pyrene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Pyridine	ND	5.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	3/17/2014 2:11:33 PM	12184
Surr: 2-Fluorophenol	0	27.9-127	S	%REC	1	3/17/2014 2:11:33 PM	12184
Surr: Phenol-d5	0	24.5-126	S	%REC	1	3/17/2014 2:11:33 PM	12184
Surr: 2,4,6-Tribromophenol	0	27.6-136	S	%REC	1	3/17/2014 2:11:33 PM	12184
Surr: Nitrobenzene-d5	0	23.5-128	S	%REC	1	3/17/2014 2:11:33 PM	12184
Surr: 2-Fluorobiphenyl	0	22.6-132	S	%REC	1	3/17/2014 2:11:33 PM	12184

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:35:00 AM

Lab ID: 1403323-006

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 4-Terphenyl-d14	0	28.1-128	S	%REC	1	3/17/2014 2:11:33 PM	12184
EPA METHOD 8260B: VOLATILES							Analyst: cadg
Benzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Toluene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Ethylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Methyl tert-butyl ether (MTBE)	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2,4-Trimethylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,3,5-Trimethylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2-Dichloroethane (EDC)	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2-Dibromoethane (EDB)	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Naphthalene	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1-Methylnaphthalene	ND	0.19		mg/Kg	1	3/12/2014 5:14:42 PM	12124
2-Methylnaphthalene	ND	0.19		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Acetone	ND	0.71		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Bromobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Bromodichloromethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Bromoform	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Bromomethane	ND	0.14		mg/Kg	1	3/12/2014 5:14:42 PM	12124
2-Butanone	ND	0.48		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Carbon disulfide	ND	0.48		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Carbon tetrachloride	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Chlorobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Chloroethane	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Chloroform	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Chloromethane	ND	0.14		mg/Kg	1	3/12/2014 5:14:42 PM	12124
2-Chlorotoluene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
4-Chlorotoluene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
cis-1,2-DCE	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
cis-1,3-Dichloropropene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2-Dibromo-3-chloropropane	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Dibromochloromethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Dibromomethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2-Dichlorobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,3-Dichlorobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,4-Dichlorobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Dichlorodifluoromethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1-Dichloroethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1-Dichloroethene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2-Dichloropropane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 10:35:00 AM

Lab ID: 1403323-006

Matrix: SOIL

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: cadg
1,3-Dichloropropane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
2,2-Dichloropropane	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1-Dichloropropene	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Hexachlorobutadiene	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
2-Hexanone	ND	0.48		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Isopropylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
4-Isopropyltoluene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
4-Methyl-2-pentanone	ND	0.48		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Methylene chloride	ND	0.14		mg/Kg	1	3/12/2014 5:14:42 PM	12124
n-Butylbenzene	ND	0.14		mg/Kg	1	3/12/2014 5:14:42 PM	12124
n-Propylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
sec-Butylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Styrene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
tert-Butylbenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1,1,2-Tetrachloroethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1,2,2-Tetrachloroethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Tetrachloroethene (PCE)	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
trans-1,2-DCE	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
trans-1,3-Dichloropropene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2,3-Trichlorobenzene	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2,4-Trichlorobenzene	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1,1-Trichloroethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,1,2-Trichloroethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Trichloroethene (TCE)	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Trichlorofluoromethane	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
1,2,3-Trichloropropane	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Vinyl chloride	ND	0.048		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Xylenes, Total	ND	0.095		mg/Kg	1	3/12/2014 5:14:42 PM	12124
Surr: Dibromofluoromethane	103	70-130		%REC	1	3/12/2014 5:14:42 PM	12124
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	3/12/2014 5:14:42 PM	12124
Surr: Toluene-d8	91.8	70-130		%REC	1	3/12/2014 5:14:42 PM	12124
Surr: 4-Bromofluorobenzene	93.9	70-130		%REC	1	3/12/2014 5:14:42 PM	12124
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	270	20		mg/Kg	1	3/12/2014 10:02:00 AM	12076

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 8:30:00 AM

Lab ID: 1403323-007

Matrix: AQUEOUS

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	3/11/2014 7:00:02 PM	R17242
Toluene	ND	1.0		µg/L	1	3/11/2014 7:00:02 PM	R17242
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:00:02 PM	R17242
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 7:00:02 PM	R17242
Surr: 1,2-Dichloroethane-d4	92.4	70-130		%REC	1	3/11/2014 7:00:02 PM	R17242
Surr: 4-Bromofluorobenzene	93.7	70-130		%REC	1	3/11/2014 7:00:02 PM	R17242
Surr: Dibromofluoromethane	99.2	70-130		%REC	1	3/11/2014 7:00:02 PM	R17242
Surr: Toluene-d8	90.6	70-130		%REC	1	3/11/2014 7:00:02 PM	R17242

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 11 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-3-6

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/6/2014 8:20:00 AM

Lab ID: 1403323-008

Matrix: AQUEOUS

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	3/11/2014 7:27:58 PM	R17242
Toluene	ND	1.0		µg/L	1	3/11/2014 7:27:58 PM	R17242
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:27:58 PM	R17242
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 7:27:58 PM	R17242
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%REC	1	3/11/2014 7:27:58 PM	R17242
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	3/11/2014 7:27:58 PM	R17242
Surr: Dibromofluoromethane	95.9	70-130		%REC	1	3/11/2014 7:27:58 PM	R17242
Surr: Toluene-d8	93.8	70-130		%REC	1	3/11/2014 7:27:58 PM	R17242

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 12 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1403323

Date Reported: 4/10/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam

Collection Date:

Lab ID: 1403323-009

Matrix: TRIP BLANK

Received Date: 3/7/2014 5:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	3/11/2014 7:55:58 PM	R17242
Toluene	ND	1.0		µg/L	1	3/11/2014 7:55:58 PM	R17242
Ethylbenzene	ND	1.0		µg/L	1	3/11/2014 7:55:58 PM	R17242
Xylenes, Total	ND	1.5		µg/L	1	3/11/2014 7:55:58 PM	R17242
Surr: 1,2-Dichloroethane-d4	88.5	70-130		%REC	1	3/11/2014 7:55:58 PM	R17242
Surr: 4-Bromofluorobenzene	91.4	70-130		%REC	1	3/11/2014 7:55:58 PM	R17242
Surr: Dibromofluoromethane	99.3	70-130		%REC	1	3/11/2014 7:55:58 PM	R17242
Surr: Toluene-d8	92.0	70-130		%REC	1	3/11/2014 7:55:58 PM	R17242

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 13 of 31
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

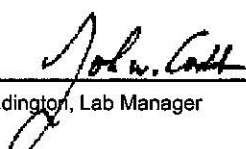
Batch #: 140313048
Project Name: 1403323

Analytical Results Report

Sample Number 140313048-001 **Sampling Date** 3/6/2014 **Date/Time Received** 3/13/2014 1:10 PM
Client Sample ID 1403323-006B / CENTRALOCD-TZ-3-6 **Sampling Time** 10:35 AM
Matrix Soil
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	1.58	mg/Kg	0.287	3/17/2014	CRW	EPA 335.4	
%moisture	20.2	Percent		3/14/2014	AJT	%moisture	

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 1403323

Pace Project No.: 30115198

Sample: 1403323-006C CentralOCD- Lab ID: 30115198001 Collected: 03/06/14 10:35 Received: 03/12/14 09:30 Matrix: Solid
TZ-3-6

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.317 ± 0.310 (0.225) C:NA T:NA	pCi/g	04/07/14 08:59	13982-63-3	
Radium-228	EPA 901.1	1.230 ± 0.460 (0.652) C:NA T:NA	pCi/g	04/07/14 08:59	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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Date: 04/09/2014 02:23 PM



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 1403323

Pace Project No.: 30115198

QC Batch: RADC/19081

Analysis Method: EPA 901.1

QC Batch Method: EPA 901.1

Analysis Description: 901.1 Gamma Spec Ingrowth

Associated Lab Samples: 30115198001

METHOD BLANK: 705500

Matrix: Solid

Associated Lab Samples: 30115198001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.037 ± 7.107 (0.193) C:NA T:NA	pCi/g	04/07/14 09:12	
Radium-228	0.019 ± 0.166 (0.326) C:NA T:NA	pCi/g	04/07/14 09:12	

REPORT OF LABORATORY ANALYSIS

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Date: 04/09/2014 02:23 PM

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12145		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 12145		RunNo: 17276					
Prep Date:	3/12/2014		Analysis Date: 3/12/2014		SeqNo: 497582		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-12145		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 12145		RunNo: 17276					
Prep Date:	3/12/2014		Analysis Date: 3/12/2014		SeqNo: 497583		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.6	0.30	1.500	0	104	90	110			
Chloride	14	1.5	15.00	0	95.1	90	110			
Nitrogen, Nitrate (As N)	7.5	0.30	7.500	0	100	90	110			
Sulfate	29	1.5	30.00	0	96.7	90	110			

Sample ID	1403323-001AMS		SampType: MS		TestCode: EPA Method 300.0: Anions					
Client ID:	CentralOCD-01-3-6		Batch ID: 12145		RunNo: 17276					
Prep Date:	3/12/2014		Analysis Date: 3/12/2014		SeqNo: 497586		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.0	0.30	1.500	3.409	36.2	9.86	110			

Sample ID	1403323-001AMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	CentralOCD-01-3-6		Batch ID: 12145		RunNo: 17276					
Prep Date:	3/12/2014		Analysis Date: 3/12/2014		SeqNo: 497587		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.0	0.30	1.500	3.409	37.4	9.86	110	0.454	20	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12076		SampType: MBLK		TestCode: EPA Method 418.1: TPH					
Client ID:	PBS		Batch ID: 12076		RunNo: 17241					
Prep Date:	3/6/2014		Analysis Date: 3/12/2014		SeqNo: 496555		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	LCS-12076		SampType: LCS		TestCode: EPA Method 418.1: TPH					
Client ID:	LCSS		Batch ID: 12076		RunNo: 17241					
Prep Date:	3/6/2014		Analysis Date: 3/12/2014		SeqNo: 496556		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	98	20	100.0	0	98.0	80	120			

Sample ID	LCSD-12076		SampType: LCSD		TestCode: EPA Method 418.1: TPH					
Client ID:	LCSS02		Batch ID: 12076		RunNo: 17241					
Prep Date:	3/6/2014		Analysis Date: 3/12/2014		SeqNo: 496557		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	94	20	100.0	0	93.7	80	120	4.47	20	

Sample ID	1403323-001AMS		SampType: MS		TestCode: EPA Method 418.1: TPH					
Client ID:	CentralOCD-01-3-6		Batch ID: 12076		RunNo: 17241					
Prep Date:	3/6/2014		Analysis Date: 3/12/2014		SeqNo: 496562		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	100	20	98.91	0	104	80	120			

Sample ID	1403323-001AMSD		SampType:	MSD		TestCode:	EPA Method 418.1: TPH				
Client ID:	CentralOCD-01-3-6		Batch ID:	12076		RunNo:	17241				
Prep Date:	3/6/2014		Analysis Date:	3/12/2014		SeqNo:	496563		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	110	20	100.2	0	109	80	120	6.66	20		

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12197		SampType: MBLK		TestCode: EPA Method 504.1 Modified: EDB					
Client ID:	PBS		Batch ID: 12197		RunNo: 17344					
Prep Date:	3/17/2014		Analysis Date: 3/17/2014		SeqNo: 499655		Units: µg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.10								

Sample ID	LCS-12197		SampType: LCS		TestCode: EPA Method 504.1 Modified: EDB					
Client ID:	LCSS		Batch ID: 12197		RunNo: 17344					
Prep Date:	3/17/2014		Analysis Date: 3/17/2014		SeqNo: 499656		Units: µg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.87	0.10	1.000	0	86.7	70	130			

Sample ID	1403323-006AMS			SampType:	MS		TestCode:	EPA Method 504.1 Modified: EDB			
Client ID:	CentralOCD-TZ-3-6			Batch ID:	12197		RunNo:	17344			
Prep Date:	3/17/2014		Analysis Date:	3/17/2014		SeqNo:	499709		Units: µg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
1,2-Dibromoethane	1.2	0.10	0.9972	0	117	62.4	144				

Sample ID	1403323-006AMSD		SampType: MSD		TestCode: EPA Method 504.1 Modified: EDB					
Client ID:	CentralOCD-TZ-3-6		Batch ID: 12197		RunNo: 17344					
Prep Date:	3/17/2014		Analysis Date: 3/17/2014		SeqNo: 499710		Units: µg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	1.0	0.10	1.000	0	104	62.4	144	11.8	20	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12115		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 12115		RunNo: 17240					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 496883		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		108	66	131			

Sample ID	LCS-12115		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 12115		RunNo: 17240					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 496884		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	57	10	50.00	0	114	60.8	145			
Surr: DNOP	5.8		5.000		116	66	131			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12124		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 12124		RunNo: 17249					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497263		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	850		1000		85.4	74.5	129			

Sample ID	LCS-12124		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 12124		RunNo: 17249					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497264		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	115	71.7	134			
Surr: BFB	920		1000		91.9	74.5	129			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12183		SampType: MBLK		TestCode: EPA Method 8082: PCB's					
Client ID:	PBS		Batch ID: 12183		RunNo: 17336					
Prep Date:	3/14/2014		Analysis Date: 3/15/2014		SeqNo: 499276		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.059		0.06250		94.8	37.8	143			
Surr: Tetrachloro-m-xylene	0.059		0.06250		94.8	13.8	144			

Sample ID	LCS-12183			SampType:	LCS		TestCode:	EPA Method 8082: PCB's			
Client ID:	LCSS			Batch ID:	12183		RunNo:	17336			
Prep Date:	3/14/2014			Analysis Date:	3/15/2014		SeqNo:	499277		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aroclor 1016	0.11	0.020	0.1250	0	89.6	18.5	135				
Aroclor 1260	0.13	0.020	0.1250	0	104	53.9	145				
Surr: Decachlorobiphenyl	0.058		0.06250		93.2	37.8	143				
Surr: Tetrachloro-m-xylene	0.057		0.06250		90.8	13.8	144				

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-12124		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 12124		RunNo: 17267					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497390		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-12124		SampType: MBLK			TestCode: EPA Method 8260B: Volatiles				
Client ID:	PBS		Batch ID: 12124			RunNo: 17267				
Prep Date:	3/11/2014		Analysis Date: 3/12/2014			SeqNo: 497390		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: Toluene-d8	0.45		0.5000		90.2	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.1	70	130			

Sample ID	lcs-12124		SampType: LCS			TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID: 12124			RunNo: 17267				
Prep Date:	3/11/2014		Analysis Date: 3/12/2014			SeqNo: 497391		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	111	70	130			
Toluene	1.0	0.050	1.000	0	99.7	60.1	120			
Chlorobenzene	1.0	0.050	1.000	0	103	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-12124		SampType: LCS			TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID: 12124			RunNo: 17267				
Prep Date:	3/11/2014		Analysis Date: 3/12/2014			SeqNo: 497391		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	107	78.2	162			
Trichloroethene (TCE)	0.94	0.050	1.000	0	94.5	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.47		0.5000		93.1	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-12124		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 12124		RunNo: 17267					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497394		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.1	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.45		0.5000		90.2	70	130			

Sample ID	lcs-12124		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 12124		RunNo: 17267					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497395		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	111	70	130			
Toluene	1.0	0.050	1.000	0	99.7	60.1	120			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.5	70	130			
Surr: Dibromofluoromethane	0.50		0.5000		101	70	130			
Surr: Toluene-d8	0.47		0.5000		93.1	70	130			

Sample ID	1403323-001ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-01-3-6		Batch ID: 12124		RunNo: 17267					
Prep Date:	3/11/2014		Analysis Date: 3/12/2014		SeqNo: 497397		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.047	0.9497	0	134	62.6	140			
Toluene	1.1	0.047	0.9497	0	113	66.3	136			
Surr: 1,2-Dichloroethane-d4	0.50		0.4748		105	70	130			
Surr: 4-Bromofluorobenzene	0.44		0.4748		91.8	70	130			
Surr: Dibromofluoromethane	0.50		0.4748		106	70	130			
Surr: Toluene-d8	0.43		0.4748		90.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit	P Sample pH greater than 2.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1403323-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-01-3-6	Batch ID:	12124	RunNo:	17267					
Prep Date:	3/11/2014	Analysis Date:	3/12/2014	SeqNo:	497398	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.048	0.9506	0	134	62.6	140	0.0361	20	
Toluene	1.1	0.048	0.9506	0	120	66.3	136	5.45	20	
Surr: 1,2-Dichloroethane-d4	0.50		0.4753		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.42		0.4753		87.8	70	130	0	0	
Surr: Dibromofluoromethane	0.49		0.4753		104	70	130	0	0	
Surr: Toluene-d8	0.44		0.4753		92.7	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	5ml-rb2	SampType:	MBLK	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	PBW	Batch ID:	R17242	RunNo:	17242					
Prep Date:		Analysis Date:	3/11/2014	SeqNo:	496775	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.0	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.4	70	130			
Surr: Dibromofluoromethane	8.1		10.00		80.5	70	130			
Surr: Toluene-d8	9.3		10.00		93.0	70	130			

Sample ID	100ngLCS200ngAnn	SampType:	LCS	TestCode:	EPA Method 8260: Volatiles Short List					
Client ID:	LCSW	Batch ID:	R17242	RunNo:	17242					
Prep Date:		Analysis Date:	3/11/2014	SeqNo:	496776	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	19	1.0	20.00	0	96.9	80	120			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.2	70	130			
Surr: Dibromofluoromethane	8.6		10.00		85.8	70	130			
Surr: Toluene-d8	9.0		10.00		90.5	70	130			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-12184	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	12184	RunNo:	17382					
Prep Date:	3/14/2014	Analysis Date:	3/17/2014	SeqNo:	500665	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-12184		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	PBS		Batch ID: 12184		RunNo: 17382					
Prep Date:	3/14/2014		Analysis Date: 3/17/2014		SeqNo: 500665		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	2.7		3.330		81.9	27.9	127			
Surr: Phenol-d5	2.8		3.330		85.5	24.5	126			
Surr: 2,4,6-Tribromophenol	2.3		3.330		70.5	27.6	136			
Surr: Nitrobenzene-d5	1.8		1.670		105	23.5	128			
Surr: 2-Fluorobiphenyl	1.6		1.670		97.3	22.6	132			
Surr: 4-Terphenyl-d14	1.5		1.670		90.3	28.1	128			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-12184		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 12184		RunNo: 17387					
Prep Date:	3/14/2014		Analysis Date: 3/18/2014		SeqNo: 500774		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	1.4	0.20	1.670	0	83.5	50.7	110			
4-Chloro-3-methylphenol	2.7	0.50	3.330	0	80.0	47.8	107			
2-Chlorophenol	2.5	0.20	3.330	0	76.2	45.7	108			
1,4-Dichlorobenzene	1.4	0.20	1.670	0	82.4	46.1	112			
2,4-Dinitrotoluene	1.4	0.50	1.670	0	83.4	44.9	114			
N-Nitrosodi-n-propylamine	1.6	0.20	1.670	0	96.2	38.7	128			
4-Nitrophenol	2.5	0.25	3.330	0	74.0	40.2	103			
Pentachlorophenol	1.1	0.40	3.330	0	34.1	32.9	94			
Phenol	2.7	0.20	3.330	0	82.5	44.1	109			
Pyrene	1.4	0.20	1.670	0	81.1	51.9	109			
1,2,4-Trichlorobenzene	1.4	0.20	1.670	0	81.3	49.5	115			
Surr: 2-Fluorophenol	2.9		3.330		86.5	27.9	127			
Surr: Phenol-d5	3.1		3.330		93.7	24.5	126			
Surr: 2,4,6-Tribromophenol	3.3		3.330		99.4	27.6	136			
Surr: Nitrobenzene-d5	1.5		1.670		92.2	23.5	128			
Surr: 2-Fluorobiphenyl	1.6		1.670		97.9	22.6	132			
Surr: 4-Terophenyl-d14	1.7		1.670		104	28.1	128			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-12137		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 12137		RunNo: 17318					
Prep Date:	3/11/2014		Analysis Date: 3/13/2014		SeqNo: 498736		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.033								

Sample ID	LCS-12137		SampType: LCS		TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS		Batch ID: 12137		RunNo: 17318					
Prep Date:	3/11/2014		Analysis Date: 3/13/2014		SeqNo: 498737		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	99.9	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID MB-12198	SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals							
Client ID: PBS	Batch ID: 12198		RunNo: 17386							
Prep Date: 3/17/2014	Analysis Date: 3/18/2014		SeqNo: 500789		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	2.6	1.0								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Uranium	ND	5.0								
Zinc	ND	2.5								

Sample ID LCS-12198	SampType: LCS		TestCode: EPA Method 6010B: Soil Metals							
Client ID: LCSS	Batch ID: 12198		RunNo: 17386							
Prep Date: 3/17/2014	Analysis Date: 3/18/2014		SeqNo: 500790		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	2.5	25.00	0	90.1	80	120			
Barium	25	0.10	25.00	0	99.9	80	120			
Cadmium	25	0.10	25.00	0	98.4	80	120			
Chromium	25	0.30	25.00	0	99.2	80	120			
Copper	28	0.30	25.00	0	111	80	120			
Iron	27	1.0	25.00	0	107	80	120			B
Lead	24	0.25	25.00	0	95.3	80	120			
Manganese	25	0.10	25.00	0	100	80	120			
Selenium	21	2.5	25.00	0	84.9	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			
Uranium	25	5.0	25.00	0	99.8	80	120			
Zinc	24	2.5	25.00	0	94.2	80	120			

Sample ID 1403323-006AMS	SampType: MS		TestCode: EPA Method 6010B: Soil Metals							
Client ID: CentralOCD-TZ-3-6	Batch ID: 12198		RunNo: 17386							
Prep Date: 3/17/2014	Analysis Date: 3/18/2014		SeqNo: 500792		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	19	2.4	23.97	2.127	72.3	75	125			S
Cadmium	19	0.096	23.97	0	79.8	75	125			
Chromium	37	0.29	23.97	14.82	90.5	75	125			
Copper	33	0.29	23.97	11.17	93.1	75	125			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1403323

10-Apr-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	1403323-006AMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	CentralOCD-TZ-3-6		Batch ID: 12198		RunNo: 17386					
Prep Date:	3/17/2014		Analysis Date: 3/18/2014		SeqNo: 500792		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	64	0.24	23.97	35.34	118	75	125			E
Selenium	13	2.4	23.97	0	54.5	75	125			S
Silver	4.0	0.24	4.794	0	83.7	75	125			
Uranium	11	4.8	23.97	0	45.1	75	125			S
Zinc	85	2.4	23.97	60.79	99.0	75	125			

Sample ID	1403323-006AMSD		SampType: MSD		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	CentralOCD-TZ-3-6		Batch ID: 12198		RunNo: 17386					
Prep Date:	3/17/2014		Analysis Date: 3/18/2014		SeqNo: 500793		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	21	2.4	24.31	2.127	77.7	75	125	7.71	20	
Cadmium	20	0.097	24.31	0	80.5	75	125	2.40	20	
Chromium	36	0.29	24.31	14.82	85.8	75	125	2.34	20	
Copper	34	0.29	24.31	11.17	92.8	75	125	0.671	20	
Lead	49	0.24	24.31	35.34	54.3	75	125	26.8	20	RS
Selenium	15	2.4	24.31	0	60.7	75	125	12.2	20	S
Silver	4.1	0.24	4.863	0	83.8	75	125	1.51	20	
Uranium	11	4.9	24.31	0	45.8	75	125	3.08	20	S
Zinc	85	2.4	24.31	60.79	101	75	125	1.07	20	

Sample ID	1403323-006AMS		SampType: MS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	CentralOCD-TZ-3-6		Batch ID: 12198		RunNo: 17386					
Prep Date:	3/17/2014		Analysis Date: 3/18/2014		SeqNo: 500795		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	350	0.19	23.97	303.7	194	75	125			S
Manganese	340	0.19	23.97	336.1	0.310	75	125			S

Sample ID	1403323-006AMSD		SampType: MSD		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	CentralOCD-TZ-3-6		Batch ID: 12198		RunNo: 17386					
Prep Date:	3/17/2014		Analysis Date: 3/18/2014		SeqNo: 500796		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	340	0.19	24.31	303.7	148	75	125	3.05	20	S
Manganese	350	0.19	24.31	336.1	57.3	75	125	4.04	20	S

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1403323

RcptNo: 1

Received by/date:

RG *03/07/14*

Logged By: Lindsay Mangin

3/7/2014 5:00:00 PM

Judy Mangin

Completed By: Lindsay Mangin

3/10/2014 1:18:02 PM

Judy Mangin

Reviewed By:

mg

03/11/14

Chain of Custody

1. Custody seals intact on sample bottles?

Yes ☒

No ☐

Not Present ☒

2. Is Chain of Custody complete?

Yes ☒

No ☐

Not Present ☐

3. How was the sample delivered?

Client

At 03/11/14

Log In

4. Was an attempt made to cool the samples?

Yes ☒

No ☐

NA ☐

5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C

Yes ☒

No ☐

NA ☐

6. Sample(s) in proper container(s)?

Yes ☒

No ☐

7. Sufficient sample volume for indicated test(s)?

Yes ☒

No ☐

8. Are samples (except VOA and ONG) properly preserved?

Yes ☒

No ☐

9. Was preservative added to bottles?

Yes ☐

No ☒

NA ☐

10. VOA vials have zero headspace?

Yes ☒

No ☐

No VOA Vials ☐

11. Were any sample containers received broken?

Yes ☐

No ☒

12. Does paperwork match bottle labels?

Yes ☒

No ☐

(Note discrepancies on chain of custody)

13. Are matrices correctly identified on Chain of Custody?

Yes ☒

No ☐

14. Is it clear what analyses were requested?

Yes ☒

No ☐

15. Were all holding times able to be met?

Yes ☒

No ☐

(If no, notify customer for authorization.)

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order?

Yes ☐

No ☐

NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Not Present			

Chain-of-Custody Record

Client: Western Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other _____

☐ EDD (Type) Please provide EDD _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-004

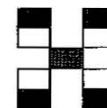
Project Manager:

Ed Riege

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	Vadose Zone List (see attached)	NMAC List (see attached)	BTEX (8260)	Air Bubbles (Y or N)
3/6/14	000	soil	CentralOCD-01-3-6	4oz - 2	none	-001	X			
3/6/14	0925	soil	CentralOCD-02-3-6	4oz - 2	none	-002	X			
3/6/14	1050	soil	CentralOCD-03-3-6	4oz - 2	none	-003	X			
3/6/14	0850	soil	CentralOCD-04-3-6	4oz - 2	none	-004	X			
3/6/14		soil	BD-3-6	4oz - 2	none	-005	X			
3/6/14	1000	soil	CentralOCD-01-3-6-MS	4oz - 2	none	-001	X			
3/6/14	1000	soil	CentralOCD-01-3-6-MSD	4oz - 2	none	-001	X			
3/6/14	1035	soil	CentralOCD-TZ-3-6	4oz - 2	none	-006	X	X		
3/6/14	0830	water	EB-3-6	VOA - 3	HCL	-007			X	
3/6/14	0820	water	FB-3-6	VOA - 3	HCL	-008			X	
		water	Trip Blank	VOA - 3	HCL	-009			X	

Date: 3/7/14	Time: 1700	Relinquished by: <i>Tom Flannery</i>	Received by: <i>Anthony Hall</i>	Date: 03/07/14	Time: 1700
Date:	Time:	Relinquished by:	Received by:	Date:	Time:

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions. Verify that Reporting limits comply with those shown on the attached.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

**VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20

NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.0020
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gesoline Range Organics (GRO)	SW8015	mg/kg	1.0



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 21, 2014

Ed Riege

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-3833
FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1409874

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/16/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-01-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 11:10:00 AM

Lab ID: 1409874-001

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	230	30		mg/Kg	20	9/19/2014 1:25:43 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Toluene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Xylenes, Total	ND	0.097		mg/Kg	1	9/20/2014 9:45:22 PM	15378
Surr: 1,2-Dichloroethane-d4	89.8	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: 4-Bromofluorobenzene	85.8	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: Dibromofluoromethane	95.5	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
Surr: Toluene-d8	90.0	70-130		%REC	1	9/20/2014 9:45:22 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-02-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:30:00 AM

Lab ID: 1409874-002

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	93	30		mg/Kg	20	9/19/2014 1:38:07 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Toluene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Ethylbenzene	ND	0.050		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Xylenes, Total	ND	0.099		mg/Kg	1	9/20/2014 10:13:15 PM	15378
Surr: 1,2-Dichloroethane-d4	90.1	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: 4-Bromofluorobenzene	80.6	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: Dibromofluoromethane	93.4	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
Surr: Toluene-d8	97.4	70-130		%REC	1	9/20/2014 10:13:15 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	1100	200		mg/Kg	10	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-03-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 9:55:00 AM

Lab ID: 1409874-003

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	120	30		mg/Kg	20	9/19/2014 1:50:32 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Toluene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Ethylbenzene	ND	0.048		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Xylenes, Total	ND	0.097		mg/Kg	1	9/20/2014 10:41:12 PM	15378
Surr: 1,2-Dichloroethane-d4	87.0	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: 4-Bromofluorobenzene	78.9	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: Dibromofluoromethane	88.2	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
Surr: Toluene-d8	86.5	70-130		%REC	1	9/20/2014 10:41:12 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-04-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 8:40:00 AM

Lab ID: 1409874-004

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	870	30		mg/Kg	20	9/19/2014 3:04:58 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Toluene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Ethylbenzene	ND	0.049		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Xylenes, Total	ND	0.098		mg/Kg	1	9/20/2014 11:09:13 PM	15378
Surr: 1,2-Dichloroethane-d4	85.8	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: 4-Bromofluorobenzene	76.4	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: Dibromofluoromethane	89.3	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
Surr: Toluene-d8	89.9	70-130		%REC	1	9/20/2014 11:09:13 PM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	92	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014

Lab ID: 1409874-005

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Chloride	990	30		mg/Kg	20	9/19/2014 3:17:22 PM	15404
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: RAA
Benzene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Toluene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Ethylbenzene	ND	0.050		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Xylenes, Total	ND	0.099		mg/Kg	1	9/21/2014 12:33:06 AM	15378
Surr: 1,2-Dichloroethane-d4	84.9	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: 4-Bromofluorobenzene	84.0	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: Dibromofluoromethane	93.0	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
Surr: Toluene-d8	90.3	70-130		%REC	1	9/21/2014 12:33:06 AM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	39	20		mg/Kg	1	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8082: PCB'S							Analyst: SCC
Aroclor 1016	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1221	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1232	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1242	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1248	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1254	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Aroclor 1260	ND	0.20		mg/Kg	1	9/24/2014 9:38:29 AM	15379
Surr: Decachlorobiphenyl	0	37.2-143	S	%REC	1	9/24/2014 9:38:29 AM	15379
Surr: Tetrachloro-m-xylene	0	35.6-141	S	%REC	1	9/24/2014 9:38:29 AM	15379
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: BCN
Diesel Range Organics (DRO)	1100	98		mg/Kg	10	9/22/2014 6:51:10 PM	15363
Surr: DNOP	0	57.9-140	S	%REC	10	9/22/2014 6:51:10 PM	15363
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	9/23/2014 11:51:20 AM	15378
Surr: BFB	82.8	80-120		%REC	1	9/23/2014 11:51:20 AM	15378
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	7.4	6.0		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Chloride	130	30		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Nitrogen, Nitrate (As N)	6.9	6.0		mg/Kg	20	9/19/2014 3:29:46 PM	15404
Sulfate	1000	30		mg/Kg	20	9/19/2014 3:29:46 PM	15404
EPA METHOD 7471: MERCURY							Analyst: MMD
Mercury	0.062	0.033		mg/Kg	1	9/26/2014 11:16:27 AM	15505
EPA METHOD 6010B: SOIL METALS							Analyst: ELS
Arsenic	ND	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Barium	340	0.20		mg/Kg	2	9/24/2014 2:47:32 PM	15465
Cadmium	ND	0.098		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Chromium	10	0.29		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Copper	10	0.29		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Iron	16000	250		mg/Kg	100	9/24/2014 1:07:26 PM	15465
Lead	5.6	0.25		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Manganese	370	0.20		mg/Kg	2	9/24/2014 2:47:32 PM	15465
Selenium	ND	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Silver	ND	0.25		mg/Kg	1	9/24/2014 2:46:09 PM	15465
Uranium	ND	4.9		mg/Kg	1	9/25/2014 12:35:49 PM	15465
Zinc	31	2.5		mg/Kg	1	9/24/2014 2:46:09 PM	15465
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Acenaphthylene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Aniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Azobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benz(a)anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(a)pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(b)fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(g,h,i)perylene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzo(k)fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzoic acid	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Benzyl alcohol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroethoxy)methane	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroethyl)ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-chloroisopropyl)ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Bis(2-ethylhexyl)phthalate	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Bromophenyl phenyl ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Butyl benzyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Carbazole	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chloro-3-methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chloroaniline	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Chloronaphthalene	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Chlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Chlorophenyl phenyl ether	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Chrysene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Di-n-butyl phthalate	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Di-n-octyl phthalate	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dibenz(a,h)anthracene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dibenzofuran	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,2-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,3-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,4-Dichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3,3'-Dichlorobenzidine	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Diethyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Dimethyl phthalate	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dichlorophenol	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dimethylphenol	ND	3.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4,6-Dinitro-2-methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4-Dinitrophenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 7 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409874

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
2,4-Dinitrotoluene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,6-Dinitrotoluene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Fluoranthene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Fluorene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorobutadiene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachlorocyclopentadiene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Hexachloroethane	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Indeno(1,2,3-cd)pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Isophorone	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1-Methylnaphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Methylnaphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Methylphenol	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3+4-Methylphenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
N-Nitrosodi-n-propylamine	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
N-Nitrosodiphenylamine	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Naphthalene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Nitroaniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
3-Nitroaniline	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Nitroaniline	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Nitrobenzene	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2-Nitrophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
4-Nitrophenol	ND	2.5		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pentachlorophenol	ND	4.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Phenanthrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Phenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pyrene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Pyridine	ND	5.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
1,2,4-Trichlorobenzene	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4,5-Trichlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
2,4,6-Trichlorophenol	ND	2.0		mg/Kg	1	9/19/2014 5:59:33 PM	15370
Surr: 2-Fluorophenol	0	21-111	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: Phenol-d5	0	23.1-117	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 2,4,6-Tribromophenol	0	22.7-88.9	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: Nitrobenzene-d5	0	24.5-126	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 2-Fluorobiphenyl	0	21.2-129	S	%REC	1	9/19/2014 5:59:33 PM	15370
Surr: 4-Terphenyl-d14	0	39.4-107	S	%REC	1	9/19/2014 5:59:33 PM	15370
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Benzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Toluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Ethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Methyl tert-butyl ether (MTBE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,4-Trimethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3,5-Trimethylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichloroethane (EDC)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dibromoethane (EDB)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Naphthalene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1-Methylnaphthalene	ND	0.18		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Methylnaphthalene	ND	0.18		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Acetone	ND	0.69		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromodichloromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromoform	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Bromomethane	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Butanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Carbon disulfide	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Carbon tetrachloride	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloroethane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloroform	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Chloromethane	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Chlorotoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Chlorotoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
cis-1,2-DCE	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
cis-1,3-Dichloropropene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dibromo-3-chloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dibromochloromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dibromomethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,4-Dichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Dichlorodifluoromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloroethene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2-Dichloropropane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,3-Dichloropropane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2,2-Dichloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1-Dichloropropene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 9 of 30
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409874

Date Reported: 10/21/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 10:55:00 AM

Lab ID: 1409874-006

Matrix: SOIL

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: RAA
Hexachlorobutadiene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
2-Hexanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Isopropylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Isopropyltoluene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
4-Methyl-2-pentanone	ND	0.46		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Methylene chloride	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Butylbenzene	ND	0.14		mg/Kg	1	9/21/2014 1:00:56 AM	15378
n-Propylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
sec-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Styrene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
tert-Butylbenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2,2-Tetrachloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Tetrachloroethene (PCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,2-DCE	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
trans-1,3-Dichloropropene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichlorobenzene	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,4-Trichlorobenzene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,1-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,1,2-Trichloroethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichloroethene (TCE)	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Trichlorofluoromethane	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
1,2,3-Trichloropropane	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Vinyl chloride	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Xylenes, Total	ND	0.092		mg/Kg	1	9/21/2014 1:00:56 AM	15378
mp-Xylenes	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
o-Xylene	ND	0.046		mg/Kg	1	9/21/2014 1:00:56 AM	15378
Surr: Dibromofluoromethane	88.8	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 1,2-Dichloroethane-d4	84.1	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: Toluene-d8	94.7	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
Surr: 4-Bromofluorobenzene	84.0	70-130		%REC	1	9/21/2014 1:00:56 AM	15378
EPA METHOD 418.1: TPH							Analyst: JME
Petroleum Hydrocarbons, TR	1400	200		mg/Kg	10	9/19/2014	15373

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 12:10:00 PM

Lab ID: 1409874-007

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 3:33:56 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 3:33:56 PM	R21353
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: Dibromofluoromethane	95.8	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353
Surr: Toluene-d8	92.0	70-130		%REC	1	9/22/2014 3:33:56 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 11 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409874**

Date Reported: **10/21/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-9/16/14

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 9/16/2014 12:15:00 PM

Lab ID: 1409874-008

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 4:03:40 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 4:03:40 PM	R21353
Surr: 1,2-Dichloroethane-d4	90.2	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: Dibromofluoromethane	89.9	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353
Surr: Toluene-d8	88.8	70-130		%REC	1	9/22/2014 4:03:40 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 12 of 30
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

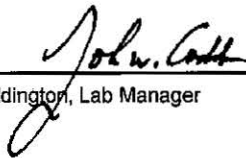
Batch #: 140919029
Project Name: 1409874

Analytical Results Report

Sample Number	140919029-001	Sampling Date	9/16/2014	Date/Time Received	9/19/2014 12:10 PM
Client Sample ID	1409874-006C / CENTRALOCD-TZ-9/16/14	Sampling Time	10:55 AM		
Matrix	Soil	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/Kg	0.285	9/29/2014	CRW	EPA 335.4	
%moisture	11.9	Percent		9/30/2014	KJS	%moisture	

Authorized Signature


John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 140919029
Project Name: 1409874

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.502	mg/kg	0.5	100.4	90-110	9/29/2014	9/29/2014

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
140919031-005	Cyanide	ND	12.7	mg/kg	14.1	90.1	90-110	9/29/2014	9/29/2014

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	13.2	mg/kg	14.1	93.6	3.9	0-25	9/29/2014	9/29/2014

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/Kg	0.5	9/29/2014	9/29/2014

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 1409874
Pace Project No.: 30129978

Sample: 1409874-006B CentralOCD- Lab ID: 30129978001 Collected: 09/16/14 10:55 Received: 09/19/14 09:45 Matrix: Solid
TZ-9/1

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 901.1	1.134 ± 0.247 (0.192) C:NA T:NA	pCi/g	10/19/14 13:48	13982-63-3	
Radium-228	EPA 901.1	0.748 ± 0.241 (0.417) C:NA T:NA	pCi/g	10/19/14 13:48	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 1409874
Pace Project No.: 30129978

QC Batch:	RADC/21509	Analysis Method:	EPA 901.1
QC Batch Method:	EPA 901.1	Analysis Description:	901.1 Gamma Spec Ingrowth
Associated Lab Samples:	30129978001		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15404	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID: 15404			RunNo: 21343					
Prep Date:	9/19/2014	Analysis Date: 9/19/2014			SeqNo: 623059		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.30								
Chloride	ND	1.5								
Nitrogen, Nitrate (As N)	ND	0.30								
Sulfate	ND	1.5								

Sample ID	LCS-15404		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 15404		RunNo: 21343					
Prep Date:	9/19/2014		Analysis Date: 9/19/2014		SeqNo: 623060		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	1.5	0.30	1.500	0	98.7	90	110			
Chloride	14	1.5	15.00	0	94.5	90	110			
Nitrogen, Nitrate (As N)	7.5	0.30	7.500	0	99.4	90	110			
Sulfate	29	1.5	30.00	0	97.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15373	SampType:	MBLK	TestCode:	EPA Method 418.1: TPH						
Client ID:	PBS	Batch ID:	15373	RunNo:	21288						
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	621284	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	ND	20									

Sample ID	LCS-15373	SampType:	LCS	TestCode:	EPA Method 418.1: TPH						
Client ID:	LCSS	Batch ID:	15373	RunNo:	21288						
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	621285	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	96	20	100.0	0	95.8	80	120				

Sample ID	1409874-004AMS	SampType:	MS	TestCode:	EPA Method 418.1: TPH						
Client ID:	CentralOCD-04-9/16/	Batch ID:	15373	RunNo:	21288						
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	621301	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	230	20	98.33	91.89	139	80	120			S	

Sample ID	1409874-004AMSD	SampType:	MSD	TestCode:	EPA Method 418.1: TPH						
Client ID:	CentralOCD-04-9/16/	Batch ID:	15373	RunNo:	21288						
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	621302	Units:	mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Petroleum Hydrocarbons, TR	330	20	98.72	91.89	237	80	120	35.2	20	RS	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15363		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 15363		RunNo: 21269					
Prep Date:	9/18/2014		Analysis Date: 9/18/2014		SeqNo: 620601		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		100	57.9	140			

Sample ID	LCS-15363		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 15363		RunNo: 21269					
Prep Date:	9/18/2014		Analysis Date: 9/18/2014		SeqNo: 620602		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	125	68.6	130			
Surr: DNOP	5.2		5.000		104	57.9	140			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15378		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623292		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.2	80	120			

Sample ID	LCS-15378		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623293		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	65.8	139			
Surr: BFB	1000		1000		101	80	120			

Sample ID	1409874-006AMS		SampType: MS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-9/16		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623304		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.6	23.08	0	101	71.8	132			
Surr: BFB	1000		923.4		110	80	120			

Sample ID	1409874-006AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	CentralOCD-TZ-9/16		Batch ID: 15378		RunNo: 21342					
Prep Date:	9/18/2014		Analysis Date: 9/22/2014		SeqNo: 623305		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.6	23.15	0	96.5	71.8	132	4.58	20	
Surr: BFB	1000		925.9		108	80	120	0	0	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15379		SampType: MBLK		TestCode: EPA Method 8082: PCB's					
Client ID:	PBS		Batch ID: 15379		RunNo: 21397					
Prep Date:	9/18/2014		Analysis Date: 9/24/2014		SeqNo: 625113		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.020								
Aroclor 1221	ND	0.020								
Aroclor 1232	ND	0.020								
Aroclor 1242	ND	0.020								
Aroclor 1248	ND	0.020								
Aroclor 1254	ND	0.020								
Aroclor 1260	ND	0.020								
Surr: Decachlorobiphenyl	0.041		0.06250		65.2	37.2	143			
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141			

Sample ID	LCS-15379		SampType: LCS		TestCode: EPA Method 8082: PCB's					
Client ID:	LCSS		Batch ID: 15379		RunNo: 21397					
Prep Date:	9/18/2014		Analysis Date: 9/24/2014		SeqNo: 625114		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	0.065	0.020	0.1250	0	52.1	34.7	146			
Aroclor 1260	0.085	0.020	0.1250	0	68.1	36.3	153			
Surr: Decachlorobiphenyl	0.040		0.06250		64.8	37.2	143			
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141			

Sample ID	LCS-15379 1221_12			SampType:	LCS		TestCode:	EPA Method 8082: PCB's			
Client ID:	LCSS		Batch ID:	15379		RunNo:	21397				
Prep Date:	9/18/2014		Analysis Date:	9/24/2014		SeqNo:	626901		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Aroclor 1221	0.044	0.020	0.1250	0	35.4	70	130			S	
Aroclor 1248	0.068	0.020	0.1250	0	54.4	70	130			S	
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143				
Surr: Tetrachloro-m-xylene	0.035		0.06250		55.6	35.6	141				

Sample ID	LCSD-15379 1221_1			SampType:	LCSD		TestCode: EPA Method 8082: PCB's			
Client ID:	LCSS02		Batch ID:		15379		RunNo: 21397			
Prep Date:	9/18/2014		Analysis Date:		9/24/2014		SeqNo: 626902		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1221	0.043	0.020	0.1250	0	34.2	70	130	3.45	20	S
Aroclor 1248	0.069	0.020	0.1250	0	55.0	70	130	1.17	20	S
Surr: Decachlorobiphenyl	0.037		0.06250		59.6	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.034		0.06250		54.8	35.6	141	0	0	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-15379 1232_12			SampType:	LCS		TestCode: EPA Method 8082: PCB's			
Client ID:	LCSS		Batch ID:		15379		RunNo: 21397			
Prep Date:	9/18/2014		Analysis Date:		9/24/2014		SeqNo: 626903		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1232	0.081	0.020	0.1250	0	64.9	70	130			S
Aroclor 1254	0.11	0.020	0.1250	0	86.7	70	130			
Surr: Decachlorobiphenyl	0.045		0.06250		71.6	37.2	143			
Surr: Tetrachloro-m-xylene	0.040		0.06250		63.2	35.6	141			

Sample ID	LCSD-15379 1232_1			SampType:	LCSD		TestCode: EPA Method 8082: PCB's			
Client ID:	LCSS02		Batch ID:		15379		RunNo: 21397			
Prep Date:	9/18/2014		Analysis Date:		9/24/2014		SeqNo: 626904		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1232	0.074	0.020	0.1250	0	59.0	70	130	9.49	20	S
Aroclor 1254	0.093	0.020	0.1250	0	74.3	70	130	15.4	20	
Surr: Decachlorobiphenyl	0.042		0.06250		68.0	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.2	35.6	141	0	0	

Sample ID	LCS-15379 1242		SampType: LCS		TestCode: EPA Method 8082: PCB's					
Client ID:	LCSS		Batch ID: 15379		RunNo: 21397					
Prep Date:	9/18/2014		Analysis Date: 9/24/2014		SeqNo: 626905		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.079	0.020	0.1250	0	63.1	70	130			S
Surr: Decachlorobiphenyl	0.040		0.06250		64.4	37.2	143			
Surr: Tetrachloro-m-xylene	0.036		0.06250		56.8	35.6	141			

Sample ID	LCSD-15379 1242	SampType: LCSD			TestCode: EPA Method 8082: PCB's					
Client ID:	LCSS02	Batch ID: 15379			RunNo: 21397					
Prep Date:	9/18/2014	Analysis Date: 9/24/2014			SeqNo: 626906		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1242	0.088	0.020	0.1250	0	70.5	70	130	11.1	20	
Surr: Decachlorobiphenyl	0.044		0.06250		70.8	37.2	143	0	0	
Surr: Tetrachloro-m-xylene	0.038		0.06250		61.6	35.6	141	0	0	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles					
Client ID:	PBS		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/20/2014		SeqNo: 623843		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Methyl tert-butyl ether (MTBE)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
1,2-Dibromoethane (EDB)	ND	0.050								
Naphthalene	ND	0.10								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
Acetone	ND	0.75								
Bromobenzene	ND	0.050								
Bromodichloromethane	ND	0.050								
Bromoform	ND	0.050								
Bromomethane	ND	0.15								
2-Butanone	ND	0.50								
Carbon disulfide	ND	0.50								
Carbon tetrachloride	ND	0.050								
Chlorobenzene	ND	0.050								
Chloroethane	ND	0.10								
Chloroform	ND	0.050								
Chloromethane	ND	0.15								
2-Chlorotoluene	ND	0.050								
4-Chlorotoluene	ND	0.050								
cis-1,2-DCE	ND	0.050								
cis-1,3-Dichloropropene	ND	0.050								
1,2-Dibromo-3-chloropropane	ND	0.10								
Dibromochloromethane	ND	0.050								
Dibromomethane	ND	0.050								
1,2-Dichlorobenzene	ND	0.050								
1,3-Dichlorobenzene	ND	0.050								
1,4-Dichlorobenzene	ND	0.050								
Dichlorodifluoromethane	ND	0.050								
1,1-Dichloroethane	ND	0.050								
1,1-Dichloroethene	ND	0.050								
1,2-Dichloropropane	ND	0.050								
1,3-Dichloropropane	ND	0.050								
2,2-Dichloropropane	ND	0.10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType:	MBLK		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	PBS		Batch ID:	15378		RunNo:	21355			
Prep Date:	9/18/2014		Analysis Date:	9/20/2014		SeqNo:	623843		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	0.10								
Hexachlorobutadiene	ND	0.10								
2-Hexanone	ND	0.50								
Isopropylbenzene	ND	0.050								
4-Isopropyltoluene	ND	0.050								
4-Methyl-2-pentanone	ND	0.50								
Methylene chloride	ND	0.15								
n-Butylbenzene	ND	0.15								
n-Propylbenzene	ND	0.050								
sec-Butylbenzene	ND	0.050								
Styrene	ND	0.050								
tert-Butylbenzene	ND	0.050								
1,1,1,2-Tetrachloroethane	ND	0.050								
1,1,2,2-Tetrachloroethane	ND	0.050								
Tetrachloroethene (PCE)	ND	0.050								
trans-1,2-DCE	ND	0.050								
trans-1,3-Dichloropropene	ND	0.050								
1,2,3-Trichlorobenzene	ND	0.10								
1,2,4-Trichlorobenzene	ND	0.050								
1,1,1-Trichloroethane	ND	0.050								
1,1,2-Trichloroethane	ND	0.050								
Trichloroethene (TCE)	ND	0.050								
Trichlorofluoromethane	ND	0.050								
1,2,3-Trichloropropane	ND	0.10								
Vinyl chloride	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: Dibromofluoromethane	0.42		0.5000		84.4	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			

Sample ID	lcs-15378		SampType:	LCS		TestCode:	EPA Method 8260B: Volatiles			
Client ID:	LCSS		Batch ID:	15378		RunNo:	21355			
Prep Date:	9/18/2014		Analysis Date:	9/20/2014		SeqNo:	623844		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Chlorobenzene	1.0	0.050	1.000	0	101	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	Ics-15378		SampType: LCS			TestCode: EPA Method 8260B: Volatiles				
Client ID:	LCSS		Batch ID: 15378			RunNo: 21355				
Prep Date:	9/18/2014		Analysis Date: 9/20/2014			SeqNo: 623844		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	1.1	0.050	1.000	0	105	60.5	160			
Trichloroethene (TCE)	0.92	0.050	1.000	0	91.5	58.8	139			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15378		SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/20/2014		SeqNo: 623834		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.050								
Benzene	ND	0.050								
1,2-Dichloroethane (EDC)	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
1,2-Dibromoethane (EDB)	ND	0.050								
1,2,4-Trimethylbenzene	ND	0.050								
1,3,5-Trimethylbenzene	ND	0.050								
Naphthalene	ND	0.10								
2-Methylnaphthalene	ND	0.20								
1-Methylnaphthalene	ND	0.20								
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.2	70	130			
Surr: 4-Bromofluorobenzene	0.37		0.5000		74.2	70	130			
Surr: Dibromofluoromethane	0.42		0.5000		84.4	70	130			
Surr: Toluene-d8	0.47		0.5000		94.6	70	130			

Sample ID	1409874-004ams		SampType: MS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/20/2014		SeqNo: 623840		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.049	0.9794	0	104	32.2	145			
Toluene	0.98	0.049	0.9794	0	99.6	29.1	139			
Surr: 1,2-Dichloroethane-d4	0.43		0.4897		88.0	70	130			
Surr: 4-Bromofluorobenzene	0.38		0.4897		78.6	70	130			
Surr: Dibromofluoromethane	0.45		0.4897		92.3	70	130			
Surr: Toluene-d8	0.43		0.4897		87.0	70	130			

Sample ID	1409874-004amsd		SampType: MSD		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	CentralOCD-04-9/16/		Batch ID: 15378		RunNo: 21355					
Prep Date:	9/18/2014		Analysis Date: 9/21/2014		SeqNo: 623841		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9814	0	108	32.2	145	3.73	20	
Toluene	0.99	0.049	0.9814	0	100	29.1	139	1.05	20	
Surr: 1,2-Dichloroethane-d4	0.42		0.4907		85.6	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.40		0.4907		82.0	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4907		95.0	70	130	0	0	
Surr: Toluene-d8	0.41		0.4907		84.2	70	130	0	0	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-15378		SampType: LCS			TestCode: EPA Method 8260B: Volatiles Short List				
Client ID:	LCSS		Batch ID: 15378			RunNo: 21355				
Prep Date:	9/18/2014		Analysis Date: 9/20/2014			SeqNo: 625670		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	70	130			
Toluene	1.0	0.050	1.000	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	0.41		0.5000		82.0	70	130			
Surr: 4-Bromofluorobenzene	0.42		0.5000		84.7	70	130			
Surr: Dibromofluoromethane	0.44		0.5000		88.1	70	130			
Surr: Toluene-d8	0.44		0.5000		87.5	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260: Volatiles Short List						
Client ID: PBW	Batch ID: R21353			RunNo: 21353						
Prep Date:	Analysis Date: 9/22/2014			SeqNo: 623722		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
mp-Xylenes	ND	1.0								
o-Xylene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.5	70	130			
Surr: Toluene-d8	8.7		10.00		87.0	70	130			

Sample ID 100ng lcs2	SampType: LCS			TestCode: EPA Method 8260: Volatiles Short List						
Client ID: LCSW	Batch ID: R21353			RunNo: 21353						
Prep Date:	Analysis Date: 9/22/2014			SeqNo: 623723		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	18	1.0	20.00	0	91.1	80	120			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15370	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15370	RunNo:	21328					
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	622393	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.20								
Acenaphthylene	ND	0.20								
Aniline	ND	0.20								
Anthracene	ND	0.20								
Azobenzene	ND	0.20								
Benz(a)anthracene	ND	0.20								
Benzo(a)pyrene	ND	0.20								
Benzo(b)fluoranthene	ND	0.20								
Benzo(g,h,i)perylene	ND	0.20								
Benzo(k)fluoranthene	ND	0.20								
Benzoic acid	ND	0.50								
Benzyl alcohol	ND	0.20								
Bis(2-chloroethoxy)methane	ND	0.20								
Bis(2-chloroethyl)ether	ND	0.20								
Bis(2-chloroisopropyl)ether	ND	0.20								
Bis(2-ethylhexyl)phthalate	ND	0.50								
4-Bromophenyl phenyl ether	ND	0.20								
Butyl benzyl phthalate	ND	0.20								
Carbazole	ND	0.20								
4-Chloro-3-methylphenol	ND	0.50								
4-Chloroaniline	ND	0.50								
2-Chloronaphthalene	ND	0.25								
2-Chlorophenol	ND	0.20								
4-Chlorophenyl phenyl ether	ND	0.20								
Chrysene	ND	0.20								
Di-n-butyl phthalate	ND	0.50								
Di-n-octyl phthalate	ND	0.40								
Dibenz(a,h)anthracene	ND	0.20								
Dibenzofuran	ND	0.20								
1,2-Dichlorobenzene	ND	0.20								
1,3-Dichlorobenzene	ND	0.20								
1,4-Dichlorobenzene	ND	0.20								
3,3'-Dichlorobenzidine	ND	0.25								
Diethyl phthalate	ND	0.20								
Dimethyl phthalate	ND	0.20								
2,4-Dichlorophenol	ND	0.40								
2,4-Dimethylphenol	ND	0.30								
4,6-Dinitro-2-methylphenol	ND	0.50								
2,4-Dinitrophenol	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	mb-15370	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBS	Batch ID:	15370	RunNo:	21328					
Prep Date:	9/18/2014	Analysis Date:	9/19/2014	SeqNo:	622393	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	0.50								
2,6-Dinitrotoluene	ND	0.50								
Fluoranthene	ND	0.20								
Fluorene	ND	0.20								
Hexachlorobenzene	ND	0.20								
Hexachlorobutadiene	ND	0.20								
Hexachlorocyclopentadiene	ND	0.20								
Hexachloroethane	ND	0.20								
Indeno(1,2,3-cd)pyrene	ND	0.20								
Isophorone	ND	0.50								
1-Methylnaphthalene	ND	0.20								
2-Methylnaphthalene	ND	0.20								
2-Methylphenol	ND	0.50								
3+4-Methylphenol	ND	0.20								
N-Nitrosodi-n-propylamine	ND	0.20								
N-Nitrosodiphenylamine	ND	0.20								
Naphthalene	ND	0.20								
2-Nitroaniline	ND	0.20								
3-Nitroaniline	ND	0.20								
4-Nitroaniline	ND	0.40								
Nitrobenzene	ND	0.50								
2-Nitrophenol	ND	0.20								
4-Nitrophenol	ND	0.25								
Pentachlorophenol	ND	0.40								
Phenanthrene	ND	0.20								
Phenol	ND	0.20								
Pyrene	ND	0.20								
Pyridine	ND	0.50								
1,2,4-Trichlorobenzene	ND	0.20								
2,4,5-Trichlorophenol	ND	0.20								
2,4,6-Trichlorophenol	ND	0.20								
Surr: 2-Fluorophenol	1.9		3.330		58.4	21	111			
Surr: Phenol-d5	2.3		3.330		69.7	23.1	117			
Surr: 2,4,6-Tribromophenol	2.4		3.330		70.8	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		67.3	24.5	126			
Surr: 2-Fluorobiphenyl	1.2		1.670		74.2	21.2	129			
Surr: 4-Terphenyl-d14	1.4		1.670		81.0	39.4	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	lcs-15370		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS		Batch ID: 15370		RunNo: 21328					
Prep Date:	9/18/2014		Analysis Date: 9/19/2014		SeqNo: 622394		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	0.93	0.20	1.670	0	55.4	50.7	110			
4-Chloro-3-methylphenol	2.2	0.50	3.330	0	66.9	47.8	107			
2-Chlorophenol	2.2	0.20	3.330	0	66.6	45.7	108			
1,4-Dichlorobenzene	0.88	0.20	1.670	0	52.7	46.1	112			
2,4-Dinitrotoluene	0.80	0.50	1.670	0	47.8	44.9	114			
N-Nitrosodi-n-propylamine	0.81	0.20	1.670	0	48.5	38.7	128			
4-Nitrophenol	1.8	0.25	3.330	0	54.3	40.2	103			
Pentachlorophenol	1.6	0.40	3.330	0	48.5	32.9	94			
Phenol	2.2	0.20	3.330	0	64.8	44.1	109			
Pyrene	1.1	0.20	1.670	0	64.3	51.9	109			
1,2,4-Trichlorobenzene	0.92	0.20	1.670	0	55.3	49.5	115			
Surr: 2-Fluorophenol	1.8		3.330		54.4	21	111			
Surr: Phenol-d5	2.2		3.330		65.8	23.1	117			
Surr: 2,4,6-Tribromophenol	1.8		3.330		53.1	22.7	88.9			
Surr: Nitrobenzene-d5	1.1		1.670		64.4	24.5	126			
Surr: 2-Fluorobiphenyl	0.96		1.670		57.7	21.2	129			
Surr: 4-Terphenyl-d14	1.1		1.670		63.7	39.4	107			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15505	SampType:	MBLK	TestCode:	EPA Method 7471: Mercury					
Client ID:	PBS	Batch ID:	15505	RunNo:	21480					
Prep Date:	9/25/2014	Analysis Date:	9/26/2014	SeqNo:	628099	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-15505	SampType:	LCS	TestCode:	EPA Method 7471: Mercury					
Client ID:	LCSS	Batch ID:	15505	RunNo:	21480					
Prep Date:	9/25/2014	Analysis Date:	9/26/2014	SeqNo:	628100	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	100	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	MB-15465	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	15465	RunNo:	21420					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625694	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Copper	ND	0.30								
Iron	ND	2.5								
Lead	ND	0.25								
Manganese	ND	0.10								
Selenium	ND	2.5								
Silver	ND	0.25								
Zinc	ND	2.5								

Sample ID	LCS-15465	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	15465	RunNo:	21420					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625695	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	25.00	0	95.6	80	120			
Barium	25	0.10	25.00	0	99.2	80	120			
Cadmium	24	0.10	25.00	0	97.4	80	120			
Chromium	24	0.30	25.00	0	97.3	80	120			
Copper	28	0.30	25.00	0	110	80	120			
Iron	26	2.5	25.00	0	103	80	120			
Lead	24	0.25	25.00	0	97.8	80	120			
Manganese	25	0.10	25.00	0	101	80	120			
Selenium	24	2.5	25.00	0	95.5	80	120			
Silver	5.0	0.25	5.000	0	101	80	120			
Zinc	23	2.5	25.00	0	90.7	80	120			

Sample ID	MB-15465	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	15465	RunNo:	21466					
Prep Date:	9/23/2014	Analysis Date:	9/25/2014	SeqNo:	627397	Units:	mg/Kg			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	5.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409874

21-Oct-14

Client: Western Refining Southwest, Gallup
Project: OCD Central Landfarm Semiannual Sampling

Sample ID	LCS-15465	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	15465	RunNo:	21466					
Prep Date:	9/23/2014	Analysis Date:	9/25/2014	SeqNo:	627398	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	24	5.0	25.00	0	97.1	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1409874

RcptNo: 1

Received by/date:

CS 09/16/14

Logged By:

Lindsay Mangin

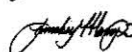
9/16/2014 5:03:00 PM



Completed By:

Lindsay Mangin

9/18/2014 8:26:23 AM



Reviewed By:

CS

09/18/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client ☐

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

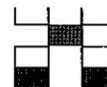
Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Not Present			

Client: Western Refining

☐ Standard☐ Rush

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Mailing Address:

Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other☐ EDD (Type) Please provide EDD

Project Name:

OCD Central Landfarm Semiannual Sampling

Project #:

697-039-004

Project Manager:

Ed Riege

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature:

1.1°

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	Vadose Zone List (see attached)	NMAC List (see attached)	DRO and GRO by 8015D	BTEX (8260)	Air Ruthless (Y or N)
1/6/14	1110	soil	CentralOCD-01-9/16/14	4oz - 2	none	-001	X				
1/6/14	1030	soil	CentralOCD-02-9/16/14	4oz - 2	none	-002	X				
1/6/14	0955	soil	CentralOCD-03-9/16/14	4oz - 2	none	-003	X				
1/6/14	0840	soil	CentralOCD-04-9/16/14	4oz - 2	none	-004	X				
1/6/14		soil	BD-9/16/14	4oz - 2	none	-005	X				
1/6/14	0855	soil	CentralOCD-04-9/16/14-MS	4oz - 2	none	-004	X				
1/6/14	0900	soil	CentralOCD-04-9/16/14-MSD	4oz - 2	none	-004	X				
1/6/14	1055	soil	CentralOCD-12-9/16/14	8oz - 3, 4oz - 1	none	-006	X	X	X		
1/6/14	1210	water	EB-9/16/14	VOA - 3	HCL	-007				X	
1/6/14	1215	water	FB-9/16/14	VOA - 3	HCL	-008				X	
		water	Trip Blank	VOA - 3	HCL	-009				X	

Date: Time: Relinquished by:

1/6/14 1450 [Signature]

Received by:

Date: Time:

[Signature] 9-16-14 1450

Date: Time: Relinquished by:

1-16-14 1703 [Signature]

Received by:

Date: Time:

[Signature] 09/16/14 1703

Remarks: Please cc Grant Price (gprice@trihydro.com) with results

Call Grant @ 307-745-7474 w/ questions. **Verify that Reporting****limits comply with those shown on the attached. PCBs need****DL of 0.02 mg/kg.**

Did not receive trip blank

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

mg 05/15



**NMAC LIST ANALYTES AND REPORTING LIMITS, CONSTITUENTS LISTED IN SUBSECTIONS A AND B OF 20.6.2.3103 NMAC, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Fluoride	E300	mg/kg	0.3000
Nitrogen, Nitrate (As N)	E300	mg/kg	2.2000
Sulfate	E300	mg/kg	21.5000
*Radium-226	E901.1	pCi/g	1.3950
*Radium-228	E901.1	pCi/g	1.2500
*Radium-226+Radium-228	E901.1	pCi/g	2.6450
Arsenic	SW6010A	mg/kg	2.5000
Barium	SW6010A	mg/kg	1.0000
Cadmium	SW6010A	mg/kg	0.1000
Chromium	SW6010A	mg/kg	0.3000
Copper	SW6010A	mg/kg	0.6000
Iron	SW6010A	mg/kg	500.0000
Lead	SW6010A	mg/kg	0.2500
Manganese	SW6010A	mg/kg	1.0000
Selenium	SW6010A	mg/kg	2.5000
Silver	SW6010A	mg/kg	0.2500
Uranium	SW6010A	mg/kg	5.0000
Zinc	SW6010A	mg/kg	2.5000
Mercury	SW7471	mg/kg	0.0330
Aroclor 1016	SW8082	mg/kg	0.0200
Aroclor 1221	SW8082	mg/kg	0.0200
Aroclor 1232	SW8082	mg/kg	0.0200
Aroclor 1242	SW8082	mg/kg	0.0200
Aroclor 1248	SW8082	mg/kg	0.0200
Aroclor 1254	SW8082	mg/kg	0.0200
Aroclor 1260	SW8082	mg/kg	0.0200
1,1,1-Trichloroethane	SW8260B	mg/kg	0.0480
1,1,2-Trichloroethane	SW8260B	mg/kg	0.0480
1,1-Dichloroethane	SW8260B	mg/kg	0.0970
1,1-Dichloroethene	SW8260B	mg/kg	0.0480
1,2-Dichloroethane	SW8260B	mg/kg	0.0480
Carbon tetrachloride	SW8260B	mg/kg	0.0970
Chloroform	SW8260B	mg/kg	0.0480
Dibromomethane	SW8260B	mg/kg	0.1000
Methylene chloride	SW8260B	mg/kg	0.1500
Tetrachloroethene	SW8260B	mg/kg	0.0480
Trichloroethene	SW8260B	mg/kg	0.0480
Vinyl chloride	SW8260B	mg/kg	0.0480
2,4,5-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4,6-Trichlorophenol	SW8270C	mg/kg	0.2000
2,4-Dichlorophenol	SW8270C	mg/kg	0.4000
2,4-Dimethylphenol	SW8270C	mg/kg	0.3000
2,4-Dinitrophenol	SW8270C	mg/kg	0.4000
2-Chlorophenol	SW8270C	mg/kg	0.2000
2-Methylphenol	SW8270C	mg/kg	0.1000
2-Nitrophenol	SW8270C	mg/kg	0.1000
3+4-Methylphenol	SW8270C	mg/kg	0.1000
4,6-Dinitro-2-methylphenol	SW8270C	mg/kg	0.5000
4-Chloro-3-methylphenol	SW8270C	mg/kg	0.1000
4-Nitrophenol	SW8270C	mg/kg	0.1000
Pentachlorophenol	SW8270C	mg/kg	0.4000
Phenol	SW8270C	mg/kg	0.2000
1-Methylnaphthalene	SW8260B	mg/kg	0.2000
2-Methylnaphthalene	SW8260B	mg/kg	0.2000
Acenaphthene	SW8270C	mg/kg	0.2000
Acenaphthylene	SW8270C	mg/kg	0.2000
Anthracene	SW8270C	mg/kg	0.2000
Benzo(a)anthracene	SW8270C	mg/kg	0.2000
Benzo(a)pyrene	SW8270C	mg/kg	0.2000
Benzo(b)fluoranthene	SW8270C	mg/kg	0.2000
Benzo(g,h,i)perylene	SW8270C	mg/kg	0.2000
Benzo(k)fluoranthene	SW8270C	mg/kg	0.2000
Chrysene	SW8270C	mg/kg	0.2000
Dibenz(a,h)anthracene	SW8270C	mg/kg	0.2000
Fluoranthene	SW8270C	mg/kg	0.2000
Fluorene	SW8270C	mg/kg	0.2000
Indeno(1,2,3-c,d)pyrene	SW8270C	mg/kg	0.2000
Naphthalene	SW8270C	mg/kg	0.2000
Phenanthrene	SW8270C	mg/kg	0.2000
Pyrene	SW8270C	mg/kg	0.2000
Cyanide	EPA 335.4	mg/kg	0.3000
Diesel Range Organics (DRO)	SW8015	mg/kg	12
Gasoline Range Organics (GRO)	SW8015	mg/kg	1.0

**VADOSE ZONE ANALYTES AND REPORTING LIMITS, CENTRAL OIL CONSERVATION DIVISION LANDFARM
WESTERN REFINING SOUTHWEST, GALLUP REFINERY, GALLUP, NEW MEXICO**

Analyte	Analytical Method	Reporting Units	Requested Reporting Limit
Chloride	E300	mg/kg	30
Benzene	SW8260B	mg/kg	0.050
Ethylbenzene	SW8260B	mg/kg	0.050
Toluene	SW8260B	mg/kg	0.050
Xylenes, Total	SW8260B	mg/kg	0.100
Petroleum Hydrocarbons, TR	E418.1	mg/kg	20



APPENDIX K

HALL LABORATORY ANALYTICAL DATA



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 06, 2014

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX (505) 722-0210

RE: 2014 Annual GW

OrderNo.: 1409805

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 6 sample(s) on 9/16/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 2014 Annual GW

Collection Date: 9/11/2014 6:00:00 PM

Lab ID: 1409805-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/18/2014 2:35:01 PM	15312
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/18/2014 2:35:01 PM	15312
Surr: DNOP	93.7	59-141		%REC	1	9/18/2014 2:35:01 PM	15312
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/17/2014 11:35:05 PM	R21267
Surr: BFB	93.8	70.9-130		%REC	1	9/17/2014 11:35:05 PM	R21267
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	ND	0.50		mg/L	5	9/18/2014 12:31:40 AM	R21283
Chloride	60	10		mg/L	20	9/18/2014 12:19:15 AM	R21283
Bromide	ND	0.50		mg/L	5	9/18/2014 12:31:40 AM	R21283
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/18/2014 12:31:40 AM	R21283
Sulfate	150	10		mg/L	20	9/18/2014 12:19:15 AM	R21283
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 5:29:34 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.12	0.0020		mg/L	1	9/18/2014 1:59:00 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:59:00 PM	R21290
Calcium	17	1.0		mg/L	1	9/18/2014 1:59:00 PM	R21290
Chromium	0.0082	0.0060		mg/L	1	9/18/2014 1:59:00 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:59:00 PM	R21290
Iron	7.1	0.20	*	mg/L	10	9/19/2014 5:12:39 PM	R21336
Magnesium	1.7	1.0		mg/L	1	9/18/2014 1:59:00 PM	R21290
Manganese	0.23	0.0020	*	mg/L	1	9/19/2014 5:11:02 PM	R21336
Potassium	2.0	1.0		mg/L	1	9/18/2014 1:59:00 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:11:02 PM	R21336
Sodium	330	10		mg/L	10	9/19/2014 5:12:39 PM	R21336
Zinc	0.078	0.010		mg/L	1	9/19/2014 5:11:02 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.56	0.0020		mg/L	1	9/18/2014 4:44:20 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:44:20 PM	15343
Chromium	0.12	0.0060	*	mg/L	1	9/18/2014 4:44:20 PM	15343
Copper	0.025	0.0060		mg/L	1	9/18/2014 4:44:20 PM	15343
Iron	41	2.0	*	mg/L	100	9/18/2014 5:20:13 PM	15343
Manganese	1.7	0.020	*	mg/L	10	9/18/2014 5:18:29 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:44:20 PM	15343
Zinc	0.19	0.010		mg/L	1	9/18/2014 4:44:20 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0025	0.0010		mg/L	1	9/26/2014 11:26:01 AM	R21493

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 2014 Annual GW

Collection Date: 9/11/2014 6:00:00 PM

Lab ID: 1409805-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Lead	0.017	0.010	*	mg/L	10	9/29/2014 4:46:56 PM	R21527
Selenium	0.0044	0.0010		mg/L	1	9/26/2014 11:26:01 AM	R21493
Uranium	0.048	0.010	*	mg/L	10	9/29/2014 4:46:56 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.013	0.010	*	mg/L	10	9/29/2014 1:08:15 PM	15343
Lead	0.078	0.010	*	mg/L	10	9/29/2014 1:08:15 PM	15343
Selenium	ND	0.010		mg/L	10	9/29/2014 1:08:15 PM	15343
Uranium	0.066	0.010	*	mg/L	10	9/29/2014 1:08:15 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:49:52 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Acenaphthylene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Aniline	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Anthracene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Azobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benz(a)anthracene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzo(a)pyrene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzo(b)fluoranthene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzo(g,h,i)perylene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzo(k)fluoranthene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzoic acid	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
Benzyl alcohol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Bis(2-chloroethyl)ether	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Bis(2-ethylhexyl)phthalate	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Bromophenyl phenyl ether	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Butyl benzyl phthalate	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Carbazole	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Chloro-3-methylphenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Chloroaniline	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Chloronaphthalene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Chlorophenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Chrysene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Di-n-butyl phthalate	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Di-n-octyl phthalate	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342

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	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 2014 Annual GW

Collection Date: 9/11/2014 6:00:00 PM

Lab ID: 1409805-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAM	
Dibenz(a,h)anthracene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Dibenzofuran	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
1,2-Dichlorobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
1,3-Dichlorobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
1,4-Dichlorobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
3,3'-Dichlorobenzidine	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Diethyl phthalate	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Dimethyl phthalate	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4-Dichlorophenol	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4-Dimethylphenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4,6-Dinitro-2-methylphenol	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4-Dinitrophenol	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4-Dinitrotoluene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2,6-Dinitrotoluene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Fluoranthene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Fluorene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Hexachlorobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Hexachlorobutadiene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Hexachlorocyclopentadiene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Hexachloroethane	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Isophorone	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
1-Methylnaphthalene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Methylnaphthalene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Methylphenol	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
3+4-Methylphenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
N-Nitrosodi-n-propylamine	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
N-Nitrosodimethylamine	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
N-Nitrosodiphenylamine	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Naphthalene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Nitroaniline	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
3-Nitroaniline	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Nitroaniline	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Nitrobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2-Nitrophenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
4-Nitrophenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Pentachlorophenol	ND	100		µg/L	1	9/18/2014 9:42:30 PM	15342
Phenanthrene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Phenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342

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Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 3 of 46
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 2014 Annual GW

Collection Date: 9/11/2014 6:00:00 PM

Lab ID: 1409805-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Pyridine	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
1,2,4-Trichlorobenzene	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4,5-Trichlorophenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
2,4,6-Trichlorophenol	ND	50		µg/L	1	9/18/2014 9:42:30 PM	15342
Surr: 2-Fluorophenol	61.0	12.1-85.8		%REC	1	9/18/2014 9:42:30 PM	15342
Surr: Phenol-d5	53.9	17.7-65.8		%REC	1	9/18/2014 9:42:30 PM	15342
Surr: 2,4,6-Tribromophenol	61.9	26-138		%REC	1	9/18/2014 9:42:30 PM	15342
Surr: Nitrobenzene-d5	76.4	47.5-119		%REC	1	9/18/2014 9:42:30 PM	15342
Surr: 2-Fluorobiphenyl	66.4	48.1-106		%REC	1	9/18/2014 9:42:30 PM	15342
Surr: 4-Terphenyl-d14	59.9	44-113		%REC	1	9/18/2014 9:42:30 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Toluene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Ethylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Naphthalene	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1-Methylnaphthalene	ND	8.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
2-Methylnaphthalene	ND	8.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Acetone	ND	20		µg/L	2	9/19/2014 4:22:17 PM	R21319
Bromobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Bromodichloromethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Bromoform	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Bromomethane	ND	6.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
2-Butanone	ND	20		µg/L	2	9/19/2014 4:22:17 PM	R21319
Carbon disulfide	ND	20		µg/L	2	9/19/2014 4:22:17 PM	R21319
Carbon Tetrachloride	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Chlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Chloroethane	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Chloroform	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Chloromethane	ND	6.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
2-Chlorotoluene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
4-Chlorotoluene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
cis-1,2-DCE	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-1

Project: 2014 Annual GW

Collection Date: 9/11/2014 6:00:00 PM

Lab ID: 1409805-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Dibromochloromethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Dibromomethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2-Dichlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,3-Dichlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,4-Dichlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Dichlorodifluoromethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1-Dichloroethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1-Dichloroethene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2-Dichloropropane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,3-Dichloropropane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
2,2-Dichloropropane	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1-Dichloropropene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Hexachlorobutadiene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
2-Hexanone	ND	20		µg/L	2	9/19/2014 4:22:17 PM	R21319
Isopropylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
4-Isopropyltoluene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
4-Methyl-2-pentanone	ND	20		µg/L	2	9/19/2014 4:22:17 PM	R21319
Methylene Chloride	ND	6.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
n-Butylbenzene	ND	6.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
n-Propylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
sec-Butylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Styrene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
tert-Butylbenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1,2,2-Tetrachloroethane	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
trans-1,2-DCE	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1,1-Trichloroethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,1,2-Trichloroethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Trichloroethene (TCE)	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Trichlorofluoromethane	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
1,2,3-Trichloropropane	ND	4.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Vinyl chloride	ND	2.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Xylenes, Total	ND	3.0		µg/L	2	9/19/2014 4:22:17 PM	R21319
Surr: 1,2-Dichloroethane-d4	94.0	70-130		%REC	2	9/19/2014 4:22:17 PM	R21319

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
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	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

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Matrix: AQUEOUS

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Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 4-Bromofluorobenzene	101	70-130		%REC	2	9/19/2014 4:22:17 PM	R21319
Surr: Dibromofluoromethane	97.6	70-130		%REC	2	9/19/2014 4:22:17 PM	R21319
Surr: Toluene-d8	85.3	70-130		%REC	2	9/19/2014 4:22:17 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/18/2014 2:56:57 PM	15312
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/18/2014 2:56:57 PM	15312
Surr: DNOP	102	59-141		%REC	1	9/18/2014 2:56:57 PM	15312
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	0.064	0.050		mg/L	1	9/18/2014 12:05:15 AM	R21267
Surr: BFB	102	70.9-130		%REC	1	9/18/2014 12:05:15 AM	R21267
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	0.12	0.10		mg/L	1	9/18/2014 12:44:05 AM	R21283
Chloride	1500	50		mg/L	100	9/19/2014 1:58:35 AM	R21310
Bromide	1.4	0.10		mg/L	1	9/18/2014 12:44:05 AM	R21283
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 12:44:05 AM	R21283
Sulfate	200	10		mg/L	20	9/18/2014 12:56:30 AM	R21283
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 5:41:59 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.099	0.0020		mg/L	1	9/18/2014 2:00:42 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 2:00:42 PM	R21290
Calcium	220	10		mg/L	10	9/19/2014 5:16:44 PM	R21336
Chromium	ND	0.0060		mg/L	1	9/18/2014 2:00:42 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 2:00:42 PM	R21290
Iron	ND	0.020		mg/L	1	9/19/2014 5:14:54 PM	R21336
Magnesium	36	1.0		mg/L	1	9/18/2014 2:00:42 PM	R21290
Manganese	0.20	0.0020	*	mg/L	1	9/19/2014 5:14:54 PM	R21336
Potassium	4.1	1.0		mg/L	1	9/18/2014 2:00:42 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:14:54 PM	R21336
Sodium	1100	100		mg/L	100	9/19/2014 5:18:31 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 5:14:54 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.086	0.0020		mg/L	1	9/18/2014 4:46:06 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:46:06 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:46:06 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:46:06 PM	15343
Iron	ND	0.020		mg/L	1	9/18/2014 4:46:06 PM	15343
Manganese	0.18	0.0020	*	mg/L	1	9/18/2014 4:46:06 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:46:06 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:46:06 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	ND	0.0050		mg/L	5	9/26/2014 2:23:28 PM	R21493

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Lead	ND	0.010		mg/L	10	9/29/2014 4:50:02 PM	R21527
Selenium	0.017	0.0050		mg/L	5	9/26/2014 2:23:28 PM	R21493
Uranium	0.064	0.010	*	mg/L	10	9/29/2014 4:50:02 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	ND	0.010		mg/L	10	9/29/2014 1:11:20 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 6:03:45 PM	15343
Selenium	0.017	0.010		mg/L	10	9/29/2014 1:11:20 PM	15343
Uranium	0.065	0.010	*	mg/L	10	9/29/2014 1:11:20 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:51:38 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342

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	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 10:11:29 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 9 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 10:11:29 PM	15342
Surr: 2-Fluorophenol	24.2	12.1-85.8		%REC	1	9/18/2014 10:11:29 PM	15342
Surr: Phenol-d5	34.1	17.7-65.8		%REC	1	9/18/2014 10:11:29 PM	15342
Surr: 2,4,6-Tribromophenol	20.6	26-138	S	%REC	1	9/18/2014 10:11:29 PM	15342
Surr: Nitrobenzene-d5	63.8	47.5-119		%REC	1	9/18/2014 10:11:29 PM	15342
Surr: 2-Fluorobiphenyl	62.5	48.1-106		%REC	1	9/18/2014 10:11:29 PM	15342
Surr: 4-Terphenyl-d14	65.3	44-113		%REC	1	9/18/2014 10:11:29 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Toluene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Ethylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Methyl tert-butyl ether (MTBE)	110	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2-Dichloroethane (EDC)	1.1	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Naphthalene	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
2-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Acetone	ND	10		µg/L	1	9/19/2014 4:51:56 PM	R21319
Bromobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Bromodichloromethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Bromoform	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Bromomethane	ND	3.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
2-Butanone	ND	10		µg/L	1	9/19/2014 4:51:56 PM	R21319
Carbon disulfide	ND	10		µg/L	1	9/19/2014 4:51:56 PM	R21319
Carbon Tetrachloride	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Chlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Chloroethane	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Chloroform	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Chloromethane	ND	3.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
2-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
4-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
cis-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Dibromochloromethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Dibromomethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1-Dichloroethane	1.6	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1-Dichloroethene	1.8	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,3-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
2,2-Dichloropropane	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Hexachlorobutadiene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
2-Hexanone	ND	10		µg/L	1	9/19/2014 4:51:56 PM	R21319
Isopropylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
4-Isopropyltoluene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
4-Methyl-2-pentanone	ND	10		µg/L	1	9/19/2014 4:51:56 PM	R21319
Methylene Chloride	ND	3.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
n-Butylbenzene	ND	3.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
n-Propylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
sec-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Styrene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
tert-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
trans-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Trichlorofluoromethane	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Vinyl chloride	ND	1.0		µg/L	1	9/19/2014 4:51:56 PM	R21319
Xylenes, Total	ND	1.5		µg/L	1	9/19/2014 4:51:56 PM	R21319
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	9/19/2014 4:51:56 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-10

Project: 2014 Annual GW

Collection Date: 9/12/2014 9:35:00 AM

Lab ID: 1409805-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	9/19/2014 4:51:56 PM	R21319
Surr: Dibromofluoromethane	104	70-130		%REC	1	9/19/2014 4:51:56 PM	R21319
Surr: Toluene-d8	87.6	70-130		%REC	1	9/19/2014 4:51:56 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 12 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/18/2014 3:19:00 PM	15312
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/18/2014 3:19:00 PM	15312
Surr: DNOP	103	59-141		%REC	1	9/18/2014 3:19:00 PM	15312
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 12:35:28 AM	R21267
Surr: BFB	93.5	70.9-130		%REC	1	9/18/2014 12:35:28 AM	R21267
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	0.47	0.10		mg/L	1	9/18/2014 1:08:55 AM	R21283
Chloride	19	0.50		mg/L	1	9/18/2014 1:08:55 AM	R21283
Bromide	0.14	0.10		mg/L	1	9/18/2014 1:08:55 AM	R21283
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 1:08:55 AM	R21283
Sulfate	150	10		mg/L	20	9/18/2014 1:21:20 AM	R21283
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 5:54:24 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.021	0.0020		mg/L	1	9/18/2014 2:02:35 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 2:02:35 PM	R21290
Calcium	1.7	1.0		mg/L	1	9/18/2014 2:02:35 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 2:02:35 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 2:02:35 PM	R21290
Iron	0.037	0.020		mg/L	1	9/19/2014 5:20:19 PM	R21336
Magnesium	ND	1.0		mg/L	1	9/18/2014 2:02:35 PM	R21290
Manganese	ND	0.0020		mg/L	1	9/19/2014 5:20:19 PM	R21336
Potassium	1.7	1.0		mg/L	1	9/18/2014 2:02:35 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:20:19 PM	R21336
Sodium	260	10		mg/L	10	9/19/2014 5:22:17 PM	R21336
Zinc	0.023	0.010		mg/L	1	9/19/2014 5:20:19 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.024	0.0020		mg/L	1	9/18/2014 4:47:59 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:47:59 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:47:59 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:47:59 PM	15343
Iron	0.12	0.020		mg/L	1	9/18/2014 4:47:59 PM	15343
Manganese	0.0054	0.0020		mg/L	1	9/18/2014 4:47:59 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:47:59 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:47:59 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0020	0.0010		mg/L	1	9/26/2014 11:32:24 AM	R21493

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Lead	ND	0.010		mg/L	10	9/29/2014 4:53:08 PM	R21527
Selenium	0.0011	0.0010		mg/L	1	9/26/2014 11:32:24 AM	R21493
Uranium	0.012	0.010		mg/L	10	9/29/2014 4:53:08 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0021	0.0010		mg/L	1	9/23/2014 6:06:51 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 6:06:51 PM	15343
Selenium	0.0011	0.0010		mg/L	1	9/23/2014 6:06:51 PM	15343
Uranium	0.014	0.0010		mg/L	1	9/23/2014 6:06:51 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:57:07 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 10:40:26 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 10:40:26 PM	15342
Surr: 2-Fluorophenol	51.9	12.1-85.8		%REC	1	9/18/2014 10:40:26 PM	15342
Surr: Phenol-d5	45.9	17.7-65.8		%REC	1	9/18/2014 10:40:26 PM	15342
Surr: 2,4,6-Tribromophenol	50.2	26-138		%REC	1	9/18/2014 10:40:26 PM	15342
Surr: Nitrobenzene-d5	66.6	47.5-119		%REC	1	9/18/2014 10:40:26 PM	15342
Surr: 2-Fluorobiphenyl	64.0	48.1-106		%REC	1	9/18/2014 10:40:26 PM	15342
Surr: 4-Terphenyl-d14	61.3	44-113		%REC	1	9/18/2014 10:40:26 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Toluene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Ethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Naphthalene	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
2-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Acetone	ND	10		µg/L	1	9/19/2014 5:21:37 PM	R21319
Bromobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Bromodichloromethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Bromoform	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Bromomethane	ND	3.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
2-Butanone	ND	10		µg/L	1	9/19/2014 5:21:37 PM	R21319
Carbon disulfide	ND	10		µg/L	1	9/19/2014 5:21:37 PM	R21319
Carbon Tetrachloride	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Chlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Chloroethane	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Chloroform	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Chloromethane	ND	3.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
2-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
4-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
cis-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Dibromochloromethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Dibromomethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1-Dichloroethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1-Dichloroethene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,3-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
2,2-Dichloropropane	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Hexachlorobutadiene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
2-Hexanone	ND	10		µg/L	1	9/19/2014 5:21:37 PM	R21319
Isopropylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
4-Isopropyltoluene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
4-Methyl-2-pentanone	ND	10		µg/L	1	9/19/2014 5:21:37 PM	R21319
Methylene Chloride	ND	3.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
n-Butylbenzene	ND	3.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
n-Propylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
sec-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Styrene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
tert-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
trans-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Trichlorofluoromethane	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Vinyl chloride	ND	1.0		µg/L	1	9/19/2014 5:21:37 PM	R21319
Xylenes, Total	ND	1.5		µg/L	1	9/19/2014 5:21:37 PM	R21319
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%REC	1	9/19/2014 5:21:37 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-12

Project: 2014 Annual GW

Collection Date: 9/12/2014 11:00:00 AM

Lab ID: 1409805-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	9/19/2014 5:21:37 PM	R21319
Surr: Dibromofluoromethane	98.8	70-130		%REC	1	9/19/2014 5:21:37 PM	R21319
Surr: Toluene-d8	84.1	70-130		%REC	1	9/19/2014 5:21:37 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 18 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/18/2014 3:40:49 PM	15312
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/18/2014 3:40:49 PM	15312
Surr: DNOP	102	59-141		%REC	1	9/18/2014 3:40:49 PM	15312
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 1:52:23 PM	R21299
Surr: BFB	93.6	70.9-130		%REC	1	9/18/2014 1:52:23 PM	R21299
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	2.3	0.10		mg/L	1	9/18/2014 1:33:45 AM	R21283
Chloride	77	10		mg/L	20	9/18/2014 1:46:10 AM	R21283
Bromide	ND	0.10		mg/L	1	9/18/2014 1:33:45 AM	R21283
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 1:33:45 AM	R21283
Sulfate	960	25		mg/L	50	9/19/2014 2:11:00 AM	R21310
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 6:06:49 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.0080	0.0020		mg/L	1	9/18/2014 2:04:30 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 2:04:30 PM	R21290
Calcium	12	1.0		mg/L	1	9/18/2014 2:04:30 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 2:04:30 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 2:04:30 PM	R21290
Iron	ND	0.020		mg/L	1	9/19/2014 5:23:58 PM	R21336
Magnesium	1.4	1.0		mg/L	1	9/18/2014 2:04:30 PM	R21290
Manganese	0.017	0.0020		mg/L	1	9/19/2014 5:23:58 PM	R21336
Potassium	3.1	1.0		mg/L	1	9/18/2014 2:04:30 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:23:58 PM	R21336
Sodium	660	10		mg/L	10	9/19/2014 5:25:58 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 5:23:58 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.0083	0.0020		mg/L	1	9/18/2014 4:49:53 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:49:53 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:49:53 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:49:53 PM	15343
Iron	0.047	0.020		mg/L	1	9/18/2014 4:49:53 PM	15343
Manganese	0.021	0.0020		mg/L	1	9/18/2014 4:49:53 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:49:53 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:49:53 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0026	0.0010		mg/L	1	9/26/2014 11:35:38 AM	R21493

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Lead	ND	0.010		mg/L	10	9/29/2014 4:56:14 PM	R21527
Selenium	0.0020	0.0010		mg/L	1	9/26/2014 11:35:38 AM	R21493
Uranium	0.25	0.010	*	mg/L	10	9/29/2014 4:56:14 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0027	0.0010		mg/L	1	9/23/2014 6:09:58 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 6:09:58 PM	15343
Selenium	0.0023	0.0010		mg/L	1	9/23/2014 6:09:58 PM	15343
Uranium	0.25	0.010	*	mg/L	10	9/29/2014 1:14:26 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:58:53 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 11:09:18 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 11:09:18 PM	15342
Surr: 2-Fluorophenol	51.9	12.1-85.8		%REC	1	9/18/2014 11:09:18 PM	15342
Surr: Phenol-d5	48.5	17.7-65.8		%REC	1	9/18/2014 11:09:18 PM	15342
Surr: 2,4,6-Tribromophenol	51.5	26-138		%REC	1	9/18/2014 11:09:18 PM	15342
Surr: Nitrobenzene-d5	70.5	47.5-119		%REC	1	9/18/2014 11:09:18 PM	15342
Surr: 2-Fluorobiphenyl	64.5	48.1-106		%REC	1	9/18/2014 11:09:18 PM	15342
Surr: 4-Terphenyl-d14	64.4	44-113		%REC	1	9/18/2014 11:09:18 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Toluene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Ethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Naphthalene	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
2-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Acetone	ND	10		µg/L	1	9/19/2014 5:51:24 PM	R21319
Bromobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Bromodichloromethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Bromoform	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Bromomethane	ND	3.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
2-Butanone	ND	10		µg/L	1	9/19/2014 5:51:24 PM	R21319
Carbon disulfide	ND	10		µg/L	1	9/19/2014 5:51:24 PM	R21319
Carbon Tetrachloride	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Chlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Chloroethane	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Chloroform	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Chloromethane	ND	3.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
2-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
4-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
cis-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Dibromochloromethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Dibromomethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1-Dichloroethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1-Dichloroethene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,3-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
2,2-Dichloropropane	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Hexachlorobutadiene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
2-Hexanone	ND	10		µg/L	1	9/19/2014 5:51:24 PM	R21319
Isopropylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
4-Isopropyltoluene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
4-Methyl-2-pentanone	ND	10		µg/L	1	9/19/2014 5:51:24 PM	R21319
Methylene Chloride	ND	3.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
n-Butylbenzene	ND	3.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
n-Propylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
sec-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Styrene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
tert-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
trans-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Trichlorofluoromethane	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Vinyl chloride	ND	1.0		µg/L	1	9/19/2014 5:51:24 PM	R21319
Xylenes, Total	ND	1.5		µg/L	1	9/19/2014 5:51:24 PM	R21319
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	9/19/2014 5:51:24 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-11

Project: 2014 Annual GW

Collection Date: 9/12/2014 12:20:00 PM

Lab ID: 1409805-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	9/19/2014 5:51:24 PM	R21319
Surr: Dibromofluoromethane	105	70-130		%REC	1	9/19/2014 5:51:24 PM	R21319
Surr: Toluene-d8	85.5	70-130		%REC	1	9/19/2014 5:51:24 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 24 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409805**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-Group 1-9/11/14

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409805-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Benzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Toluene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Ethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Naphthalene	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
2-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Acetone	ND	10		µg/L	1	9/19/2014 6:21:10 PM	R21319
Bromobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Bromodichloromethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Bromoform	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Bromomethane	ND	3.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
2-Butanone	ND	10		µg/L	1	9/19/2014 6:21:10 PM	R21319
Carbon disulfide	ND	10		µg/L	1	9/19/2014 6:21:10 PM	R21319
Carbon Tetrachloride	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Chlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Chloroethane	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Chloroform	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Chloromethane	ND	3.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
2-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
4-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
cis-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Dibromochloromethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Dibromomethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1-Dichloroethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1-Dichloroethene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,3-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
2,2-Dichloropropane	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-Group 1-9/11/14

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409805-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Hexachlorobutadiene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
2-Hexanone	ND	10		µg/L	1	9/19/2014 6:21:10 PM	R21319
Isopropylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
4-Isopropyltoluene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
4-Methyl-2-pentanone	ND	10		µg/L	1	9/19/2014 6:21:10 PM	R21319
Methylene Chloride	ND	3.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
n-Butylbenzene	ND	3.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
n-Propylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
sec-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Styrene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
tert-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
trans-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Trichlorofluoromethane	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Vinyl chloride	ND	1.0		µg/L	1	9/19/2014 6:21:10 PM	R21319
Xylenes, Total	ND	1.5		µg/L	1	9/19/2014 6:21:10 PM	R21319
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%REC	1	9/19/2014 6:21:10 PM	R21319
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	9/19/2014 6:21:10 PM	R21319
Surr: Dibromofluoromethane	100	70-130		%REC	1	9/19/2014 6:21:10 PM	R21319
Surr: Toluene-d8	81.9	70-130		%REC	1	9/19/2014 6:21:10 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409805-006

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 1:05:46 AM	R21267
Surr: BFB	86.6	70.9-130		%REC	1	9/18/2014 1:05:46 AM	R21267
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Toluene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Ethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Naphthalene	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
2-Methylnaphthalene	ND	4.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Acetone	ND	10		µg/L	1	9/19/2014 6:50:54 PM	R21319
Bromobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Bromodichloromethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Bromoform	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Bromomethane	ND	3.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
2-Butanone	ND	10		µg/L	1	9/19/2014 6:50:54 PM	R21319
Carbon disulfide	ND	10		µg/L	1	9/19/2014 6:50:54 PM	R21319
Carbon Tetrachloride	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Chlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Chloroethane	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Chloroform	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Chloromethane	ND	3.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
2-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
4-Chlorotoluene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
cis-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Dibromochloromethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Dibromomethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1-Dichloroethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1-Dichloroethene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409805

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409805-006

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,2-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,3-Dichloropropane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
2,2-Dichloropropane	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Hexachlorobutadiene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
2-Hexanone	ND	10		µg/L	1	9/19/2014 6:50:54 PM	R21319
Isopropylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
4-Isopropyltoluene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
4-Methyl-2-pentanone	ND	10		µg/L	1	9/19/2014 6:50:54 PM	R21319
Methylene Chloride	ND	3.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
n-Butylbenzene	ND	3.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
n-Propylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
sec-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Styrene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
tert-Butylbenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
trans-1,2-DCE	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Trichlorofluoromethane	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Vinyl chloride	ND	1.0		µg/L	1	9/19/2014 6:50:54 PM	R21319
Xylenes, Total	ND	1.5		µg/L	1	9/19/2014 6:50:54 PM	R21319
Surr: 1,2-Dichloroethane-d4	103	70-130		%REC	1	9/19/2014 6:50:54 PM	R21319
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	9/19/2014 6:50:54 PM	R21319
Surr: Dibromofluoromethane	108	70-130		%REC	1	9/19/2014 6:50:54 PM	R21319
Surr: Toluene-d8	87.2	70-130		%REC	1	9/19/2014 6:50:54 PM	R21319

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 28 of 46
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621146	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621147	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	49	1.0	50.00	0	97.2	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.49	0.0060	0.5000	0	97.1	85	115			
Magnesium	49	1.0	50.00	0	97.8	85	115			
Potassium	48	1.0	50.00	0	96.0	85	115			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621149	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621150	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.48	0.0020	0.5000	0	96.7	85	115			
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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID LCS	SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW	Batch ID: R21290				RunNo: 21290					
Prep Date:	Analysis Date: 9/18/2014				SeqNo: 621150		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.8	85	115			
Calcium	48	1.0	50.00	0	96.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Magnesium	49	1.0	50.00	0	97.7	85	115			
Potassium	48	1.0	50.00	0	96.3	85	115			

Sample ID LCS TEST	SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW	Batch ID: R21290				RunNo: 21290					
Prep Date:	Analysis Date: 9/18/2014				SeqNo: 621170		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Calcium	50	1.0	50.00	0	99.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Copper	0.49	0.0060	0.5000	0	97.3	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Potassium	50	1.0	50.00	0	99.2	85	115			

Sample ID MB	SampType: MBLK				TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: PBW	Batch ID: R21336				RunNo: 21336					
Prep Date:	Analysis Date: 9/19/2014				SeqNo: 622776		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID LCS	SampType: LCS				TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW	Batch ID: R21336				RunNo: 21336					
Prep Date:	Analysis Date: 9/19/2014				SeqNo: 622777		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.8	85	115			
Iron	0.47	0.020	0.5000	0	93.2	85	115			
Manganese	0.45	0.0020	0.5000	0	89.7	85	115			

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21336		RunNo: 21336					
Prep Date:			Analysis Date: 9/19/2014		SeqNo: 622777		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	99.3	85	115			
Zinc	0.46	0.010	0.5000	0	91.8	85	115			

Sample ID	LCS Ag		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID: R21336			RunNo: 21336				
Prep Date:			Analysis Date: 9/19/2014			SeqNo: 622778		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.096	0.0050	0.1000	0	95.7	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622779		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID: R21336			RunNo: 21336				
Prep Date:	Analysis Date: 9/19/2014			SeqNo: 622780		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.4	85	115			
Iron	0.48	0.020	0.5000	0	95.4	85	115			
Manganese	0.46	0.0020	0.5000	0	91.5	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Zinc	0.47	0.010	0.5000	0	93.7	85	115			

Sample ID	LCS Ag		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID: R21336			RunNo: 21336				
Prep Date:			Analysis Date: 9/19/2014			SeqNo: 622781		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15343		SampType: MBLK		TestCode: EPA Method 200.7: Total Metals					
Client ID:	PBW		Batch ID: 15343		RunNo: 21297					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621503		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-15343		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 15343		RunNo: 21297					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621504		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Copper	0.48	0.0060	0.5000	0	96.9	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Manganese	0.48	0.0020	0.5000	0	95.0	85	115			
Zinc	0.48	0.010	0.5000	0	96.9	85	115			

Sample ID	LCS Ag-15343		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 15343		RunNo: 21297					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621505		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21493		RunNo: 21493					
Prep Date:			Analysis Date: 9/26/2014		SeqNo: 628608		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			
Selenium	0.022	0.0010	0.02500	0	90.0	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21493		RunNo: 21493					
Prep Date:			Analysis Date: 9/26/2014		SeqNo: 628609		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.9	85	115			
Selenium	0.023	0.0010	0.02500	0	92.4	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21493			RunNo: 21493					
Prep Date:		Analysis Date: 9/26/2014			SeqNo: 628610		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21493			RunNo: 21493					
Prep Date:		Analysis Date: 9/26/2014			SeqNo: 628611		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527		RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014		SeqNo: 629894		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	99.4	85	115			
Uranium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527		RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014		SeqNo: 629895		Units: mg/L			
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527			RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014			SeqNo: 629895		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	0.025	0.0010	0.02500	0	101	85	115				
Uranium	0.025	0.0010	0.02500	0	101	85	115				

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R21527			RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014			SeqNo: 629896		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	ND	0.0010									
Uranium	ND	0.0010									

Sample ID	MB		SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW		Batch ID: R21527			RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014			SeqNo: 629897		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Lead	ND	0.0010									
Uranium	ND	0.0010									

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	1409805-004GMSLL			SampType:	MSLL		TestCode:	200.8 ICPMS Metals:Total			
Client ID:	OW-11		Batch ID:	15343		RunNo:	21376				
Prep Date:	9/17/2014		Analysis Date:	9/23/2014		SeqNo:	624878		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	0.029	0.0010	0.02500	0.002708	106	70	130				
Lead	0.027	0.0010	0.02500	0	110	70	130				
Selenium	0.028	0.0010	0.02500	0.002277	102	70	130				

Sample ID	LLLCS-15343	SampType: LCSLL			TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC	Batch ID: 15343			RunNo: 21376					
Prep Date:	9/17/2014	Analysis Date: 9/23/2014			SeqNo: 624955		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	104	85	115			
Lead	0.026	0.0010	0.02500	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Uranium	0.026	0.0010	0.02500	0	105	85	115			

Sample ID	MB-15343		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 15343		RunNo: 21376					
Prep Date:	9/17/2014		Analysis Date: 9/23/2014		SeqNo: 624958		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15449	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	15449	RunNo:	21410					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625480	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-15449	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	15449	RunNo:	21410					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625481	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: R21283			RunNo: 21283						
Prep Date:	Analysis Date: 9/17/2014			SeqNo: 621017		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R21283			RunNo: 21283						
Prep Date:	Analysis Date: 9/17/2014			SeqNo: 621018		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.8	90	110			
Chloride	4.6	0.50	5.000	0	92.4	90	110			
Bromide	2.4	0.10	2.500	0	96.3	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.2	90	110			
Sulfate	9.5	0.50	10.00	0	94.9	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.6	90	110			

Sample ID MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID: PBW	Batch ID: R21310			RunNo: 21310						
Prep Date:	Analysis Date: 9/18/2014			SeqNo: 621823		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	Batch ID: R21310			RunNo: 21310						
Prep Date:	Analysis Date: 9/18/2014			SeqNo: 621824		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.0	90	110			
Sulfate	9.4	0.50	10.00	0	94.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
 E Value above quantitation range
 J Analyte detected below quantitation limits
 O RSD is greater than RSDlimit
 R RPD outside accepted recovery limits
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 P Sample pH greater than 2.
 RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15312		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW		Batch ID: 15312		RunNo: 21248					
Prep Date:	9/16/2014		Analysis Date: 9/17/2014		SeqNo: 619740		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.99		1.000		99.1	59	141			

Sample ID	LCS-15312		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 15312		RunNo: 21248					
Prep Date:	9/16/2014		Analysis Date: 9/17/2014		SeqNo: 619860		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	101	69.7	142			
Surr: DNOP	0.49		0.5000		98.9	59	141			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R21267	RunNo:	21267					
Prep Date:		Analysis Date:	9/17/2014	SeqNo:	620386	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	18		20.00		89.0	70.9	130			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R21267	RunNo:	21267					
Prep Date:		Analysis Date:	9/17/2014	SeqNo:	620387	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.49	0.050	0.5000	0	98.4	80	120			
Surr: BFB	19		20.00		93.9	70.9	130			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R21299	RunNo:	21299					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621575	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.8	70.9	130			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R21299	RunNo:	21299					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	624430	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	95.7	80	120			
Surr: BFB	20		20.00		101	70.9	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21319			RunNo: 21319					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622116		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21319			RunNo: 21319					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622116		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.2	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.2	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	8.8		10.00		87.9	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R21319			RunNo: 21319					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622118		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	19	1.0	20.00	0	95.1	80	120			
Chlorobenzene	18	1.0	20.00	0	92.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R21319			RunNo: 21319					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622118		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	23	1.0	20.00	0	116	82.6	131			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	20								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	20								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	93		200.0		46.3	12.1	85.8			
Surr: Phenol-d5	84		200.0		41.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	130		200.0		64.4	26	138			
Surr: Nitrobenzene-d5	66		100.0		65.5	47.5	119			
Surr: 2-Fluorobiphenyl	63		100.0		62.6	48.1	106			
Surr: 4-Terphenyl-d14	74		100.0		73.5	44	113			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcs-15342		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621610		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	58	10	100.0	0	58.1	47.9	114			
4-Chloro-3-methylphenol	130	10	200.0	0	62.8	51.7	122			
2-Chlorophenol	120	10	200.0	0	58.4	40.7	113			
1,4-Dichlorobenzene	50	10	100.0	0	50.4	39.6	99.9			
2,4-Dinitrotoluene	47	10	100.0	0	47.3	40.8	113			
N-Nitrosodi-n-propylamine	64	10	100.0	0	64.3	51.2	111			
4-Nitrophenol	66	10	200.0	0	32.8	15.7	86.9			
Pentachlorophenol	93	20	200.0	0	46.4	21.6	104			
Phenol	86	10	200.0	0	43.1	28.6	71.7			
Pyrene	64	10	100.0	0	64.2	54.2	128			
1,2,4-Trichlorobenzene	49	10	100.0	0	49.5	40.9	101			
Surr: 2-Fluorophenol	84		200.0		42.0	12.1	85.8			
Surr: Phenol-d5	80		200.0		39.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	110		200.0		55.7	26	138			
Surr: Nitrobenzene-d5	61		100.0		60.6	47.5	119			
Surr: 2-Fluorobiphenyl	57		100.0		56.6	48.1	106			
Surr: 4-Terphenyl-d14	67		100.0		66.5	44	113			

Sample ID	lcsd-15342		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621611		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.1	47.9	114	18.7	27.2	R
4-Chloro-3-methylphenol	140	10	200.0	0	72.1	51.7	122	13.7	25.9	
2-Chlorophenol	110	10	200.0	0	55.9	40.7	113	4.29	22.5	
1,4-Dichlorobenzene	52	10	100.0	0	51.9	39.6	99.9	2.93	24.6	
2,4-Dinitrotoluene	71	10	100.0	0	70.6	40.8	113	39.5	25.3	
N-Nitrosodi-n-propylamine	70	10	100.0	0	69.7	51.2	111	8.09	23.6	
4-Nitrophenol	69	10	200.0	0	34.4	15.7	86.9	4.53	34.7	
Pentachlorophenol	83	20	200.0	0	41.3	21.6	104	11.6	32.8	
Phenol	87	10	200.0	0	43.3	28.6	71.7	0.509	25.5	
Pyrene	82	10	100.0	0	82.0	54.2	128	24.4	31.4	
1,2,4-Trichlorobenzene	53	10	100.0	0	52.5	40.9	101	6.00	25.9	
Surr: 2-Fluorophenol	73		200.0		36.5	12.1	85.8	0	0	
Surr: Phenol-d5	77		200.0		38.4	17.7	65.8	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		53.7	26	138	0	0	
Surr: Nitrobenzene-d5	61		100.0		60.9	47.5	119	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		63.6	48.1	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409805

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcsd-15342	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621611	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	85		100.0		84.6	44	113	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1409805

RcptNo: 1

Received by/date:

CS. 09/16/14

Logged By: Ashley Gallegos

9/16/2014 5:03:00 PM

Ag

Completed By: Ashley Gallegos

9/17/2014 8:12:00 AM

Ag

Reviewed By:

HT 09/17/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: 612
(or >12 unless noted)

Adjusted? No

Checked by: mg

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard

☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP

☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard

☐ Rush

Project Name:

2014 ANNUAL GW

Project #:

OW-1,-10,-11,-12

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice:

☒ Yes

☐ No

Sample Temperature:

6.1°



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	8260 + MTBE	8015B extended	8270 + Phenols	WQCC Metals - Total	WQCC Metals - Dissolved (Filtered)	Major Cations/Anions	Air Bubbles (Y or N)
9/11/14	1800	H ₂ O	OW-1			-001	X	X	X	X	X		
9/12/14	0935	H ₂ O	OW-10			-002	X	X	X	X	X		
9/12/14	1100	H ₂ O	OW-12			-003	X	X	X	X	X		
9/12/14	1220	H ₂ O	OW-11			-004	X	X	X	X	X		
9/11/14	1815	H ₂ O	FB-Group 1-9/11/14			-005	X						
9/16/14	1450	Relinquished by:	Remarks: Trip Block - 006										
9/16/14	1703	Relinquished by:	AS 09/17/14										

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 06, 2014

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX (505) 722-0210

RE: 2014 Annual GW

OrderNo.: 1409808

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/16/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/19/2014 5:00:00 PM	15341
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/19/2014 5:00:00 PM	15341
Surr: DNOP	108	59-141		%REC	1	9/19/2014 5:00:00 PM	15341
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 9:25:11 PM	R21299
Surr: BFB	93.8	70.9-130		%REC	1	9/18/2014 9:25:11 PM	R21299
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	0.50	0.10		mg/L	1	9/17/2014 11:47:01 AM	R21277
Chloride	27	10		mg/L	20	9/17/2014 12:24:15 PM	R21277
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/17/2014 11:47:01 AM	R21277
Bromide	0.19	0.10		mg/L	1	9/17/2014 11:47:01 AM	R21277
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/17/2014 11:47:01 AM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/17/2014 11:47:01 AM	R21277
Sulfate	130	10		mg/L	20	9/17/2014 12:24:15 PM	R21277
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.029	0.0020		mg/L	1	9/18/2014 2:09:52 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 2:09:52 PM	R21290
Calcium	7.5	1.0		mg/L	1	9/18/2014 2:09:52 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 2:09:52 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 2:09:52 PM	R21290
Iron	0.051	0.020		mg/L	1	9/19/2014 5:46:30 PM	R21336
Magnesium	ND	1.0		mg/L	1	9/18/2014 2:09:52 PM	R21290
Manganese	0.026	0.0020		mg/L	1	9/19/2014 5:46:30 PM	R21336
Potassium	2.0	1.0		mg/L	1	9/18/2014 2:09:52 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:46:30 PM	R21336
Sodium	240	10		mg/L	10	9/19/2014 5:48:27 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 5:46:30 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.032	0.0020		mg/L	1	9/19/2014 11:47:14 AM	15380
Cadmium	ND	0.0020		mg/L	1	9/19/2014 11:47:14 AM	15380
Chromium	ND	0.0060		mg/L	1	9/19/2014 11:47:14 AM	15380
Copper	ND	0.0060		mg/L	1	9/19/2014 11:47:14 AM	15380
Iron	0.31	0.020	*	mg/L	1	9/19/2014 11:47:14 AM	15380
Manganese	0.036	0.0020		mg/L	1	9/19/2014 11:47:14 AM	15380
Silver	ND	0.0050		mg/L	1	9/19/2014 11:47:14 AM	15380
Zinc	ND	0.010		mg/L	1	9/19/2014 11:47:14 AM	15380

EPA 200.8: DISSOLVED METALS

Analyst: **DBD**

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	E	Value above quantitation range
	J	Analyte detected below quantitation limits
	O	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	ND	0.0010		mg/L	1	9/26/2014 12:10:08 PM	R21493
Lead	ND	0.0010		mg/L	1	9/26/2014 12:10:08 PM	R21493
Selenium	0.0012	0.0010		mg/L	1	9/26/2014 12:10:08 PM	R21493
Uranium	0.011	0.0010		mg/L	1	9/26/2014 12:10:08 PM	R21493
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	ND	0.0010		mg/L	1	9/23/2014 4:24:26 PM	15380
Lead	ND	0.0010		mg/L	1	9/23/2014 4:24:26 PM	15380
Selenium	ND	0.0010		mg/L	1	9/23/2014 4:24:26 PM	15380
Uranium	0.011	0.0010		mg/L	1	9/23/2014 4:24:26 PM	15380
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 11:07:53 AM	15450
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Acenaphthylene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Aniline	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Anthracene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Azobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzoic acid	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
Benzyl alcohol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Carbazole	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Chloroaniline	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Chlorophenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Chrysene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Di-n-octyl phthalate	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Dibenzofuran	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Diethyl phthalate	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Dimethyl phthalate	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Fluoranthene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Fluorene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Hexachloroethane	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Isophorone	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Methylphenol	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Naphthalene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Nitroaniline	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
3-Nitroaniline	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Nitroaniline	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Nitrobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2-Nitrophenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
4-Nitrophenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Pentachlorophenol	ND	20		µg/L	1	9/19/2014 12:36:15 AM	15342
Phenanthrene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Phenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Pyrene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Pyridine	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/19/2014 12:36:15 AM	15342
Surr: 2-Fluorophenol	51.0	12.1-85.8		%REC	1	9/19/2014 12:36:15 AM	15342
Surr: Phenol-d5	47.6	17.7-65.8		%REC	1	9/19/2014 12:36:15 AM	15342
Surr: 2,4,6-Tribromophenol	63.1	26-138		%REC	1	9/19/2014 12:36:15 AM	15342
Surr: Nitrobenzene-d5	69.4	47.5-119		%REC	1	9/19/2014 12:36:15 AM	15342
Surr: 2-Fluorobiphenyl	66.1	48.1-106		%REC	1	9/19/2014 12:36:15 AM	15342
Surr: 4-Terphenyl-d14	62.8	44-113		%REC	1	9/19/2014 12:36:15 AM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Naphthalene	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
2-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Acetone	ND	10		µg/L	1	9/22/2014 4:33:22 PM	R21353
Bromobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Bromodichloromethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Bromoform	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Bromomethane	ND	3.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
2-Butanone	ND	10		µg/L	1	9/22/2014 4:33:22 PM	R21353
Carbon disulfide	ND	10		µg/L	1	9/22/2014 4:33:22 PM	R21353
Carbon Tetrachloride	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Chlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Chloroethane	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Chloroform	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Chloromethane	ND	3.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
2-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
4-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
cis-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Dibromochloromethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Dibromomethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1-Dichloroethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1-Dichloroethene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,3-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
2,2-Dichloropropane	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Hexachlorobutadiene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
2-Hexanone	ND	10		µg/L	1	9/22/2014 4:33:22 PM	R21353
Isopropylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
4-Isopropyltoluene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
4-Methyl-2-pentanone	ND	10		µg/L	1	9/22/2014 4:33:22 PM	R21353
Methylene Chloride	ND	3.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
n-Butylbenzene	ND	3.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
n-Propylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
sec-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Styrene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
tert-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
trans-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Trichlorofluoromethane	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Vinyl chloride	ND	1.0		µg/L	1	9/22/2014 4:33:22 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 4:33:22 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 5 of 36
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409808**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-52

Project: 2014 Annual GW

Collection Date: 9/15/2014 12:45:00 PM

Lab ID: 1409808-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%REC	1	9/22/2014 4:33:22 PM	R21353
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	9/22/2014 4:33:22 PM	R21353
Surr: Dibromofluoromethane	94.4	70-130		%REC	1	9/22/2014 4:33:22 PM	R21353
Surr: Toluene-d8	87.3	70-130		%REC	1	9/22/2014 4:33:22 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 6 of 36
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: BCN
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/19/2014 5:21:21 PM	15341
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/19/2014 5:21:21 PM	15341
Surr: DNOP	113	59-141		%REC	1	9/19/2014 5:21:21 PM	15341
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 9:55:16 PM	R21299
Surr: BFB	87.5	70.9-130		%REC	1	9/18/2014 9:55:16 PM	R21299
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	0.45	0.10		mg/L	1	9/17/2014 12:36:39 PM	R21277
Chloride	30	10		mg/L	20	9/17/2014 12:49:04 PM	R21277
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/17/2014 12:36:39 PM	R21277
Bromide	0.26	0.10		mg/L	1	9/17/2014 12:36:39 PM	R21277
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/17/2014 12:36:39 PM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/17/2014 12:36:39 PM	R21277
Sulfate	150	10		mg/L	20	9/17/2014 12:49:04 PM	R21277
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.047	0.0020		mg/L	1	9/18/2014 2:11:47 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 2:11:47 PM	R21290
Calcium	24	1.0		mg/L	1	9/18/2014 2:11:47 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 2:11:47 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 2:11:47 PM	R21290
Iron	ND	0.020		mg/L	1	9/19/2014 5:50:11 PM	R21336
Magnesium	3.9	1.0		mg/L	1	9/18/2014 2:11:47 PM	R21290
Manganese	0.091	0.0020	*	mg/L	1	9/19/2014 5:50:11 PM	R21336
Potassium	1.1	1.0		mg/L	1	9/18/2014 2:11:47 PM	R21290
Silver	ND	0.0050		mg/L	1	9/19/2014 5:50:11 PM	R21336
Sodium	240	10		mg/L	10	9/19/2014 5:52:11 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 5:50:11 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.075	0.0020		mg/L	1	9/19/2014 11:49:05 AM	15380
Cadmium	ND	0.0020		mg/L	1	9/19/2014 11:49:05 AM	15380
Chromium	ND	0.0060		mg/L	1	9/19/2014 11:49:05 AM	15380
Copper	ND	0.0060		mg/L	1	9/19/2014 11:49:05 AM	15380
Iron	0.60	0.020	*	mg/L	1	9/19/2014 11:49:05 AM	15380
Manganese	0.11	0.0020	*	mg/L	1	9/19/2014 11:49:05 AM	15380
Silver	ND	0.0050		mg/L	1	9/19/2014 11:49:05 AM	15380
Zinc	ND	0.010		mg/L	1	9/19/2014 11:49:05 AM	15380

EPA 200.8: DISSOLVED METALS

Analyst: **DBD**

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0024	0.0010		mg/L	1	9/26/2014 12:13:13 PM	R21493
Lead	ND	0.0010		mg/L	1	9/26/2014 12:13:13 PM	R21493
Selenium	0.0017	0.0010		mg/L	1	9/26/2014 12:13:13 PM	R21493
Uranium	0.0098	0.0010		mg/L	1	9/26/2014 12:13:13 PM	R21493
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0019	0.0010		mg/L	1	9/23/2014 4:33:45 PM	15380
Lead	ND	0.0010		mg/L	1	9/23/2014 4:33:45 PM	15380
Selenium	0.0010	0.0010		mg/L	1	9/23/2014 4:33:45 PM	15380
Uranium	0.010	0.0010		mg/L	1	9/23/2014 4:33:45 PM	15380
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 11:12:32 AM	15450
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Acenaphthylene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Aniline	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Anthracene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Azobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzoic acid	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
Benzyl alcohol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Carbazole	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Chloroaniline	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Chlorophenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Chrysene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Di-n-octyl phthalate	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Dibenzofuran	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Diethyl phthalate	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Dimethyl phthalate	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Fluoranthene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Fluorene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Hexachloroethane	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Isophorone	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Methylphenol	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Naphthalene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Nitroaniline	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
3-Nitroaniline	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Nitroaniline	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Nitrobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2-Nitrophenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
4-Nitrophenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Pentachlorophenol	ND	20		µg/L	1	9/19/2014 1:05:17 AM	15342
Phenanthrene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Phenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Pyrene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Pyridine	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/19/2014 1:05:17 AM	15342
Surr: 2-Fluorophenol	48.3	12.1-85.8		%REC	1	9/19/2014 1:05:17 AM	15342
Surr: Phenol-d5	40.5	17.7-65.8		%REC	1	9/19/2014 1:05:17 AM	15342
Surr: 2,4,6-Tribromophenol	53.8	26-138		%REC	1	9/19/2014 1:05:17 AM	15342
Surr: Nitrobenzene-d5	61.1	47.5-119		%REC	1	9/19/2014 1:05:17 AM	15342
Surr: 2-Fluorobiphenyl	53.6	48.1-106		%REC	1	9/19/2014 1:05:17 AM	15342
Surr: 4-Terphenyl-d14	60.6	44-113		%REC	1	9/19/2014 1:05:17 AM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Naphthalene	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
2-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Acetone	ND	10		µg/L	1	9/22/2014 5:03:02 PM	R21353
Bromobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Bromodichloromethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Bromoform	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Bromomethane	ND	3.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
2-Butanone	ND	10		µg/L	1	9/22/2014 5:03:02 PM	R21353
Carbon disulfide	ND	10		µg/L	1	9/22/2014 5:03:02 PM	R21353
Carbon Tetrachloride	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Chlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Chloroethane	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Chloroform	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Chloromethane	ND	3.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
2-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
4-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
cis-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Dibromochloromethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Dibromomethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1-Dichloroethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1-Dichloroethene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,3-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
2,2-Dichloropropane	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Hexachlorobutadiene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
2-Hexanone	ND	10		µg/L	1	9/22/2014 5:03:02 PM	R21353
Isopropylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
4-Isopropyltoluene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
4-Methyl-2-pentanone	ND	10		µg/L	1	9/22/2014 5:03:02 PM	R21353
Methylene Chloride	ND	3.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
n-Butylbenzene	ND	3.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
n-Propylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
sec-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Styrene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
tert-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
trans-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Trichlorofluoromethane	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Vinyl chloride	ND	1.0		µg/L	1	9/22/2014 5:03:02 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 5:03:02 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409808**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OW-50

Project: 2014 Annual GW

Collection Date: 9/15/2014 1:35:00 PM

Lab ID: 1409808-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: KJH	
Surr: 1,2-Dichloroethane-d4	96.7	70-130		%REC	1	9/22/2014 5:03:02 PM	R21353
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	1	9/22/2014 5:03:02 PM	R21353
Surr: Dibromofluoromethane	97.8	70-130		%REC	1	9/22/2014 5:03:02 PM	R21353
Surr: Toluene-d8	90.5	70-130		%REC	1	9/22/2014 5:03:02 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 12 of 36
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-Group 3-9/15/14

Project: 2014 Annual GW

Collection Date: 9/15/2014 11:35:00 AM

Lab ID: 1409808-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Naphthalene	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
2-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Acetone	ND	10		µg/L	1	9/22/2014 5:32:40 PM	R21353
Bromobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Bromodichloromethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Bromoform	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Bromomethane	ND	3.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
2-Butanone	ND	10		µg/L	1	9/22/2014 5:32:40 PM	R21353
Carbon disulfide	ND	10		µg/L	1	9/22/2014 5:32:40 PM	R21353
Carbon Tetrachloride	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Chlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Chloroethane	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Chloroform	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Chloromethane	ND	3.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
2-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
4-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
cis-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Dibromochloromethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Dibromomethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1-Dichloroethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1-Dichloroethene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,3-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
2,2-Dichloropropane	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409808**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-Group 3-9/15/14

Project: 2014 Annual GW

Collection Date: 9/15/2014 11:35:00 AM

Lab ID: 1409808-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Hexachlorobutadiene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
2-Hexanone	ND	10		µg/L	1	9/22/2014 5:32:40 PM	R21353
Isopropylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
4-Isopropyltoluene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
4-Methyl-2-pentanone	ND	10		µg/L	1	9/22/2014 5:32:40 PM	R21353
Methylene Chloride	ND	3.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
n-Butylbenzene	ND	3.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
n-Propylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
sec-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Styrene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
tert-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
trans-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Trichlorofluoromethane	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Vinyl chloride	ND	1.0		µg/L	1	9/22/2014 5:32:40 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 5:32:40 PM	R21353
Surr: 1,2-Dichloroethane-d4	88.2	70-130		%REC	1	9/22/2014 5:32:40 PM	R21353
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	9/22/2014 5:32:40 PM	R21353
Surr: Dibromofluoromethane	89.2	70-130		%REC	1	9/22/2014 5:32:40 PM	R21353
Surr: Toluene-d8	92.5	70-130		%REC	1	9/22/2014 5:32:40 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409808-004

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: DJF
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/18/2014 10:25:27 PM	R21299
Surr: BFB	92.2	70.9-130		%REC	1	9/18/2014 10:25:27 PM	R21299
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Toluene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Ethylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Naphthalene	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
2-Methylnaphthalene	ND	4.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Acetone	ND	10		µg/L	1	9/22/2014 12:35:59 PM	R21353
Bromobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Bromodichloromethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Bromoform	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Bromomethane	ND	3.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
2-Butanone	ND	10		µg/L	1	9/22/2014 12:35:59 PM	R21353
Carbon disulfide	ND	10		µg/L	1	9/22/2014 12:35:59 PM	R21353
Carbon Tetrachloride	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Chlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Chloroethane	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Chloroform	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Chloromethane	ND	3.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
2-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
4-Chlorotoluene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
cis-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Dibromochloromethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Dibromomethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1-Dichloroethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1-Dichloroethene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409808

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409808-004

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,2-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,3-Dichloropropane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
2,2-Dichloropropane	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Hexachlorobutadiene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
2-Hexanone	ND	10		µg/L	1	9/22/2014 12:35:59 PM	R21353
Isopropylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
4-Isopropyltoluene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
4-Methyl-2-pentanone	ND	10		µg/L	1	9/22/2014 12:35:59 PM	R21353
Methylene Chloride	ND	3.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
n-Butylbenzene	ND	3.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
n-Propylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
sec-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Styrene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
tert-Butylbenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
trans-1,2-DCE	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Trichlorofluoromethane	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Vinyl chloride	ND	1.0		µg/L	1	9/22/2014 12:35:59 PM	R21353
Xylenes, Total	ND	1.5		µg/L	1	9/22/2014 12:35:59 PM	R21353
Surr: 1,2-Dichloroethane-d4	89.7	70-130		%REC	1	9/22/2014 12:35:59 PM	R21353
Surr: 4-Bromofluorobenzene	99.8	70-130		%REC	1	9/22/2014 12:35:59 PM	R21353
Surr: Dibromofluoromethane	92.5	70-130		%REC	1	9/22/2014 12:35:59 PM	R21353
Surr: Toluene-d8	91.7	70-130		%REC	1	9/22/2014 12:35:59 PM	R21353

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R21290			RunNo: 21290					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621146		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21290		RunNo: 21290					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621147		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	49	1.0	50.00	0	97.2	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.49	0.0060	0.5000	0	97.1	85	115			
Magnesium	49	1.0	50.00	0	97.8	85	115			
Potassium	48	1.0	50.00	0	96.0	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R21290			RunNo: 21290					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621149		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21290		RunNo: 21290					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621150		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals				
Client ID:	LCSW		Batch ID: R21290			RunNo: 21290				
Prep Date:	Analysis Date: 9/18/2014			SeqNo: 621150		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.48	0.0020	0.5000	0	96.8	85	115			
Calcium	48	1.0	50.00	0	96.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Magnesium	49	1.0	50.00	0	97.7	85	115			
Potassium	48	1.0	50.00	0	96.3	85	115			

Sample ID	LCS TEST		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21290		RunNo: 21290					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621170		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Calcium	50	1.0	50.00	0	99.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Copper	0.49	0.0060	0.5000	0	97.3	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Potassium	50	1.0	50.00	0	99.2	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622776		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622777		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.020	0.5000	0	93.2	85	115			
Manganese	0.45	0.0020	0.5000	0	89.7	85	115			
Sodium	50	1.0	50.00	0	99.3	85	115			
Zinc	0.46	0.010	0.5000	0	91.8	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS Ag	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622778		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.096	0.0050	0.1000	0	95.7	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622779		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622780		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.48	0.020	0.5000	0	95.4	85	115			
Manganese	0.46	0.0020	0.5000	0	91.5	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Zinc	0.47	0.010	0.5000	0	93.7	85	115			

Sample ID	LCS Ag	SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID: R21336			RunNo: 21336					
Prep Date:		Analysis Date: 9/19/2014			SeqNo: 622781		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS-15380		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 15380		RunNo: 21318					
Prep Date:	9/18/2014		Analysis Date: 9/19/2014		SeqNo: 622068		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.7	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Manganese	0.50	0.0020	0.5000	0	99.1	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID	LCS AG-15380		SampType: LCS		TestCode: EPA Method 200.7: Total Metals					
Client ID:	LCSW		Batch ID: 15380		RunNo: 21318					
Prep Date:	9/18/2014		Analysis Date: 9/19/2014		SeqNo: 622069		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID	MB-15380	SampType: MBLK			TestCode: EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID: 15380			RunNo: 21318					
Prep Date:	9/18/2014	Analysis Date: 9/19/2014			SeqNo: 622074		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID LCS	SampType: LCS				TestCode: EPA 200.8: Dissolved Metals					
Client ID: LCSW	Batch ID: R21493				RunNo: 21493					
Prep Date:	Analysis Date: 9/26/2014				SeqNo: 628608		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	90.0	85	115			
Uranium	0.024	0.0010	0.02500	0	95.1	85	115			

Sample ID LCS	SampType: LCS				TestCode: EPA 200.8: Dissolved Metals					
Client ID: LCSW	Batch ID: R21493				RunNo: 21493					
Prep Date:	Analysis Date: 9/26/2014				SeqNo: 628609		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.9	85	115			
Lead	0.023	0.0010	0.02500	0	92.6	85	115			
Selenium	0.023	0.0010	0.02500	0	92.4	85	115			
Uranium	0.023	0.0010	0.02500	0	91.6	85	115			

Sample ID MB	SampType: MBLK				TestCode: EPA 200.8: Dissolved Metals					
Client ID: PBW	Batch ID: R21493				RunNo: 21493					
Prep Date:	Analysis Date: 9/26/2014				SeqNo: 628610		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Sample ID MB	SampType: MBLK				TestCode: EPA 200.8: Dissolved Metals					
Client ID: PBW	Batch ID: R21493				RunNo: 21493					
Prep Date:	Analysis Date: 9/26/2014				SeqNo: 628611		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LLLCS-15380		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 15380		RunNo: 21376					
Prep Date:	9/18/2014		Analysis Date: 9/23/2014		SeqNo: 624956		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.6	85	115			
Lead	0.024	0.0010	0.02500	0	97.8	85	115			
Selenium	0.024	0.0010	0.02500	0	97.9	85	115			
Uranium	0.025	0.0010	0.02500	0	99.1	85	115			

Sample ID	MB-15380		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 15380		RunNo: 21376					
Prep Date:	9/18/2014		Analysis Date: 9/23/2014		SeqNo: 624959		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15450	SampType:	MBLK	TestCode:	EPA Method 245.1: Mercury					
Client ID:	PBW	Batch ID:	15450	RunNo:	21410					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625508	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	LCS-15450	SampType:	LCS	TestCode:	EPA Method 245.1: Mercury					
Client ID:	LCSW	Batch ID:	15450	RunNo:	21410					
Prep Date:	9/23/2014	Analysis Date:	9/24/2014	SeqNo:	625509	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	95.8	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620661		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620662		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.9	0.50	5.000	0	97.2	90	110			
Nitrogen, Nitrite (As N)	1.0	0.10	1.000	0	101	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	5.0	0.50	5.000	0	99.8	90	110			
Sulfate	10	0.50	10.00	0	99.6	90	110			

Sample ID 1409808-001EMS	SampType: MS		TestCode: EPA Method 300.0: Anions							
Client ID: OW-52	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620673		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.96	0.10	0.5000	0.5026	92.5	72.7	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.3	75.5	104			
Bromide	2.5	0.10	2.500	0.1886	91.4	85.1	108			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0.03280	96.4	87.8	111			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.0	81.3	101			

Sample ID 1409808-001EMSD	SampType: MSD		TestCode: EPA Method 300.0: Anions							
Client ID: OW-52	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620674		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.96	0.10	0.5000	0.5026	91.4	72.7	110	0.551	20	
Nitrogen, Nitrite (As N)	0.91	0.10	1.000	0	91.4	75.5	104	0.979	20	
Bromide	2.5	0.10	2.500	0.1886	91.0	85.1	108	0.389	20	

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	1409808-001EMSD		SampType: MSD		TestCode: EPA Method 300.0: Anions					
Client ID:	OW-52		Batch ID: R21277		RunNo: 21277					
Prep Date:			Analysis Date: 9/17/2014		SeqNo: 620674		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0.03280	95.5	87.8	111	0.958	20	
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.8	81.3	101	0.271	20	

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R21277			RunNo: 21277					
Prep Date:		Analysis Date: 9/17/2014			SeqNo: 620708		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID	LCS	SampType: LCS			TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID: R21277			RunNo: 21277					
Prep Date:	Analysis Date: 9/17/2014			SeqNo: 620709			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.8	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.8	90	110			
Bromide	2.3	0.10	2.500	0	93.0	90	110			
Nitrogen, Nitrate (As N)	2.3	0.10	2.500	0	93.7	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.3	90	110			
Sulfate	9.2	0.50	10.00	0	91.7	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15341		SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	PBW		Batch ID: 15341		RunNo: 21248					
Prep Date:	9/17/2014		Analysis Date: 9/17/2014		SeqNo: 619741		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		106	59	141			

Sample ID	LCS-15341		SampType: LCS		TestCode: EPA Method 8015D: Diesel Range					
Client ID:	LCSW		Batch ID: 15341		RunNo: 21248					
Prep Date:	9/17/2014		Analysis Date: 9/17/2014		SeqNo: 619742		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.0	1.0	5.000	0	100	69.7	142			
Surr: DNOP	0.52		0.5000		105	59	141			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBW	Batch ID:	R21299	RunNo:	21299					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621575	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.8	70.9	130			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSW	Batch ID:	R21299	RunNo:	21299					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	624430	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	95.7	80	120			
Surr: BFB	20		20.00		101	70.9	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21353			RunNo: 21353					
Prep Date:		Analysis Date: 9/22/2014			SeqNo: 623590		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R21353	RunNo:	21353					
Prep Date:		Analysis Date:	9/22/2014	SeqNo:	623590	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.7	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.9	70	130			
Surr: Toluene-d8	9.2		10.00		91.7	70	130			

Sample ID	100ng lcs	SampType:	LCS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID:	R21353	RunNo:	21353					
Prep Date:		Analysis Date:	9/22/2014	SeqNo:	623592	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.7	70	130			
Toluene	19	1.0	20.00	0	93.1	80	120			
Chlorobenzene	19	1.0	20.00	0	95.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID 100ng lcs	SampType: LCS				TestCode: EPA Method 8260B: VOLATILES					
Client ID: LCSW	Batch ID: R21353				RunNo: 21353					
Prep Date:	Analysis Date: 9/22/2014				SeqNo: 623592	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	109	82.6	131			
Trichloroethene (TCE)	17	1.0	20.00	0	83.6	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130			
Surr: Dibromofluoromethane	8.9		10.00		88.8	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID b3	SampType: MBLK				TestCode: EPA Method 8260B: VOLATILES					
Client ID: PBW	Batch ID: R21353				RunNo: 21353					
Prep Date:	Analysis Date: 9/22/2014				SeqNo: 623718	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit	P Sample pH greater than 2.
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Batch ID: R21353			RunNo: 21353						
Prep Date:	Analysis Date: 9/22/2014			SeqNo: 623718		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	b3		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW		Batch ID: R21353		RunNo: 21353					
Prep Date:			Analysis Date: 9/22/2014		SeqNo: 623718		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.5	70	130			
Surr: Toluene-d8	8.7		10.00		87.0	70	130			

Sample ID	100ng lcs2		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW		Batch ID: R21353		RunNo: 21353					
Prep Date:			Analysis Date: 9/22/2014		SeqNo: 623720		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	18	1.0	20.00	0	91.1	80	120			
Chlorobenzene	19	1.0	20.00	0	94.0	70	130			
1,1-Dichloroethene	25	1.0	20.00	0	125	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	92.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.0		10.00		90.2	70	130			
Surr: Toluene-d8	9.2		10.00		91.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	20								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	20								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	93		200.0		46.3	12.1	85.8			
Surr: Phenol-d5	84		200.0		41.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	130		200.0		64.4	26	138			
Surr: Nitrobenzene-d5	66		100.0		65.5	47.5	119			
Surr: 2-Fluorobiphenyl	63		100.0		62.6	48.1	106			
Surr: 4-Terphenyl-d14	74		100.0		73.5	44	113			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcs-15342		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621610		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	58	10	100.0	0	58.1	47.9	114			
4-Chloro-3-methylphenol	130	10	200.0	0	62.8	51.7	122			
2-Chlorophenol	120	10	200.0	0	58.4	40.7	113			
1,4-Dichlorobenzene	50	10	100.0	0	50.4	39.6	99.9			
2,4-Dinitrotoluene	47	10	100.0	0	47.3	40.8	113			
N-Nitrosodi-n-propylamine	64	10	100.0	0	64.3	51.2	111			
4-Nitrophenol	66	10	200.0	0	32.8	15.7	86.9			
Pentachlorophenol	93	20	200.0	0	46.4	21.6	104			
Phenol	86	10	200.0	0	43.1	28.6	71.7			
Pyrene	64	10	100.0	0	64.2	54.2	128			
1,2,4-Trichlorobenzene	49	10	100.0	0	49.5	40.9	101			
Surr: 2-Fluorophenol	84		200.0		42.0	12.1	85.8			
Surr: Phenol-d5	80		200.0		39.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	110		200.0		55.7	26	138			
Surr: Nitrobenzene-d5	61		100.0		60.6	47.5	119			
Surr: 2-Fluorobiphenyl	57		100.0		56.6	48.1	106			
Surr: 4-Terphenyl-d14	67		100.0		66.5	44	113			

Sample ID	lcsd-15342		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621611		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.1	47.9	114	18.7	27.2	R
4-Chloro-3-methylphenol	140	10	200.0	0	72.1	51.7	122	13.7	25.9	
2-Chlorophenol	110	10	200.0	0	55.9	40.7	113	4.29	22.5	
1,4-Dichlorobenzene	52	10	100.0	0	51.9	39.6	99.9	2.93	24.6	
2,4-Dinitrotoluene	71	10	100.0	0	70.6	40.8	113	39.5	25.3	
N-Nitrosodi-n-propylamine	70	10	100.0	0	69.7	51.2	111	8.09	23.6	
4-Nitrophenol	69	10	200.0	0	34.4	15.7	86.9	4.53	34.7	
Pentachlorophenol	83	20	200.0	0	41.3	21.6	104	11.6	32.8	
Phenol	87	10	200.0	0	43.3	28.6	71.7	0.509	25.5	
Pyrene	82	10	100.0	0	82.0	54.2	128	24.4	31.4	
1,2,4-Trichlorobenzene	53	10	100.0	0	52.5	40.9	101	6.00	25.9	
Surr: 2-Fluorophenol	73		200.0		36.5	12.1	85.8	0	0	
Surr: Phenol-d5	77		200.0		38.4	17.7	65.8	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		53.7	26	138	0	0	
Surr: Nitrobenzene-d5	61		100.0		60.9	47.5	119	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		63.6	48.1	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409808

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcsd-15342	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621611	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	85		100.0		84.6	44	113	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Gallup**

Work Order Number: **1409808**

RcptNo: 1

Received by/date: CS. 09/16/14

Logged By: **Ashley Gallegos**

9/16/2014 5:03:00 PM

Completed By: **Ashley Gallegos**

9/17/2014 8:19:34 AM

Reviewed By: mg 09/17/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

2 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

☒ **Standard** ☐ **Rush**

Project Name: 2014 ~~2013~~ 09/17/14
2011 ANNUAL GW

Project #:

OW-50,-52

Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: / /

[illegible]

9/15/14	1135	160	FD-Group 3-9/15/14
Date:	Time:	Relinquished by:	
9/16/14	1450	<i>[Signature]</i>	
Date:	Time:	Relinquished by:	
9-16-14	17:03	<i>[Signature]</i>	

Received by: <i>[Signature]</i>	Date	Time
<i>9/16/14</i>	<i>1450</i>	
Received by: <i>[Signature]</i>	Date	Time
<i>Celine Serna</i>	<i>9/16/14</i>	<i>1703</i>

Remarks:
-004-Trip Blank

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.natureenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 06, 2014

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX (505) 722-0210

RE: 2014 Annual GW

OrderNo.: 1409794

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/16/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2B

Project: 2014 Annual GW

Collection Date: 9/9/2014 4:10:00 PM

Lab ID: 1409794-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	1.6	0.10		mg/L	1	9/18/2014 1:50:55 AM	R21277
Chloride	29	10		mg/L	20	9/19/2014 3:17:45 AM	R21321
Bromide	0.43	0.10		mg/L	1	9/18/2014 1:50:55 AM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 1:50:55 AM	R21277
Sulfate	160	10		mg/L	20	9/18/2014 2:03:20 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 2:23:26 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.042	0.0020		mg/L	1	9/18/2014 1:07:53 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:07:53 PM	R21290
Calcium	13	1.0		mg/L	1	9/18/2014 1:07:53 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:07:53 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:07:53 PM	R21290
Iron	0.096	0.020		mg/L	1	9/18/2014 1:07:53 PM	R21290
Magnesium	3.0	1.0		mg/L	1	9/18/2014 1:07:53 PM	R21290
Manganese	0.14	0.0020	*	mg/L	1	9/19/2014 3:28:40 PM	R21336
Potassium	2.1	1.0		mg/L	1	9/18/2014 1:07:53 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:07:53 PM	R21290
Sodium	580	10		mg/L	10	9/19/2014 3:30:38 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 3:28:40 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.040	0.0020		mg/L	1	9/18/2014 5:02:52 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 5:02:52 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 5:02:52 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 5:02:52 PM	15343
Iron	0.21	0.020		mg/L	1	9/18/2014 5:02:52 PM	15343
Manganese	0.14	0.0020	*	mg/L	1	9/18/2014 5:02:52 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 5:02:52 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 5:02:52 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0022	0.0010		mg/L	1	9/26/2014 10:33:14 AM	R21493
Lead	ND	0.0010		mg/L	1	9/26/2014 10:33:14 AM	R21493
Selenium	0.0047	0.0010		mg/L	1	9/26/2014 10:33:14 AM	R21493
Uranium	0.014	0.0010		mg/L	1	9/26/2014 10:33:14 AM	R21493
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0022	0.0010		mg/L	1	9/23/2014 5:14:10 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 5:14:10 PM	15343
Selenium	0.0048	0.0010		mg/L	1	9/23/2014 5:14:10 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2B

Project: 2014 Annual GW

Collection Date: 9/9/2014 4:10:00 PM

Lab ID: 1409794-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	0.015	0.0010		mg/L	1	9/23/2014 5:14:10 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:19:06 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Acenaphthylene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Aniline	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Anthracene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Azobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benz(a)anthracene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzo(a)pyrene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzo(b)fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzo(g,h,i)perylene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzo(k)fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzoic acid	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Benzyl alcohol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Bis(2-chloroethoxy)methane	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Bis(2-chloroethyl)ether	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Bis(2-chloroisopropyl)ether	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Bromophenyl phenyl ether	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Butyl benzyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Carbazole	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Chloro-3-methylphenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Chloroaniline	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Chloronaphthalene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Chlorophenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Chlorophenyl phenyl ether	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Chrysene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Di-n-butyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Di-n-octyl phthalate	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Dibenz(a,h)anthracene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Dibenzofuran	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
1,2-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
1,3-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
1,4-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
3,3'-Dichlorobenzidine	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Diethyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 54
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2B

Project: 2014 Annual GW

Collection Date: 9/9/2014 4:10:00 PM

Lab ID: 1409794-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dimethyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4-Dichlorophenol	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4-Dimethylphenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4,6-Dinitro-2-methylphenol	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4-Dinitrophenol	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4-Dinitrotoluene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,6-Dinitrotoluene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Fluorene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Hexachlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Hexachlorobutadiene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Hexachlorocyclopentadiene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Hexachloroethane	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Isophorone	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
1-Methylnaphthalene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Methylnaphthalene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Methylphenol	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
3+4-Methylphenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
N-Nitrosodi-n-propylamine	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
N-Nitrosodimethylamine	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
N-Nitrosodiphenylamine	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Naphthalene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
3-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Nitrobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2-Nitrophenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
4-Nitrophenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Pentachlorophenol	ND	20	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Phenanthrene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Phenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Pyrene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Pyridine	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
1,2,4-Trichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4,5-Trichlorophenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
2,4,6-Trichlorophenol	ND	10	H	µg/L	1	9/18/2014 3:03:02 PM	15342
Surr: 2-Fluorophenol	54.3	12.1-85.8	H	%REC	1	9/18/2014 3:03:02 PM	15342
Surr: Phenol-d5	43.9	17.7-65.8	H	%REC	1	9/18/2014 3:03:02 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 3 of 54
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2B

Project: 2014 Annual GW

Collection Date: 9/9/2014 4:10:00 PM

Lab ID: 1409794-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	62.1	26-138	H	%REC	1	9/18/2014 3:03:02 PM	15342
Surr: Nitrobenzene-d5	70.9	47.5-119	H	%REC	1	9/18/2014 3:03:02 PM	15342
Surr: 2-Fluorobiphenyl	71.4	48.1-106	H	%REC	1	9/18/2014 3:03:02 PM	15342
Surr: 4-Terphenyl-d14	71.9	44-113	H	%REC	1	9/18/2014 3:03:02 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 1:21:21 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 1:21:21 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 1:21:21 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 4 of 54
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2B

Project: 2014 Annual GW

Collection Date: 9/9/2014 4:10:00 PM

Lab ID: 1409794-001

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 1:21:21 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 1:21:21 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 1:21:21 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 1:21:21 PM	R21295
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%REC	1	9/18/2014 1:21:21 PM	R21295
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	9/18/2014 1:21:21 PM	R21295
Surr: Dibromofluoromethane	90.6	70-130		%REC	1	9/18/2014 1:21:21 PM	R21295
Surr: Toluene-d8	92.3	70-130		%REC	1	9/18/2014 1:21:21 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 5 of 54
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2A

Project: 2014 Annual GW

Collection Date: 9/9/2014 5:10:00 PM

Lab ID: 1409794-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	1.1	0.10		mg/L	1	9/18/2014 2:40:34 AM	R21277
Chloride	37	10		mg/L	20	9/19/2014 3:30:10 AM	R21321
Bromide	0.40	0.10		mg/L	1	9/18/2014 2:40:34 AM	R21277
Phosphorus, Orthophosphate (As P)	0.57	0.50	H	mg/L	1	9/18/2014 2:40:34 AM	R21277
Sulfate	7.1	0.50		mg/L	1	9/18/2014 2:40:34 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 2:35:50 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.16	0.0020		mg/L	1	9/18/2014 1:09:49 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:09:49 PM	R21290
Calcium	8.9	1.0		mg/L	1	9/18/2014 1:09:49 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:09:49 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:09:49 PM	R21290
Iron	0.38	0.020	*	mg/L	1	9/18/2014 1:09:49 PM	R21290
Magnesium	3.3	1.0		mg/L	1	9/18/2014 1:09:49 PM	R21290
Manganese	0.13	0.0020	*	mg/L	1	9/19/2014 3:32:29 PM	R21336
Potassium	1.2	1.0		mg/L	1	9/18/2014 1:09:49 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:09:49 PM	R21290
Sodium	340	10		mg/L	10	9/19/2014 3:34:33 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 3:32:29 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.13	0.0020		mg/L	1	9/18/2014 4:15:11 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:15:11 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:15:11 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:15:11 PM	15343
Iron	0.34	0.020	*	mg/L	1	9/18/2014 4:15:11 PM	15343
Manganese	0.12	0.0020	*	mg/L	1	9/18/2014 4:15:11 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:15:11 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:15:11 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0083	0.0010		mg/L	1	9/26/2014 10:42:33 AM	R21493
Lead	ND	0.0050		mg/L	5	9/29/2014 4:03:30 PM	R21527
Selenium	0.0027	0.0010		mg/L	1	9/26/2014 10:42:33 AM	R21493
Uranium	ND	0.0050		mg/L	5	9/29/2014 4:03:30 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0085	0.0010		mg/L	1	9/23/2014 5:17:16 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 5:17:16 PM	15343
Selenium	0.0023	0.0010		mg/L	1	9/23/2014 5:17:16 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2A

Project: 2014 Annual GW

Collection Date: 9/9/2014 5:10:00 PM

Lab ID: 1409794-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	ND	0.0010		mg/L	1	9/23/2014 5:17:16 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:20:52 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Acenaphthylene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Aniline	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Anthracene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Azobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benz(a)anthracene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzo(a)pyrene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzo(b)fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzo(g,h,i)perylene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzo(k)fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzoic acid	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Benzyl alcohol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Bis(2-chloroethoxy)methane	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Bis(2-chloroethyl)ether	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Bis(2-chloroisopropyl)ether	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Bromophenyl phenyl ether	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Butyl benzyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Carbazole	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Chloro-3-methylphenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Chloroaniline	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Chloronaphthalene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Chlorophenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Chlorophenyl phenyl ether	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Chrysene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Di-n-butyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Di-n-octyl phthalate	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Dibenz(a,h)anthracene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Dibenzofuran	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
1,2-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
1,3-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
1,4-Dichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
3,3'-Dichlorobenzidine	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Diethyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 7 of 54
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2A

Project: 2014 Annual GW

Collection Date: 9/9/2014 5:10:00 PM

Lab ID: 1409794-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dimethyl phthalate	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4-Dichlorophenol	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4-Dimethylphenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4,6-Dinitro-2-methylphenol	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4-Dinitrophenol	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4-Dinitrotoluene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,6-Dinitrotoluene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Fluoranthene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Fluorene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Hexachlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Hexachlorobutadiene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Hexachlorocyclopentadiene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Hexachloroethane	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Isophorone	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
1-Methylnaphthalene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Methylnaphthalene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Methylphenol	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
3+4-Methylphenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
N-Nitrosodi-n-propylamine	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
N-Nitrosodimethylamine	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
N-Nitrosodiphenylamine	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Naphthalene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
3-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Nitroaniline	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Nitrobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2-Nitrophenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
4-Nitrophenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Pentachlorophenol	ND	20	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Phenanthrene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Phenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Pyrene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Pyridine	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
1,2,4-Trichlorobenzene	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4,5-Trichlorophenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
2,4,6-Trichlorophenol	ND	10	H	µg/L	1	9/18/2014 3:32:22 PM	15342
Surr: 2-Fluorophenol	62.6	12.1-85.8	H	%REC	1	9/18/2014 3:32:22 PM	15342
Surr: Phenol-d5	52.9	17.7-65.8	H	%REC	1	9/18/2014 3:32:22 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2A

Project: 2014 Annual GW

Collection Date: 9/9/2014 5:10:00 PM

Lab ID: 1409794-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	73.7	26-138	H	%REC	1	9/18/2014 3:32:22 PM	15342
Surr: Nitrobenzene-d5	84.2	47.5-119	H	%REC	1	9/18/2014 3:32:22 PM	15342
Surr: 2-Fluorobiphenyl	77.8	48.1-106	H	%REC	1	9/18/2014 3:32:22 PM	15342
Surr: 4-Terphenyl-d14	85.4	44-113	H	%REC	1	9/18/2014 3:32:22 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 1:51:04 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 1:51:04 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 1:51:04 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2A

Project: 2014 Annual GW

Collection Date: 9/9/2014 5:10:00 PM

Lab ID: 1409794-002

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 1:51:04 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 1:51:04 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 1:51:04 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 1:51:04 PM	R21295
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%REC	1	9/18/2014 1:51:04 PM	R21295
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	9/18/2014 1:51:04 PM	R21295
Surr: Dibromofluoromethane	93.0	70-130		%REC	1	9/18/2014 1:51:04 PM	R21295
Surr: Toluene-d8	91.0	70-130		%REC	1	9/18/2014 1:51:04 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-1C

Project: 2014 Annual GW

Collection Date: 9/10/2014 1:45:00 PM

Lab ID: 1409794-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	2.6	0.10		mg/L	1	9/18/2014 3:05:23 AM	R21277
Chloride	33	10		mg/L	20	9/19/2014 3:42:34 AM	R21321
Bromide	0.12	0.10		mg/L	1	9/18/2014 3:05:23 AM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 3:05:23 AM	R21277
Sulfate	260	10		mg/L	20	9/18/2014 3:17:48 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 2:48:15 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.020	0.0020		mg/L	1	9/18/2014 1:11:46 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:11:46 PM	R21290
Calcium	3.2	1.0		mg/L	1	9/18/2014 1:11:46 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:11:46 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:11:46 PM	R21290
Iron	ND	0.020		mg/L	1	9/18/2014 1:11:46 PM	R21290
Magnesium	ND	1.0		mg/L	1	9/18/2014 1:11:46 PM	R21290
Manganese	0.011	0.0020		mg/L	1	9/19/2014 3:36:15 PM	R21336
Potassium	1.6	1.0		mg/L	1	9/18/2014 1:11:46 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:11:46 PM	R21290
Sodium	320	10		mg/L	10	9/19/2014 3:38:33 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 3:36:15 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.026	0.0020		mg/L	1	9/18/2014 4:18:55 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:18:55 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:18:55 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:18:55 PM	15343
Iron	0.43	0.020	*	mg/L	1	9/18/2014 4:18:55 PM	15343
Manganese	0.028	0.0020		mg/L	1	9/18/2014 4:18:55 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:18:55 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:18:55 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	ND	0.0010		mg/L	1	9/26/2014 10:45:39 AM	R21493
Lead	ND	0.0050		mg/L	5	9/29/2014 4:06:37 PM	R21527
Selenium	ND	0.0010		mg/L	1	9/26/2014 10:45:39 AM	R21493
Uranium	0.0089	0.0050		mg/L	5	9/29/2014 4:06:37 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	ND	0.0010		mg/L	1	9/23/2014 5:20:22 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 5:20:22 PM	15343
Selenium	ND	0.0010		mg/L	1	9/23/2014 5:20:22 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-1C

Project: 2014 Annual GW

Collection Date: 9/10/2014 1:45:00 PM

Lab ID: 1409794-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	0.0099	0.0010		mg/L	1	9/23/2014 5:20:22 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:26:14 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-1C

Project: 2014 Annual GW

Collection Date: 9/10/2014 1:45:00 PM

Lab ID: 1409794-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES					Analyst: DAM		
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 4:01:42 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Pyrene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 4:01:42 PM	15342
Surr: 2-Fluorophenol	57.4	12.1-85.8		%REC	1	9/18/2014 4:01:42 PM	15342
Surr: Phenol-d5	46.1	17.7-65.8		%REC	1	9/18/2014 4:01:42 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-1C

Project: 2014 Annual GW

Collection Date: 9/10/2014 1:45:00 PM

Lab ID: 1409794-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	62.3	26-138		%REC	1	9/18/2014 4:01:42 PM	15342
Surr: Nitrobenzene-d5	75.1	47.5-119		%REC	1	9/18/2014 4:01:42 PM	15342
Surr: 2-Fluorobiphenyl	73.6	48.1-106		%REC	1	9/18/2014 4:01:42 PM	15342
Surr: 4-Terphenyl-d14	79.5	44-113		%REC	1	9/18/2014 4:01:42 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 2:20:43 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 2:20:43 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 2:20:43 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-1C

Project: 2014 Annual GW

Collection Date: 9/10/2014 1:45:00 PM

Lab ID: 1409794-003

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 2:20:43 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 2:20:43 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 2:20:43 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 2:20:43 PM	R21295
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%REC	1	9/18/2014 2:20:43 PM	R21295
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	9/18/2014 2:20:43 PM	R21295
Surr: Dibromofluoromethane	91.1	70-130		%REC	1	9/18/2014 2:20:43 PM	R21295
Surr: Toluene-d8	93.5	70-130		%REC	1	9/18/2014 2:20:43 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2C

Project: 2014 Annual GW

Collection Date: 9/10/2014 3:40:00 PM

Lab ID: 1409794-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	2.0	0.10		mg/L	1	9/18/2014 3:30:13 AM	R21277
Chloride	42	10		mg/L	20	9/19/2014 3:54:59 AM	R21321
Bromide	0.11	0.10		mg/L	1	9/18/2014 3:30:13 AM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 3:30:13 AM	R21277
Sulfate	260	10		mg/L	20	9/18/2014 3:42:38 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 3:00:40 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.031	0.0020		mg/L	1	9/18/2014 1:13:40 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:13:40 PM	R21290
Calcium	3.0	1.0		mg/L	1	9/18/2014 1:13:40 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:13:40 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:13:40 PM	R21290
Iron	0.81	0.020	*	mg/L	1	9/18/2014 1:13:40 PM	R21290
Magnesium	ND	1.0		mg/L	1	9/18/2014 1:13:40 PM	R21290
Manganese	0.026	0.0020		mg/L	1	9/19/2014 3:40:16 PM	R21336
Potassium	1.6	1.0		mg/L	1	9/18/2014 1:13:40 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:13:40 PM	R21290
Sodium	300	10		mg/L	10	9/19/2014 3:41:55 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 3:40:16 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.055	0.0020		mg/L	1	9/18/2014 4:20:55 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:20:55 PM	15343
Chromium	0.010	0.0060		mg/L	1	9/18/2014 4:20:55 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:20:55 PM	15343
Iron	2.5	0.20	*	mg/L	10	9/18/2014 5:09:16 PM	15343
Manganese	0.067	0.0020	*	mg/L	1	9/18/2014 4:20:55 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:20:55 PM	15343
Zinc	0.014	0.010		mg/L	1	9/18/2014 4:20:55 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	ND	0.0010		mg/L	1	9/26/2014 10:48:45 AM	R21493
Lead	ND	0.0050		mg/L	5	9/29/2014 4:09:43 PM	R21527
Selenium	ND	0.0010		mg/L	1	9/26/2014 10:48:45 AM	R21493
Uranium	0.0051	0.0050		mg/L	5	9/29/2014 4:09:43 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0011	0.0010		mg/L	1	9/23/2014 5:23:28 PM	15343
Lead	0.0017	0.0010		mg/L	1	9/23/2014 5:23:28 PM	15343
Selenium	ND	0.0010		mg/L	1	9/23/2014 5:23:28 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2C

Project: 2014 Annual GW

Collection Date: 9/10/2014 3:40:00 PM

Lab ID: 1409794-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	0.0056	0.0010		mg/L	1	9/23/2014 5:23:28 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:28:02 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2C

Project: 2014 Annual GW

Collection Date: 9/10/2014 3:40:00 PM

Lab ID: 1409794-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES						Analyst: DAM	
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 4:30:53 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Pyrene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 4:30:53 PM	15342
Surr: 2-Fluorophenol	53.0	12.1-85.8		%REC	1	9/18/2014 4:30:53 PM	15342
Surr: Phenol-d5	43.5	17.7-65.8		%REC	1	9/18/2014 4:30:53 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 18 of 54
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2C

Project: 2014 Annual GW

Collection Date: 9/10/2014 3:40:00 PM

Lab ID: 1409794-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	58.8	26-138		%REC	1	9/18/2014 4:30:53 PM	15342
Surr: Nitrobenzene-d5	64.6	47.5-119		%REC	1	9/18/2014 4:30:53 PM	15342
Surr: 2-Fluorobiphenyl	62.0	48.1-106		%REC	1	9/18/2014 4:30:53 PM	15342
Surr: 4-Terphenyl-d14	64.3	44-113		%REC	1	9/18/2014 4:30:53 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 2:50:21 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 2:50:21 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 2:50:21 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-2C

Project: 2014 Annual GW

Collection Date: 9/10/2014 3:40:00 PM

Lab ID: 1409794-004

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 2:50:21 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 2:50:21 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 2:50:21 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 2:50:21 PM	R21295
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%REC	1	9/18/2014 2:50:21 PM	R21295
Surr: 4-Bromofluorobenzene	108	70-130		%REC	1	9/18/2014 2:50:21 PM	R21295
Surr: Dibromofluoromethane	93.8	70-130		%REC	1	9/18/2014 2:50:21 PM	R21295
Surr: Toluene-d8	88.8	70-130		%REC	1	9/18/2014 2:50:21 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3C

Project: 2014 Annual GW

Collection Date: 9/10/2014 4:50:00 PM

Lab ID: 1409794-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	1.3	0.10		mg/L	1	9/18/2014 3:55:02 AM	R21277
Chloride	35	10		mg/L	20	9/19/2014 4:32:13 AM	R21321
Bromide	0.14	0.10		mg/L	1	9/18/2014 3:55:02 AM	R21277
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	9/18/2014 3:55:02 AM	R21277
Sulfate	300	10		mg/L	20	9/18/2014 4:07:26 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 3:13:05 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.046	0.0020		mg/L	1	9/18/2014 1:15:37 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:15:37 PM	R21290
Calcium	4.1	1.0		mg/L	1	9/18/2014 1:15:37 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:15:37 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:15:37 PM	R21290
Iron	0.73	0.020	*	mg/L	1	9/18/2014 1:15:37 PM	R21290
Magnesium	1.0	1.0		mg/L	1	9/18/2014 1:15:37 PM	R21290
Manganese	0.024	0.0020		mg/L	1	9/19/2014 3:43:39 PM	R21336
Potassium	2.0	1.0		mg/L	1	9/18/2014 1:15:37 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:15:37 PM	R21290
Sodium	380	10		mg/L	10	9/19/2014 3:45:40 PM	R21336
Zinc	ND	0.010		mg/L	1	9/19/2014 3:43:39 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.11	0.0020		mg/L	1	9/18/2014 4:22:35 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:22:35 PM	15343
Chromium	0.013	0.0060		mg/L	1	9/18/2014 4:22:35 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:22:35 PM	15343
Iron	2.7	0.20	*	mg/L	10	9/18/2014 5:10:59 PM	15343
Manganese	0.073	0.0020	*	mg/L	1	9/18/2014 4:22:35 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:22:35 PM	15343
Zinc	0.016	0.010		mg/L	1	9/18/2014 4:22:35 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0019	0.0010		mg/L	1	9/26/2014 10:51:51 AM	R21493
Lead	ND	0.0050		mg/L	5	9/29/2014 4:12:49 PM	R21527
Selenium	ND	0.0010		mg/L	1	9/26/2014 10:51:51 AM	R21493
Uranium	ND	0.0050		mg/L	5	9/29/2014 4:12:49 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0021	0.0010		mg/L	1	9/23/2014 5:26:34 PM	15343
Lead	0.0015	0.0010		mg/L	1	9/23/2014 5:26:34 PM	15343
Selenium	ND	0.0010		mg/L	1	9/23/2014 5:26:34 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409794**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3C

Project: 2014 Annual GW

Collection Date: 9/10/2014 4:50:00 PM

Lab ID: 1409794-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	0.0017	0.0010		mg/L	1	9/23/2014 5:26:34 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:29:51 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3C

Project: 2014 Annual GW

Collection Date: 9/10/2014 4:50:00 PM

Lab ID: 1409794-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 5:00:00 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Pyrene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 5:00:00 PM	15342
Surr: 2-Fluorophenol	56.9	12.1-85.8		%REC	1	9/18/2014 5:00:00 PM	15342
Surr: Phenol-d5	48.7	17.7-65.8		%REC	1	9/18/2014 5:00:00 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3C

Project: 2014 Annual GW

Collection Date: 9/10/2014 4:50:00 PM

Lab ID: 1409794-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	64.6	26-138		%REC	1	9/18/2014 5:00:00 PM	15342
Surr: Nitrobenzene-d5	74.2	47.5-119		%REC	1	9/18/2014 5:00:00 PM	15342
Surr: 2-Fluorobiphenyl	70.2	48.1-106		%REC	1	9/18/2014 5:00:00 PM	15342
Surr: 4-Terphenyl-d14	71.2	44-113		%REC	1	9/18/2014 5:00:00 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 3:20:06 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 3:20:06 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 3:20:06 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409794**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3C

Project: 2014 Annual GW

Collection Date: 9/10/2014 4:50:00 PM

Lab ID: 1409794-005

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 3:20:06 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 3:20:06 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 3:20:06 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 3:20:06 PM	R21295
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%REC	1	9/18/2014 3:20:06 PM	R21295
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	9/18/2014 3:20:06 PM	R21295
Surr: Dibromofluoromethane	93.9	70-130		%REC	1	9/18/2014 3:20:06 PM	R21295
Surr: Toluene-d8	88.2	70-130		%REC	1	9/18/2014 3:20:06 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3B

Project: 2014 Annual GW

Collection Date: 9/10/2014 5:40:00 PM

Lab ID: 1409794-006

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Fluoride	1.6	0.10		mg/L	1	9/18/2014 4:19:51 AM	R21277
Chloride	35	10		mg/L	20	9/19/2014 4:44:37 AM	R21321
Bromide	0.44	0.10		mg/L	1	9/18/2014 4:19:51 AM	R21277
Phosphorus, Orthophosphate (As P)	1.0	0.50	H	mg/L	1	9/18/2014 4:19:51 AM	R21277
Sulfate	54	10		mg/L	20	9/18/2014 4:32:15 AM	R21277
Nitrate+Nitrite as N	ND	1.0		mg/L	5	9/18/2014 3:25:29 AM	R21283
EPA METHOD 200.7: DISSOLVED METALS							Analyst: JLF
Barium	0.11	0.0020		mg/L	1	9/18/2014 1:17:34 PM	R21290
Cadmium	ND	0.0020		mg/L	1	9/18/2014 1:17:34 PM	R21290
Calcium	8.3	1.0		mg/L	1	9/18/2014 1:17:34 PM	R21290
Chromium	ND	0.0060		mg/L	1	9/18/2014 1:17:34 PM	R21290
Copper	ND	0.0060		mg/L	1	9/18/2014 1:17:34 PM	R21290
Iron	0.42	0.020	*	mg/L	1	9/18/2014 1:17:34 PM	R21290
Magnesium	2.6	1.0		mg/L	1	9/18/2014 1:17:34 PM	R21290
Manganese	0.10	0.0020	*	mg/L	1	9/19/2014 3:53:09 PM	R21336
Potassium	1.4	1.0		mg/L	1	9/18/2014 1:17:34 PM	R21290
Silver	ND	0.0050		mg/L	1	9/18/2014 1:17:34 PM	R21290
Sodium	390	10		mg/L	10	9/19/2014 3:55:10 PM	R21336
Zinc	0.015	0.010		mg/L	1	9/19/2014 3:53:09 PM	R21336
EPA METHOD 200.7: TOTAL METALS							Analyst: JLF
Barium	0.074	0.0020		mg/L	1	9/18/2014 4:24:26 PM	15343
Cadmium	ND	0.0020		mg/L	1	9/18/2014 4:24:26 PM	15343
Chromium	ND	0.0060		mg/L	1	9/18/2014 4:24:26 PM	15343
Copper	ND	0.0060		mg/L	1	9/18/2014 4:24:26 PM	15343
Iron	0.32	0.020	*	mg/L	1	9/18/2014 4:24:26 PM	15343
Manganese	0.081	0.0020	*	mg/L	1	9/18/2014 4:24:26 PM	15343
Silver	ND	0.0050		mg/L	1	9/18/2014 4:24:26 PM	15343
Zinc	ND	0.010		mg/L	1	9/18/2014 4:24:26 PM	15343
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0061	0.0010		mg/L	1	9/26/2014 10:54:57 AM	R21493
Lead	ND	0.0050		mg/L	5	9/29/2014 4:15:55 PM	R21527
Selenium	0.0027	0.0010		mg/L	1	9/26/2014 10:54:57 AM	R21493
Uranium	ND	0.0050		mg/L	5	9/29/2014 4:15:55 PM	R21527
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0047	0.0010		mg/L	1	9/23/2014 5:29:40 PM	15343
Lead	ND	0.0010		mg/L	1	9/23/2014 5:29:40 PM	15343
Selenium	0.0022	0.0010		mg/L	1	9/23/2014 5:29:40 PM	15343

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3B

Project: 2014 Annual GW

Collection Date: 9/10/2014 5:40:00 PM

Lab ID: 1409794-006

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Uranium	ND	0.0010		mg/L	1	9/23/2014 5:29:40 PM	15343
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	9/24/2014 10:35:25 AM	15449
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Acenaphthylene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Aniline	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Anthracene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Azobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benz(a)anthracene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzo(a)pyrene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzo(b)fluoranthene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzo(k)fluoranthene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzoic acid	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
Benzyl alcohol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Bis(2-chloroethyl)ether	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Bis(2-chloroisopropyl)ether	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Bis(2-ethylhexyl)phthalate	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Butyl benzyl phthalate	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Carbazole	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Chloro-3-methylphenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Chloroaniline	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Chloronaphthalene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Chlorophenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Chlorophenyl phenyl ether	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Chrysene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Di-n-butyl phthalate	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Di-n-octyl phthalate	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Dibenzofuran	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
1,2-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
1,3-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
1,4-Dichlorobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
3,3'-Dichlorobenzidine	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Diethyl phthalate	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3B

Project: 2014 Annual GW

Collection Date: 9/10/2014 5:40:00 PM

Lab ID: 1409794-006

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dimethyl phthalate	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4-Dichlorophenol	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4-Dimethylphenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4,6-Dinitro-2-methylphenol	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4-Dinitrophenol	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2,6-Dinitrotoluene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Fluoranthene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Fluorene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Hexachlorobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Hexachlorobutadiene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Hexachloroethane	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Isophorone	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
1-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Methylnaphthalene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Methylphenol	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
3+4-Methylphenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
N-Nitrosodimethylamine	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Naphthalene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
3-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Nitroaniline	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Nitrobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2-Nitrophenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
4-Nitrophenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Pentachlorophenol	ND	20		µg/L	1	9/18/2014 5:29:07 PM	15342
Phenanthrene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Phenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Pyrene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Pyridine	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
2,4,6-Trichlorophenol	ND	10		µg/L	1	9/18/2014 5:29:07 PM	15342
Surr: 2-Fluorophenol	69.5	12.1-85.8		%REC	1	9/18/2014 5:29:07 PM	15342
Surr: Phenol-d5	60.5	17.7-65.8		%REC	1	9/18/2014 5:29:07 PM	15342

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3B

Project: 2014 Annual GW

Collection Date: 9/10/2014 5:40:00 PM

Lab ID: 1409794-006

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Surr: 2,4,6-Tribromophenol	75.4	26-138		%REC	1	9/18/2014 5:29:07 PM	15342
Surr: Nitrobenzene-d5	85.5	47.5-119		%REC	1	9/18/2014 5:29:07 PM	15342
Surr: 2-Fluorobiphenyl	80.9	48.1-106		%REC	1	9/18/2014 5:29:07 PM	15342
Surr: 4-Terphenyl-d14	81.9	44-113		%REC	1	9/18/2014 5:29:07 PM	15342
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 3:49:51 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 3:49:51 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 3:49:51 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BW-3B

Project: 2014 Annual GW

Collection Date: 9/10/2014 5:40:00 PM

Lab ID: 1409794-006

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 3:49:51 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 3:49:51 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 3:49:51 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 3:49:51 PM	R21295
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%REC	1	9/18/2014 3:49:51 PM	R21295
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	9/18/2014 3:49:51 PM	R21295
Surr: Dibromofluoromethane	96.7	70-130		%REC	1	9/18/2014 3:49:51 PM	R21295
Surr: Toluene-d8	92.0	70-130		%REC	1	9/18/2014 3:49:51 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409794**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409794-007

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 4:19:34 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 4:19:34 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 4:19:34 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409794**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Field Blank

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409794-007

Matrix: AQUEOUS

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 4:19:34 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 4:19:34 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 4:19:34 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 4:19:34 PM	R21295
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%REC	1	9/18/2014 4:19:34 PM	R21295
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	9/18/2014 4:19:34 PM	R21295
Surr: Dibromofluoromethane	94.9	70-130		%REC	1	9/18/2014 4:19:34 PM	R21295
Surr: Toluene-d8	88.7	70-130		%REC	1	9/18/2014 4:19:34 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1409794

Date Reported: 10/6/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409794-008

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: KJH
Benzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Toluene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Ethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Naphthalene	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
2-Methylnaphthalene	ND	4.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Acetone	ND	10		µg/L	1	9/18/2014 4:49:18 PM	R21295
Bromobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Bromodichloromethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Bromoform	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Bromomethane	ND	3.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
2-Butanone	ND	10		µg/L	1	9/18/2014 4:49:18 PM	R21295
Carbon disulfide	ND	10		µg/L	1	9/18/2014 4:49:18 PM	R21295
Carbon Tetrachloride	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Chlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Chloroethane	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Chloroform	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Chloromethane	ND	3.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
2-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
4-Chlorotoluene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
cis-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Dibromochloromethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Dibromomethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1-Dichloroethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1-Dichloroethene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,3-Dichloropropane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
2,2-Dichloropropane	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1409794**

Date Reported: **10/6/2014**

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: 2014 Annual GW

Collection Date:

Lab ID: 1409794-008

Matrix: TRIP BLANK

Received Date: 9/16/2014 5:03:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: KJH			
1,1-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Hexachlorobutadiene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
2-Hexanone	ND	10		µg/L	1	9/18/2014 4:49:18 PM	R21295
Isopropylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
4-Isopropyltoluene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
4-Methyl-2-pentanone	ND	10		µg/L	1	9/18/2014 4:49:18 PM	R21295
Methylene Chloride	ND	3.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
n-Butylbenzene	ND	3.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
n-Propylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
sec-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Styrene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
tert-Butylbenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
trans-1,2-DCE	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Trichlorofluoromethane	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Vinyl chloride	ND	1.0		µg/L	1	9/18/2014 4:49:18 PM	R21295
Xylenes, Total	ND	1.5		µg/L	1	9/18/2014 4:49:18 PM	R21295
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%REC	1	9/18/2014 4:49:18 PM	R21295
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	1	9/18/2014 4:49:18 PM	R21295
Surr: Dibromofluoromethane	99.7	70-130		%REC	1	9/18/2014 4:49:18 PM	R21295
Surr: Toluene-d8	93.5	70-130		%REC	1	9/18/2014 4:49:18 PM	R21295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R21290		RunNo: 21290							
Prep Date:	Analysis Date: 9/18/2014		SeqNo: 621146		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R21290		RunNo: 21290							
Prep Date:	Analysis Date: 9/18/2014		SeqNo: 621147		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.6	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.0	85	115			
Calcium	49	1.0	50.00	0	97.2	85	115			
Chromium	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.49	0.0060	0.5000	0	97.1	85	115			
Iron	0.50	0.020	0.5000	0	100	85	115			
Magnesium	49	1.0	50.00	0	97.8	85	115			
Potassium	48	1.0	50.00	0	96.0	85	115			

Sample ID LCS (Ag)	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: R21290		RunNo: 21290							
Prep Date:	Analysis Date: 9/18/2014		SeqNo: 621148		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.096	0.0050	0.1000	0	95.6	85	115			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: R21290		RunNo: 21290							
Prep Date:	Analysis Date: 9/18/2014		SeqNo: 621149		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	PBW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621149	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621150	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.7	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.8	85	115			
Calcium	48	1.0	50.00	0	96.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Copper	0.48	0.0060	0.5000	0	95.5	85	115			
Iron	0.50	0.020	0.5000	0	99.0	85	115			
Magnesium	49	1.0	50.00	0	97.7	85	115			
Potassium	48	1.0	50.00	0	96.3	85	115			

Sample ID	LCS (Ag)	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621151	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.095	0.0050	0.1000	0	94.6	85	115			

Sample ID	LCS TEST	SampType:	LCS	TestCode:	EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW	Batch ID:	R21290	RunNo:	21290					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	621170	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Calcium	50	1.0	50.00	0	99.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Copper	0.49	0.0060	0.5000	0	97.3	85	115			
Iron	0.50	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	99.5	85	115			
Potassium	50	1.0	50.00	0	99.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS TEST		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21290		RunNo: 21290					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621170		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	102	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: R21336		RunNo: 21336					
Prep Date:			Analysis Date: 9/19/2014		SeqNo: 622776		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21336		RunNo: 21336					
Prep Date:			Analysis Date: 9/19/2014		SeqNo: 622777		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.45	0.0020	0.5000	0	89.7	85	115			
Sodium	50	1.0	50.00	0	99.3	85	115			
Zinc	0.46	0.010	0.5000	0	91.8	85	115			

Sample ID	MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	PBW		Batch ID: R21336		RunNo: 21336					
Prep Date:			Analysis Date: 9/19/2014		SeqNo: 622779		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	ND	0.0020								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21336		RunNo: 21336					
Prep Date:			Analysis Date: 9/19/2014		SeqNo: 622780		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.46	0.0020	0.5000	0	91.5	85	115			
Sodium	49	1.0	50.00	0	98.5	85	115			
Zinc	0.47	0.010	0.5000	0	93.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15343	SampType:	MBLK	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	PBW	Batch ID:	15343	RunNo:	21297					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621503	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	LCS-15343	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	15343	RunNo:	21297					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621504	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Copper	0.48	0.0060	0.5000	0	96.9	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Manganese	0.48	0.0020	0.5000	0	95.0	85	115			
Zinc	0.48	0.010	0.5000	0	96.9	85	115			

Sample ID	LCS Ag-15343	SampType:	LCS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	LCSW	Batch ID:	15343	RunNo:	21297					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621505	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Silver	0.10	0.0050	0.1000	0	102	85	115			
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Sample ID	1409794-001DMS(1)	SampType:	MS	TestCode:	EPA Method 200.7: Total Metals					
Client ID:	BW-2B	Batch ID:	15343	RunNo:	21297					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621518	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Silver	0.10	0.0050	0.1000	0	102	70	130			
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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	1409794-001DMSD(			SampType:	MSD		TestCode:	EPA Method 200.7: Total Metals			
Client ID:	BW-2B		Batch ID:		15343		RunNo:	21297			
Prep Date:	9/17/2014		Analysis Date:		9/18/2014		SeqNo:	621522		Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Silver	0.10	0.0050	0.1000	0	102	70	130	0.118	20		

Sample ID	1409794-001DMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals						
Client ID:	BW-2B		Batch ID: 15343		RunNo: 21297						
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621550		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Barium	0.51	0.0020	0.5000	0.04041	94.7	70	130				
Cadmium	0.48	0.0020	0.5000	0	96.0	70	130				
Chromium	0.48	0.0060	0.5000	0	96.2	70	130				
Copper	0.52	0.0060	0.5000	0	105	70	130				
Iron	0.74	0.020	0.5000	0.2092	107	70	130				
Manganese	0.61	0.0020	0.5000	0.1359	93.9	70	130				
Zinc	0.48	0.010	0.5000	0	96.3	70	130				

Sample ID	1409794-001DMSD			SampType:	MSD		TestCode: EPA Method 200.7: Total Metals				
Client ID:	BW-2B		Batch ID:		15343		RunNo: 21297				
Prep Date:	9/17/2014		Analysis Date:		9/18/2014		SeqNo: 621551		Units: mg/L		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Barium	0.50	0.0020	0.5000	0.04041	91.2	70	130	3.37	20		
Cadmium	0.47	0.0020	0.5000	0	93.1	70	130	3.07	20		
Chromium	0.47	0.0060	0.5000	0	93.0	70	130	3.28	20		
Copper	0.50	0.0060	0.5000	0	101	70	130	3.75	20		
Iron	0.71	0.020	0.5000	0.2092	100	70	130	4.50	20		
Manganese	0.58	0.0020	0.5000	0.1359	89.0	70	130	4.11	20		
Zinc	0.46	0.010	0.5000	0	92.6	70	130	3.93	20		

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21493		RunNo: 21493					
Prep Date:			Analysis Date: 9/26/2014		SeqNo: 628608		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.7	85	115			
Lead	0.024	0.0010	0.02500	0	94.4	85	115			
Selenium	0.022	0.0010	0.02500	0	90.0	85	115			
Uranium	0.024	0.0010	0.02500	0	95.1	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21493		RunNo: 21493					
Prep Date:			Analysis Date: 9/26/2014		SeqNo: 628609		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.023	0.0010	0.02500	0	92.9	85	115			
Lead	0.023	0.0010	0.02500	0	92.6	85	115			
Selenium	0.023	0.0010	0.02500	0	92.4	85	115			
Uranium	0.023	0.0010	0.02500	0	91.6	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21493			RunNo: 21493					
Prep Date:		Analysis Date: 9/26/2014			SeqNo: 628610		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21493			RunNo: 21493					
Prep Date:		Analysis Date: 9/26/2014			SeqNo: 628611		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527		RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014		SeqNo: 629894		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527		RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014		SeqNo: 629894		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	99.4	85	115			
Uranium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	LCS		SampType: LCS		TestCode: EPA 200.8: Dissolved Metals					
Client ID:	LCSW		Batch ID: R21527		RunNo: 21527					
Prep Date:			Analysis Date: 9/29/2014		SeqNo: 629895		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	101	85	115			
Uranium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21527			RunNo: 21527					
Prep Date:		Analysis Date: 9/29/2014			SeqNo: 629896		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	MB	SampType: MBLK			TestCode: EPA 200.8: Dissolved Metals					
Client ID:	PBW	Batch ID: R21527			RunNo: 21527					
Prep Date:		Analysis Date: 9/29/2014			SeqNo: 629897		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	LLLCS-15343		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	BatchQC		Batch ID: 15343		RunNo: 21376					
Prep Date:	9/17/2014		Analysis Date: 9/23/2014		SeqNo: 624955		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	104	85	115			
Lead	0.026	0.0010	0.02500	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Uranium	0.026	0.0010	0.02500	0	105	85	115			

Sample ID	MB-15343		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total					
Client ID:	PBW		Batch ID: 15343		RunNo: 21376					
Prep Date:	9/17/2014		Analysis Date: 9/23/2014		SeqNo: 624958		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB-15449		SampType: MBLK		TestCode: EPA Method 245.1: Mercury					
Client ID:	PBW		Batch ID: 15449		RunNo: 21410					
Prep Date:	9/23/2014		Analysis Date: 9/24/2014		SeqNo: 625480		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercurv	ND	0.00020								

Sample ID	LCS-15449			SampType:	LCS			TestCode:	EPA Method 245.1: Mercury		
Client ID:	LCSW			Batch ID:	15449			RunNo:	21410		
Prep Date:	9/23/2014			Analysis Date:	9/24/2014			SeqNo:	625481		
								Units:	mg/L		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.0049	0.00020	0.005000	0	97.5	80	120			

Sample ID	1409794-002DMS		SampType: MS		TestCode: EPA Method 245.1: Mercury					
Client ID:	BW-2A		Batch ID: 15449		RunNo: 21410					
Prep Date:	9/23/2014		Analysis Date: 9/24/2014		SeqNo: 625485		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0042	0.00020	0.005000	0	84.6	75	125			

Sample ID	1409794-002DMSD			SampType:	MSD		TestCode:	EPA Method 245.1: Mercury			
Client ID:	BW-2A			Batch ID:	15449		RunNo:	21410			
Prep Date:	9/23/2014			Analysis Date:	9/24/2014		SeqNo:	625486		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.0042	0.00020	0.005000	0	84.2	75	125	0.459	20		

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620661		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620662		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.8	90	110			
Sulfate	10	0.50	10.00	0	99.6	90	110			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620708		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R21277		RunNo: 21277							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 620709		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.8	90	110			
Bromide	2.3	0.10	2.500	0	93.0	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	92.3	90	110			
Sulfate	9.2	0.50	10.00	0	91.7	90	110			

Sample ID MB	SampType: MBLK		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R21283		RunNo: 21283							
Prep Date:	Analysis Date: 9/17/2014		SeqNo: 621017		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- | | |
|---|--|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| E Value above quantitation range | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R21283	RunNo:	21283					
Prep Date:		Analysis Date:	9/17/2014	SeqNo:	621017	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R21283	RunNo:	21283					
Prep Date:		Analysis Date:	9/17/2014	SeqNo:	621018	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.6	90	110			

Sample ID	MB	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID:	R21321	RunNo:	21321					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	622134	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	LCS	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSW	Batch ID:	R21321	RunNo:	21321					
Prep Date:		Analysis Date:	9/18/2014	SeqNo:	622135	Units:	mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621332		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	5mL-rb	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621332		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.5	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621334		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	94.5	80	120			
Chlorobenzene	19	1.0	20.00	0	93.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	100ng lcs	SampType: LCS			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621334		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22	1.0	20.00	0	109	82.6	131			
Trichloroethene (TCE)	17	1.0	20.00	0	85.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.5	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.4	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID	b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621370		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	b3	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID: R21295			RunNo: 21295					
Prep Date:		Analysis Date: 9/18/2014			SeqNo: 621370	Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	b3		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	PBW		Batch ID: R21295		RunNo: 21295					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621370		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.6	70	130			
Surr: Toluene-d8	9.2		10.00		92.1	70	130			

Sample ID	100ng lcs2		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES					
Client ID:	LCSW		Batch ID: R21295		RunNo: 21295					
Prep Date:			Analysis Date: 9/18/2014		SeqNo: 621372		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	19	1.0	20.00	0	95.8	80	120			
Chlorobenzene	20	1.0	20.00	0	97.9	70	130			
1,1-Dichloroethene	24	1.0	20.00	0	122	82.6	131			
Trichloroethene (TCE)	18	1.0	20.00	0	91.7	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.1	70	130			
Surr: Toluene-d8	9.3		10.00		92.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	20								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	mb-15342	SampType:	MBLK	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	PBW	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621609	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	20								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	93		200.0		46.3	12.1	85.8			
Surr: Phenol-d5	84		200.0		41.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	130		200.0		64.4	26	138			
Surr: Nitrobenzene-d5	66		100.0		65.5	47.5	119			
Surr: 2-Fluorobiphenyl	63		100.0		62.6	48.1	106			
Surr: 4-Terphenyl-d14	74		100.0		73.5	44	113			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcs-15342		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSW		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621610		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	58	10	100.0	0	58.1	47.9	114			
4-Chloro-3-methylphenol	130	10	200.0	0	62.8	51.7	122			
2-Chlorophenol	120	10	200.0	0	58.4	40.7	113			
1,4-Dichlorobenzene	50	10	100.0	0	50.4	39.6	99.9			
2,4-Dinitrotoluene	47	10	100.0	0	47.3	40.8	113			
N-Nitrosodi-n-propylamine	64	10	100.0	0	64.3	51.2	111			
4-Nitrophenol	66	10	200.0	0	32.8	15.7	86.9			
Pentachlorophenol	93	20	200.0	0	46.4	21.6	104			
Phenol	86	10	200.0	0	43.1	28.6	71.7			
Pyrene	64	10	100.0	0	64.2	54.2	128			
1,2,4-Trichlorobenzene	49	10	100.0	0	49.5	40.9	101			
Surr: 2-Fluorophenol	84		200.0		42.0	12.1	85.8			
Surr: Phenol-d5	80		200.0		39.9	17.7	65.8			
Surr: 2,4,6-Tribromophenol	110		200.0		55.7	26	138			
Surr: Nitrobenzene-d5	61		100.0		60.6	47.5	119			
Surr: 2-Fluorobiphenyl	57		100.0		56.6	48.1	106			
Surr: 4-Terphenyl-d14	67		100.0		66.5	44	113			

Sample ID	lcsd-15342		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02		Batch ID: 15342		RunNo: 21301					
Prep Date:	9/17/2014		Analysis Date: 9/18/2014		SeqNo: 621611		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	70.1	47.9	114	18.7	27.2	R
4-Chloro-3-methylphenol	140	10	200.0	0	72.1	51.7	122	13.7	25.9	
2-Chlorophenol	110	10	200.0	0	55.9	40.7	113	4.29	22.5	
1,4-Dichlorobenzene	52	10	100.0	0	51.9	39.6	99.9	2.93	24.6	
2,4-Dinitrotoluene	71	10	100.0	0	70.6	40.8	113	39.5	25.3	
N-Nitrosodi-n-propylamine	70	10	100.0	0	69.7	51.2	111	8.09	23.6	
4-Nitrophenol	69	10	200.0	0	34.4	15.7	86.9	4.53	34.7	
Pentachlorophenol	83	20	200.0	0	41.3	21.6	104	11.6	32.8	
Phenol	87	10	200.0	0	43.3	28.6	71.7	0.509	25.5	
Pyrene	82	10	100.0	0	82.0	54.2	128	24.4	31.4	
1,2,4-Trichlorobenzene	53	10	100.0	0	52.5	40.9	101	6.00	25.9	
Surr: 2-Fluorophenol	73		200.0		36.5	12.1	85.8	0	0	
Surr: Phenol-d5	77		200.0		38.4	17.7	65.8	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		53.7	26	138	0	0	
Surr: Nitrobenzene-d5	61		100.0		60.9	47.5	119	0	0	
Surr: 2-Fluorobiphenyl	64		100.0		63.6	48.1	106	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1409794

06-Oct-14

Client: Western Refining Southwest, Gallup

Project: 2014 Annual GW

Sample ID	lcsd-15342	SampType:	LCSD	TestCode:	EPA Method 8270C: Semivolatiles					
Client ID:	LCSS02	Batch ID:	15342	RunNo:	21301					
Prep Date:	9/17/2014	Analysis Date:	9/18/2014	SeqNo:	621611	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	85		100.0		84.6	44	113	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: **Western Refining Gallup**

Work Order Number: **1409794**

RcptNo: 1

Received by/date:

C-S. 09/16/14

Logged By:

Ashley Gallegos

9/16/2014 5:03:00 PM

Ag

Completed By:

Ashley Gallegos

9/16/2014 5:44:44 PM

Ag

Reviewed By:

Ag

09/17/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: _____

Date: _____

By Whom: _____

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

GALLUP REFINERY

Mailing Address:

2 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

2014
2014 ANNUAL GW

Project #:

BW Wells

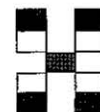
Project Manager:

C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.10



**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	8260 + MTBE	8270 + phenols	WQCC Metals - Total	WQCC Metals - Dissolved, filtered	Major cations/anions	Air Bubbles (Y or N)
9/9/14	1610	H ₂ O	BW-2B ¹³			1409794						
9/9/14	1610	H ₂ O	BW-213			-001	X	X	X	X		
9/9/14	1710	H ₂ O	BW-2A			-002	X	X	X	X		
9/10/14	1345	H ₂ O	BW-1C			-003	X	X	X	X		
9/10/14	1540	H ₂ O	BW-2C			-004	X	X	X	X		
9/10/14	0805	H ₂ O	PW-3				X	X	X	X		
9/10/14	1650	H ₂ O	BW-3C			-005	X	X	X	X		
9/10/14	1740	H ₂ O	BW-3B			-006	X	X	X	X		
9/10/14	1210	H ₂ O	FB-Group 1-9/10/14			-007	X					

Date: 9/16/14 Time: 1450 Relinquished by: [Signature]

Received by: [Signature] Date: 9-16-14 Time: 1450

Remarks: Trip Blank 008
At 09/16/14

Date: 9/16/14 Time: 1709 Relinquished by: [Signature]

Received by: [Signature] Date: 09/16/14 Time: 1703

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 21, 2014

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX (505) 722-0210

RE: Evaporation Pond Study-TDS

OrderNo.: 1411538

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 11 sample(s) on 11/13/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411538

Date Reported: 11/21/2014

CLIENT: Western Refining Southwest, Gallup
Project: Evaporation Pond Study-TDS

Lab Order: 1411538

Lab ID: 1411538-001

Collection Date: 11/12/2014 10:55:00 AM

Client Sample ID: EP-2

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	5800	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-002

Collection Date: 11/12/2014 11:30:00 AM

Client Sample ID: EP-3

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	8200	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-003

Collection Date: 11/12/2014 12:00:00 PM

Client Sample ID: EP-4

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	8940	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-004

Collection Date: 11/12/2014 2:20:00 PM

Client Sample ID: EP-5

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	23300	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-005

Collection Date: 11/12/2014 2:45:00 PM

Client Sample ID: EP-6

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	25300	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411538

Date Reported: 11/21/2014

CLIENT: Western Refining Southwest, Gallup
Project: Evaporation Pond Study-TDS

Lab Order: 1411538

Lab ID: 1411538-006

Collection Date: 11/12/2014 4:24:00 PM

Client Sample ID: EP-7

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	96600	1000	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-007

Collection Date: 11/12/2014 4:53:00 PM

Client Sample ID: EP-8

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	92400	1000	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-008

Collection Date: 11/13/2014 8:30:00 AM

Client Sample ID: EP-9

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	182000	2000	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-009

Collection Date: 11/12/2014 4:06:00 PM

Client Sample ID: EP-11

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	108000	1000	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Lab ID: 1411538-010

Collection Date: 11/12/2014 3:35:00 PM

Client Sample ID: EP-12A

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
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SM2540C MOD: TOTAL DISSOLVED SOLIDS

Analyst: KS

Total Dissolved Solids	7740	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426
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Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order: 1411538

Date Reported: 11/21/2014

CLIENT: Western Refining Southwest, Gallup
Project: Evaporation Pond Study-TDS

Lab Order: 1411538

Lab ID: 1411538-011

Collection Date: 11/12/2014 3:15:00 PM

Client Sample ID: EP-12B

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	5410	200	*	mg/L	1	11/18/2014 10:52:00 PM	16426

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1411538

21-Nov-14

Client: Western Refining Southwest, Gallup

Project: Evaporation Pond Study-TDS

Sample ID	MB-16426		SampType: MBLK		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW		Batch ID: 16426		RunNo: 22612					
Prep Date:	11/17/2014		Analysis Date: 11/18/2014		SeqNo: 666812		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	LCS-16426		SampType: LCS		TestCode: SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW		Batch ID: 16426		RunNo: 22612					
Prep Date:	11/17/2014		Analysis Date: 11/18/2014		SeqNo: 666813		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH greater than 2.
RL Reporting Detection Limit

Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1411538

RcptNo: 1

Received by/date:

AG 11/13/14

Logged By: Ashley Gallegos

11/13/2014 3:48:00 PM

AG

Completed By: Ashley Gallegos

11/14/2014 8:41:48 AM

AG

Reviewed By:

11/14/14

Chain of Custody

1. Custody seals intact on sample bottles? Yes ☒ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ to 6.0°C ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐

of preserved
bottles checked
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date:

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Western Refining Company

Gallup Refinery

Mailing Address:
92 GIANT CROSSING RD, GALLUP, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☒ Standard Rush _____

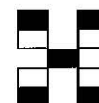
Project Name:
Evaporation Pond Study - TDS

Project #:
EP-2 THRU EP-12B

Project Manager:
C. JOHNSON (cheryl.johnson@wnr.com)

Sampler:
On Ice ☒ Yes ☐ No

Sample Temperature: 10



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No	TDS													Air Bubbles (Y or N)
11-12-14	1055	Aqueous	EP-2	250 ML	NONE	-001	X	8260												
11-12-14	1130	Aqueous	EP-3	250 ML	NONE	-002	X													
11-12-14	1200	Aqueous	EP-4	250 ML	NONE	-003	X													
11-12-14	1420	Aqueous	EP-5	250 ML	NONE	-004	X													
11-12-14	1445	Aqueous	EP-6	250 ML	NONE	-005	X													
11-12-14	1624	Aqueous	EP-7	250 ML	NONE	-006	X													
11-12-14	1653	Aqueous	EP-8	250 ML	NONE	-007	X													
11-13-14	830	Aqueous	EP-9	250 ML	NONE	-008	X													
11-12-14	1606	Aqueous	EP-11	250 ML	NONE	-009	X													
11-12-14	1535	Aqueous	EP-12A	250 ML	NONE	-010	X													
11-12-14	1515	Aqueous	EP-12B	250 ML	NONE	-011	X													
11-13-14			FB-400	2			X													

Date: 11-13-14 Time: 1100 Relinquished by: *Pam Henderson* Received by: *[Signature]* Date: 11/24/14 Time: 1100

Date: 11/24/14 Time: 1548 Relinquished by: *[Signature]* Received by: *[Signature]* Date: 11/13/14 Time: 1548

Remarks: DO NOT COMBINE WITH OTHER REPORTS. SEND AS ONE WITH HEADING INDICATED

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 05, 2014

Cheryl Johnson

Western Refining Southwest, Gallup
92 Giant Crossing Road
Gallup, NM 87301
TEL: (505) 722-0231
FAX (505) 722-0210

RE: Q4 2014

OrderNo.: 1411475

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/12/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: East LDU

Project: Q4 2014

Collection Date: 11/11/2014 3:50:00 PM

Lab ID: 1411475-001

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	17	1.0		mg/L	1	11/18/2014 10:44:06 PM	16415
Surr: DNOP	97.9	59-141		%REC	1	11/18/2014 10:44:06 PM	16415
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	38	10		mg/L	200	11/13/2014 4:57:08 PM	R22533
Surr: BFB	89.0	80-120		%REC	200	11/13/2014 4:57:08 PM	R22533
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	11/13/2014 4:57:08 PM	R22533
Benzene	1700	200		µg/L	200	11/13/2014 4:57:08 PM	R22533
Toluene	4800	200		µg/L	200	11/13/2014 4:57:08 PM	R22533
Ethylbenzene	720	200		µg/L	200	11/13/2014 4:57:08 PM	R22533
Xylenes, Total	8200	400		µg/L	200	11/13/2014 4:57:08 PM	R22533
Surr: 4-Bromofluorobenzene	107	66.6-167		%REC	200	11/13/2014 4:57:08 PM	R22533
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.074	0.0020		mg/L	1	11/16/2014 8:45:40 PM	R22599
Cadmium	ND	0.0020		mg/L	1	11/16/2014 8:45:40 PM	R22599
Chromium	0.18	0.0060	*	mg/L	1	11/16/2014 8:45:40 PM	R22599
Copper	ND	0.0060		mg/L	1	11/16/2014 8:45:40 PM	R22599
Iron	1.4	0.10	*	mg/L	5	11/16/2014 8:47:26 PM	R22599
Manganese	4.9	0.010	*	mg/L	5	11/16/2014 8:47:26 PM	R22599
Silver	ND	0.0050		mg/L	1	11/16/2014 8:45:40 PM	R22599
Zinc	ND	0.010		mg/L	1	11/16/2014 8:45:40 PM	R22599
EPA METHOD 200.7: TOTAL METALS							Analyst: ELS
Barium	0.12	0.0020		mg/L	1	11/18/2014 3:52:44 PM	16416
Cadmium	ND	0.0020		mg/L	1	11/18/2014 3:52:44 PM	16416
Chromium	0.22	0.0060	*	mg/L	1	11/18/2014 3:52:44 PM	16416
Copper	ND	0.0060		mg/L	1	11/18/2014 3:52:44 PM	16416
Iron	19	0.40	*	mg/L	20	11/20/2014 4:12:21 PM	16416
Manganese	5.4	0.040	*	mg/L	20	11/20/2014 4:12:21 PM	16416
Silver	ND	0.0050		mg/L	1	11/18/2014 3:52:44 PM	16416
Zinc	0.18	0.010		mg/L	1	11/20/2014 4:10:37 PM	16416
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	0.0013	0.0010		mg/L	1	11/24/2014 5:38:53 PM	R22774
Lead	ND	0.0010		mg/L	1	11/24/2014 5:38:53 PM	R22774
Selenium	ND	0.0010		mg/L	1	11/24/2014 5:38:53 PM	R22774
Uranium	ND	0.0010		mg/L	1	11/24/2014 5:38:53 PM	R22774
200.8 ICPMS METALS:TOTAL							Analyst: DBD

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: East LDU

Project: Q4 2014

Collection Date: 11/11/2014 3:50:00 PM

Lab ID: 1411475-001

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.0015	0.0010		mg/L	1	11/18/2014 2:45:31 PM	16416
Lead	ND	0.0010		mg/L	1	11/18/2014 2:45:31 PM	16416
Selenium	ND	0.0010		mg/L	1	11/18/2014 2:45:31 PM	16416
Uranium	ND	0.0010		mg/L	1	11/18/2014 2:45:31 PM	16416
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/21/2014 3:11:33 PM	16511

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 2 of 32
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE							Analyst: JME
Diesel Range Organics (DRO)	9.2	1.0		mg/L	1	11/18/2014 11:13:32 PM	16415
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/18/2014 11:13:32 PM	16415
Surr: DNOP	99.6	59-141		%REC	1	11/18/2014 11:13:32 PM	16415
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	0.79	0.25		mg/L	5	11/14/2014 12:46:58 PM	R22544
Surr: BFB	107	80-120		%REC	5	11/14/2014 12:46:58 PM	R22544
EPA METHOD 300.0: ANIONS							Analyst: LGP
Fluoride	1.9	0.50		mg/L	5	11/13/2014 7:50:11 PM	R22539
Chloride	1700	100		mg/L	200	12/2/2014 10:20:34 PM	R22899
Bromide	4.8	0.50		mg/L	5	11/13/2014 7:50:11 PM	R22539
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	11/13/2014 7:50:11 PM	R22539
Sulfate	23	2.5		mg/L	5	11/13/2014 7:50:11 PM	R22539
Nitrate+Nitrite as N	ND	2.0		mg/L	10	11/24/2014 9:11:47 PM	R22782
EPA METHOD 200.7: DISSOLVED METALS							Analyst: ELS
Barium	0.68	0.0020		mg/L	1	11/16/2014 8:56:04 PM	R22599
Cadmium	ND	0.0020		mg/L	1	11/16/2014 8:56:04 PM	R22599
Calcium	170	5.0		mg/L	5	11/16/2014 8:57:53 PM	R22599
Chromium	ND	0.0060		mg/L	1	11/16/2014 8:56:04 PM	R22599
Copper	ND	0.0060		mg/L	1	11/16/2014 8:56:04 PM	R22599
Iron	7.6	0.40	*	mg/L	20	11/18/2014 5:27:12 PM	R22614
Magnesium	31	1.0		mg/L	1	11/16/2014 8:56:04 PM	R22599
Manganese	1.8	0.010	*	mg/L	5	11/16/2014 8:57:53 PM	R22599
Potassium	4.8	1.0		mg/L	1	11/16/2014 8:56:04 PM	R22599
Silver	ND	0.0050		mg/L	1	11/16/2014 8:56:04 PM	R22599
Sodium	1300	20		mg/L	20	11/24/2014 12:16:09 PM	R22752
Zinc	0.029	0.010		mg/L	1	11/16/2014 8:56:04 PM	R22599
EPA METHOD 200.7: TOTAL METALS							Analyst: ELS
Barium	0.75	0.0020		mg/L	1	11/18/2014 3:56:14 PM	16416
Cadmium	ND	0.0020		mg/L	1	11/18/2014 3:56:14 PM	16416
Chromium	ND	0.0060		mg/L	1	11/18/2014 3:56:14 PM	16416
Copper	ND	0.0060		mg/L	1	11/18/2014 3:56:14 PM	16416
Iron	8.4	0.20	*	mg/L	10	11/20/2014 4:15:57 PM	16416
Manganese	1.9	0.010	*	mg/L	5	11/18/2014 3:58:00 PM	16416
Silver	ND	0.0050		mg/L	1	11/18/2014 3:56:14 PM	16416
Zinc	0.031	0.010		mg/L	1	11/20/2014 4:14:10 PM	16416
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Arsenic	ND	0.020	*	mg/L	20	11/25/2014 1:30:17 PM	R22788

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS							Analyst: DBD
Lead	ND	0.0010		mg/L	1	11/25/2014 1:11:33 PM	R22788
Selenium	0.022	0.020		mg/L	20	11/25/2014 1:30:17 PM	R22788
Uranium	0.022	0.0050		mg/L	5	11/25/2014 1:33:23 PM	R22788
200.8 ICPMS METALS:TOTAL							Analyst: DBD
Arsenic	0.016	0.010	*	mg/L	10	11/26/2014 6:10:20 PM	16416
Lead	0.0073	0.0010		mg/L	1	11/18/2014 2:56:04 PM	16416
Selenium	0.030	0.010		mg/L	10	11/26/2014 6:10:20 PM	16416
Uranium	0.030	0.0010		mg/L	1	11/18/2014 2:56:04 PM	16416
EPA METHOD 245.1: MERCURY							Analyst: MMD
Mercury	ND	0.00020		mg/L	1	11/21/2014 3:13:21 PM	16511
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Acenaphthene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Acenaphthylene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Aniline	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Anthracene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Azobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benz(a)anthracene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzo(a)pyrene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzo(b)fluoranthene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzo(g,h,i)perylene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzo(k)fluoranthene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzoic acid	ND	100		µg/L	1	11/17/2014 8:42:34 PM	16377
Benzyl alcohol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Bis(2-chloroethoxy)methane	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Bis(2-chloroethyl)ether	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Bis(2-ethylhexyl)phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Bromophenyl phenyl ether	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Butyl benzyl phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Carbazole	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Chloro-3-methylphenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Chloroaniline	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Chloronaphthalene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Chlorophenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Chrysene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Di-n-butyl phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Di-n-octyl phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Dibenz(a,h)anthracene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Dibenzofuran	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
1,2-Dichlorobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
1,3-Dichlorobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
1,4-Dichlorobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
3,3'-Dichlorobenzidine	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Diethyl phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Dimethyl phthalate	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4-Dichlorophenol	ND	100		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4-Dimethylphenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4,6-Dinitro-2-methylphenol	ND	100		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4-Dinitrophenol	ND	100		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4-Dinitrotoluene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2,6-Dinitrotoluene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Fluoranthene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Fluorene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Hexachlorobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Hexachlorobutadiene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Hexachlorocyclopentadiene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Hexachloroethane	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Indeno(1,2,3-cd)pyrene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Isophorone	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
1-Methylnaphthalene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Methylnaphthalene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Methylphenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
3+4-Methylphenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
N-Nitrosodi-n-propylamine	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
N-Nitrosodimethylamine	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
N-Nitrosodiphenylamine	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Naphthalene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Nitroaniline	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
3-Nitroaniline	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Nitroaniline	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Nitrobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2-Nitrophenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
4-Nitrophenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Pentachlorophenol	ND	100		µg/L	1	11/17/2014 8:42:34 PM	16377
Phenanthrene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Phenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM
Pyrene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Pyridine	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
1,2,4-Trichlorobenzene	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4,5-Trichlorophenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
2,4,6-Trichlorophenol	ND	50		µg/L	1	11/17/2014 8:42:34 PM	16377
Surr: 2-Fluorophenol	40.5	17.6-104		%REC	1	11/17/2014 8:42:34 PM	16377
Surr: Phenol-d5	32.6	17.7-89.9		%REC	1	11/17/2014 8:42:34 PM	16377
Surr: 2,4,6-Tribromophenol	59.5	16.3-122		%REC	1	11/17/2014 8:42:34 PM	16377
Surr: Nitrobenzene-d5	56.2	45.3-117		%REC	1	11/17/2014 8:42:34 PM	16377
Surr: 2-Fluorobiphenyl	54.6	43-113		%REC	1	11/17/2014 8:42:34 PM	16377
Surr: 4-Terphenyl-d14	63.9	47.6-122		%REC	1	11/17/2014 8:42:34 PM	16377
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	150	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Toluene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Ethylbenzene	10	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Methyl tert-butyl ether (MTBE)	400	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2,4-Trimethylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,3,5-Trimethylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2-Dichloroethane (EDC)	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2-Dibromoethane (EDB)	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Naphthalene	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
1-Methylnaphthalene	32	20		µg/L	5	11/13/2014 4:22:18 PM	R22531
2-Methylnaphthalene	ND	20		µg/L	5	11/13/2014 4:22:18 PM	R22531
Acetone	ND	50		µg/L	5	11/13/2014 4:22:18 PM	R22531
Bromobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Bromodichloromethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Bromoform	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Bromomethane	ND	15		µg/L	5	11/13/2014 4:22:18 PM	R22531
2-Butanone	ND	50		µg/L	5	11/13/2014 4:22:18 PM	R22531
Carbon disulfide	ND	50		µg/L	5	11/13/2014 4:22:18 PM	R22531
Carbon Tetrachloride	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Chlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Chloroethane	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
Chloroform	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Chloromethane	ND	15		µg/L	5	11/13/2014 4:22:18 PM	R22531
2-Chlorotoluene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
4-Chlorotoluene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
cis-1,2-DCE	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
cis-1,3-Dichloropropene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst: DJF		
1,2-Dibromo-3-chloropropane	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
Dibromochloromethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Dibromomethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2-Dichlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,3-Dichlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,4-Dichlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Dichlorodifluoromethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1-Dichloroethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1-Dichloroethene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2-Dichloropropane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,3-Dichloropropane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
2,2-Dichloropropane	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1-Dichloropropene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Hexachlorobutadiene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
2-Hexanone	ND	50		µg/L	5	11/13/2014 4:22:18 PM	R22531
Isopropylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
4-Isopropyltoluene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
4-Methyl-2-pentanone	ND	50		µg/L	5	11/13/2014 4:22:18 PM	R22531
Methylene Chloride	ND	15		µg/L	5	11/13/2014 4:22:18 PM	R22531
n-Butylbenzene	ND	15		µg/L	5	11/13/2014 4:22:18 PM	R22531
n-Propylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
sec-Butylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Styrene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
tert-Butylbenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1,1,2-Tetrachloroethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1,2,2-Tetrachloroethane	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
Tetrachloroethene (PCE)	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
trans-1,2-DCE	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
trans-1,3-Dichloropropene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2,3-Trichlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2,4-Trichlorobenzene	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1,1-Trichloroethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,1,2-Trichloroethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Trichloroethene (TCE)	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Trichlorofluoromethane	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
1,2,3-Trichloropropane	ND	10		µg/L	5	11/13/2014 4:22:18 PM	R22531
Vinyl chloride	ND	5.0		µg/L	5	11/13/2014 4:22:18 PM	R22531
Xylenes, Total	ND	7.5		µg/L	5	11/13/2014 4:22:18 PM	R22531
Surr: 1,2-Dichloroethane-d4	83.5	70-130		%REC	5	11/13/2014 4:22:18 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: OAPIS-1

Project: Q4 2014

Collection Date: 11/11/2014 5:00:00 PM

Lab ID: 1411475-002

Matrix: AQUEOUS

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Surr: 4-Bromofluorobenzene	77.4	70-130		%REC	5	11/13/2014 4:22:18 PM	R22531
Surr: Dibromofluoromethane	94.4	70-130		%REC	5	11/13/2014 4:22:18 PM	R22531
Surr: Toluene-d8	88.0	70-130		%REC	5	11/13/2014 4:22:18 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 8 of 32
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: Q4 2014

Collection Date:

Lab ID: 1411475-003

Matrix: TRIP BLANK

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/13/2014 6:46:25 PM	R22533
Surr: BFB	88.3	80-120		%REC	1	11/13/2014 6:46:25 PM	R22533
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/13/2014 6:46:25 PM	R22533
Benzene	ND	1.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
Toluene	ND	1.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
Ethylbenzene	ND	1.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
Xylenes, Total	ND	2.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 6:46:25 PM	R22533
Surr: 4-Bromofluorobenzene	103	66.6-167		%REC	1	11/13/2014 6:46:25 PM	R22533
EPA METHOD 8260B: VOLATILES							Analyst: DJF
Benzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Toluene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Ethylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Naphthalene	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
2-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Acetone	ND	10		µg/L	1	11/13/2014 4:50:19 PM	R22531
Bromobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Bromodichloromethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Bromoform	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Bromomethane	ND	3.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
2-Butanone	ND	10		µg/L	1	11/13/2014 4:50:19 PM	R22531
Carbon disulfide	ND	10		µg/L	1	11/13/2014 4:50:19 PM	R22531
Carbon Tetrachloride	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Chlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Chloroethane	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Chloroform	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Chloromethane	ND	3.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
2-Chlorotoluene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
4-Chlorotoluene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
cis-1,2-DCE	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	P Sample pH greater than 2.
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: Q4 2014

Collection Date:

Lab ID: 1411475-003

Matrix: TRIP BLANK

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES				Analyst: DJF			
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Dibromochloromethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Dibromomethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1-Dichloroethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1-Dichloroethene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2-Dichloropropane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,3-Dichloropropane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
2,2-Dichloropropane	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Hexachlorobutadiene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
2-Hexanone	ND	10		µg/L	1	11/13/2014 4:50:19 PM	R22531
Isopropylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
4-Isopropyltoluene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
4-Methyl-2-pentanone	ND	10		µg/L	1	11/13/2014 4:50:19 PM	R22531
Methylene Chloride	ND	3.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
n-Butylbenzene	ND	3.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
n-Propylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
sec-Butylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Styrene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
tert-Butylbenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
trans-1,2-DCE	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Trichlorofluoromethane	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Vinyl chloride	ND	1.0		µg/L	1	11/13/2014 4:50:19 PM	R22531
Xylenes, Total	ND	1.5		µg/L	1	11/13/2014 4:50:19 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 10 of 32
	E Value above quantitation range	H Holding times for preparation or analysis exceeded	
	J Analyte detected below quantitation limits	ND Not Detected at the Reporting Limit	
	O RSD is greater than RSDlimit	P Sample pH greater than 2.	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411475

Date Reported: 12/5/2014

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: Q4 2014

Collection Date:

Lab ID: 1411475-003

Matrix: TRIP BLANK

Received Date: 11/12/2014 4:12:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: DJF	
Surr: 1,2-Dichloroethane-d4	83.6	70-130		%REC	1	11/13/2014 4:50:19 PM	R22531
Surr: 4-Bromofluorobenzene	76.1	70-130		%REC	1	11/13/2014 4:50:19 PM	R22531
Surr: Dibromofluoromethane	94.7	70-130		%REC	1	11/13/2014 4:50:19 PM	R22531
Surr: Toluene-d8	88.2	70-130		%REC	1	11/13/2014 4:50:19 PM	R22531

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 11 of 32
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			