

WR-35  
Rev (9-11)

State of West Virginia  
Department of Environmental Protection  
Office of Oil and Gas  
Well Operator's Report of Well Work

Date: 11/4/2013  
API: 47-051-01364

Farm Name: Riggle, Patrick Shane Operator Well No: SHL-3C-HS  
LOCATION: Sand Hill Elevation: 1,289.18' Quadrangle: Majorsville

District: SAND HILL County: MARSHALL  
Latitude: \_\_\_\_\_ Feet South of \_\_\_\_\_ Deg. \_\_\_\_\_ Min. \_\_\_\_\_ Sec. 39.97106900  
Longitude: \_\_\_\_\_ Feet South of \_\_\_\_\_ Deg. \_\_\_\_\_ Min. \_\_\_\_\_ Sec. -80.55691100

Company: CNX Gas Company LLC	Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. Ft.
Address: 200 Evergreene Drive Waynesburg, PA 15370	20	40	40	Grouted In
Agent: Ryan Morgan	13 3/8	991	991	375 sxs lead - 230 sxs tail (161 bbls total) Circ 15 to pit
Inspector: Bill Hendershot	9 5/8	3100	3100	1013 sxs - cement back to surface
Date Permit Issued: 11/1/2010	5 1/2	10293	10293	1352 sxs (338 bbls) Class A
Date Well Work Commenced: 7/27/2011				
Date Well Work Completed: 6/10/2012				
Verbal Plugging:				
Date Permission granted on: 7/27/2011				
Rotary Cable Rig X				
Total Vertical Depth (ft): 6680.76'				
Total Measured Depth (ft): 10,377.0				
Fresh Water Depth (ft): N/A				
Salt Water Depth (ft): N/A				
Is coal being mined in the area (N/Y)? Y				
Coal Depths (ft.): 660'-665'				
Void(s) encountered (N/Y) Depth(s) N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6685'  
Gas: Initial open flow 3693 MCF/d Oil: Initial open flow 62 Bbl/d  
Final open flow 3945 MCF/d Final open flow 3945 Bbl/d  
Time of open flow between initial and final tests 24 Hours  
Static rock Pressure 1150 psig (surface pressure) after 24 Hours

Second producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Chadley G 1/27/14  
Signature Date

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OFFICE OF OIL AND GAS  
11/14/2013

Laura L. Adkins, Noble Energy, Inc. 1/27/14 04/04/2014

51.01364

Were core samples taken? Yes\_\_ No\_x\_\_

Were cuttings caught during drilling? Yes\_x\_ No\_\_

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list: MWD Gamma Ray \_\_\_\_\_

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NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing or Stimulating: Please See Attached

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Plug Back Details including Plug Type and Depth(s): Please See Attached

Surface:

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Formations Encountered: Please See Attached

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Stage #	Plug Type	Plug Depth
1	No Plug	No Plug
2	Composite Frac Plug	10,101
3	Composite Frac Plug	9,801
4	Composite Frac Plug	9,600
5	Composite Frac Plug	9,341
6	Composite Frac Plug	9,141
7	Composite Frac Plug	8,891
8	Composite Frac Plug	8,543
9	Composite Frac Plug	8,241
10	Composite Frac Plug	7,941
11	Composite Frac Plug	7,641
12	Composite Frac Plug	7,335
13	Composite Frac Plug	7,041

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Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale	0	660	0	660	
Pittsburgh Coal	660	665	660	665	
Shale and Sandstone	665	1222	665	1222	
Dunkard Sand	1222	1233	1222	1233	
Shale	1233	1404	1233	1404	
Gas Sand	1404	1443	1404	2397	
Shale	1443	1535	1443	2594	
1st Salt Sand	1535	1559	1535	2596	
Shale	1559	1568	1559	2649	
2nd Salt Sand	1568	1613	1568	2658	
Shale	1613	1696	1613	2700	
Maxton Sand	1696	1708	1696	2715	
Shale	1708	1751	1708	2751	
Big Lime	1751	1831	1751	2764	
Big Injun	1831	2025	1831	2860	
Price	2025	2383	2025	3300	
Murrysville	2383	2397	2383	3328	
Shale	2397	2594	2397	4336	
50' Sand	2594	2596	2594	2596	
Shale	2596	2649	2596	2649	
30' Sand	2649	2658	2649	2658	
Shale	2658	2700	2658	2700	
Gordon Stray	2700	2715	2700	2715	
Shale	2715	2751	2715	2751	
Gordon	2751	2764	2751	2764	
Shale	2764	2860	2764	2860	
Fifth Sand	2860	2894	2860	2894	
Shale	2894	3300	2894	3300	
Speechley Sand	3300	3328	3300	3328	
Shale	3328	4336	3328	4336	
Warren Sand	4336	4345	4336	4345	
Shale	4345	5003	4345	5003	
Java Shale	5003	5174	5003	5174	
Pipe Creek Shale	5174	5231	5174	5231	
Angola Shale	5231	5856	5231	5857	
Rhinestreet	5856	6272	5857	6295	
Cashaqua	6272	6363	6295	6405	
Middlesex	6363	6398	6405	6451	
West River	6398	6450	6451	6521	
Burkett	6450	6473	6521	6555	
Tully Limestone	6473	6503	6555	6603	
Hamilton	6503	6614	6603	6853	
Marcellus	6614	6664	6853	not encountered	Gas
Onondaga	6664	not encountered	not encountered	not encountered	

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Stimulation Summary

Date	Stage #	Formation	Frac Type	Top Perf	Bottom Perf	# of Perfs	BD Press (psi)	ATP (psi)	Avg Rate (bpm)	ISIP (psi)	Frac Gradient	Sand (lbs)	Acid (gals)	Water (gals)
6/5/2012	1	Marcellus	Slickwater	10,156	10,318	48	5,780	7,792	80.7	4,150	1.06	370,205	2,000	317,520
6/5/2012	2	Marcellus	Slickwater	9,826	10,078	40	5,315	7,296	78.3	4,110	1.05	361,789	2,000	334,236
6/6/2012	3	Marcellus	Slickwater	9,616	9,778	40	5,762	7,570	83.0	4,300	1.08	346,200	2,000	311,052
6/6/2012	4	Marcellus	Slickwater	9,366	9,568	40	5,622	7,785	86.0	4,150	1.06	361,783	2,000	306,348
6/7/2012	5	Marcellus	Slickwater	9,166	9,328	40	5,190	7,421	79.1	3,950	1.03	354,898	2,000	338,898
6/7/2012	6	Marcellus	Slickwater	8,866	9,118	40	6,691	7,391	72.1	3,873	1.01	352,366	2,000	348,810
6/8/2012	7	Marcellus	Slickwater	8,566	8,818	40	5,390	7,218	83.7	4,025	1.04	359,094	2,000	322,854
6/8/2012	8	Marcellus	Slickwater	8,266	8,518	40	5,905	7,257	82.5	4,204	1.07	356,610	2,000	305,844
6/9/2012	9	Marcellus	Slickwater	7,966	8,218	40	5,171	7,491	83.6	4,000	1.03	353,421	2,000	307,566
6/9/2012	10	Marcellus	Slickwater	7,666	7,918	40	5,514	7,361	84.0	4,071	1.05	354,184	2,000	306,222
6/9/2012	11	Marcellus	Slickwater	7,366	7,618	40	5,902	7,608	84.3	4,003	1.03	348,036	2,000	300,678
6/10/2012	12	Marcellus	Slickwater	7,066	7,318	40	6,178	7,626	72.6	4,050	1.04	343,429	2,000	317,772
6/10/2012	13	Marcellus	Slickwater	6,866	7,018	28	6,779	7,849	38.3	4,627	1.13	3,214	4,000	224,826

CNX SHL-3C-HS Gyros+MWD Off to Update Survey Report  
(Def Survey)

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Report Date: December 20, 2011 - 09:48 AM  
 Client: CNX  
 Field: WV Marshall County (NAD 27)  
 Structure / Slot: CNX SHL-3C-Pad / CNX SHL-3C-HS  
 Well: SHL-3C-HS  
 Borehole: Original Borehole  
 UWI / API#: Unknown / Unknown  
 Survey Name: CNX SHL-3C-HS Gyros+MWD Off to Update  
 Survey Date: November 07, 2011  
 Tool / AHD / DDI / ERD Ratio: 134.546 / 4118.488 ft / 5.935 / 0.816  
 Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet  
 Location Lat / Long: N 39° 58' 15.8268", W 80° 33' 24.8843"  
 Location Grid N/E Y/Z: N 537447.220 NUS, E 1703778.587 NUS  
 CRS Grid Convergence Angle: -0.87407012 °  
 Grid Scale Factor: 0.99955884  
 Survey / DLS Computation: Minimum Curvature / Lubinski  
 Vertical Section Azimuth: 143.738 ° (Grid North)  
 Vertical Section Origin: 0.000 N, 0.000 N  
 TVD Reference Datum: KB  
 TVD Reference Elevation: 1312.270 ft above Unknown  
 Seabed / Ground Elevation: 1289.180 ft above Unknown  
 Magnetic Declination: -8.748 °  
 Total Field Strength: 52897.674 nT  
 Magnetic Dip Angle: 67.569 °  
 Declination Date: November 07, 2011  
 Magnetic Declination Model: BGGM 2011  
 North Reference: Grid North  
 Grid Convergence Used: -0.874 °  
 Total Corr Mag North-Grid North: -0.074 °  
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azlm Grid (°)	TVD (ft)	TVDSS (ft)	VSECC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northlng (ftUS)	Eastng (ftUS)	Latitude (N/S °'")	Longitude (E/W °'")
SHL	0.00	0.00	0.00	0.00	-1312.27	0.00	0.00	0.00	N/A	537547.22	1703778.59	39 58 15.85 W	80 33 24.88 W
	108.00	0.19	286.23	108.00	-1204.27	-0.14	0.00	-0.17	0.18	537547.27	1703778.42	39 58 16.86 W	80 33 24.89 W
	208.00	0.25	174.70	208.00	-1104.27	-0.09	-0.12	-0.21	0.37	537546.10	1703778.38	39 58 15.85 W	80 33 24.89 W
	308.00	0.21	174.72	308.00	-1004.27	0.26	-0.52	-0.27	0.04	537546.70	1703778.31	39 58 15.85 W	80 33 24.89 W
	408.00	0.05	285.19	408.00	-904.27	0.38	-0.89	-0.30	0.23	537546.53	1703778.29	39 58 15.85 W	80 33 24.89 W
	508.00	0.05	286.24	508.00	-804.27	0.31	-0.66	-0.38	0.01	537546.58	1703778.21	39 58 15.85 W	80 33 24.89 W
	608.00	0.25	163.36	608.00	-704.27	0.47	-0.85	-0.35	0.29	537546.37	1703778.23	39 58 15.84 W	80 33 24.89 W
	708.00	0.07	133.49	708.00	-604.27	0.74	-1.10	-0.25	0.19	537546.12	1703778.34	39 58 15.84 W	80 33 24.89 W
	808.00	0.11	304.86	808.00	-504.27	0.71	-1.09	-0.28	0.18	537546.13	1703778.30	39 58 15.84 W	80 33 24.89 W
	908.00	0.13	238.61	908.00	-404.27	0.81	-1.09	-0.46	0.13	537546.13	1703778.13	39 58 15.84 W	80 33 24.89 W
	1008.00	0.07	260.01	1008.00	-304.27	0.57	-1.16	-0.62	0.07	537546.06	1703777.97	39 58 15.84 W	80 33 24.89 W
	1108.00	0.15	321.51	1108.00	-204.27	0.41	-1.07	-0.76	0.13	537546.15	1703777.83	39 58 15.84 W	80 33 24.89 W
	1208.00	0.18	324.35	1208.00	-104.27	0.13	-0.84	-0.93	0.03	537546.38	1703777.66	39 58 15.84 W	80 33 24.89 W
	1308.00	0.38	315.34	1308.00	-4.27	-0.36	-0.48	-1.26	0.20	537546.74	1703777.33	39 58 15.85 W	80 33 24.89 W
	1408.00	0.18	327.73	1408.00	95.72	-0.84	-0.11	-1.57	0.21	537547.11	1703777.01	39 58 15.85 W	80 33 24.89 W
	1508.00	0.25	264.87	1508.00	195.72	-1.11	0.00	-1.87	0.23	537547.22	1703776.71	39 58 15.85 W	80 33 24.91 W
	1608.00	0.18	232.84	1608.00	295.72	-1.28	-0.08	-2.24	0.08	537547.16	1703776.34	39 58 15.85 W	80 33 24.91 W
	1708.00	0.30	267.89	1708.00	395.72	-1.48	-0.12	-2.65	0.13	537547.10	1703775.83	39 58 15.85 W	80 33 24.92 W
	1808.00	0.22	204.34	1808.00	495.72	-1.83	-0.30	-2.99	0.28	537546.92	1703775.59	39 58 15.85 W	80 33 24.92 W
	1908.00	0.17	242.17	1908.00	595.72	-1.46	-0.58	-3.20	0.13	537546.67	1703775.38	39 58 15.85 W	80 33 24.93 W
	2008.00	0.10	273.78	2008.00	695.72	-1.54	-0.80	-3.42	0.11	537546.62	1703775.16	39 58 15.85 W	80 33 24.93 W
	2108.00	0.12	125.23	2108.00	795.72	-1.50	-0.65	-3.42	0.21	537546.57	1703775.16	39 58 15.85 W	80 33 24.93 W
	2208.00	0.28	206.03	2208.00	895.72	-1.30	-0.91	-3.44	0.26	537546.31	1703775.15	39 58 15.84 W	80 33 24.93 W
	2308.00	0.18	116.27	2308.00	995.72	-1.06	-1.17	-3.39	0.31	537546.05	1703775.20	39 58 15.84 W	80 33 24.93 W
	2408.00	0.27	163.18	2408.00	1095.72	-0.70	-1.47	-3.19	0.20	537545.75	1703775.40	39 58 15.84 W	80 33 24.93 W
	2508.00	0.31	211.31	2508.00	1195.72	-0.39	-1.83	-3.27	0.23	537546.29	1703775.32	39 58 15.83 W	80 33 24.93 W
	2608.00	0.12	177.03	2608.00	1295.72	-0.19	-2.27	-3.41	0.22	537544.96	1703775.18	39 58 15.83 W	80 33 24.93 W
	2708.00	0.15	259.40	2708.00	1395.72	-0.18	-2.39	-3.83	0.18	537544.83	1703775.06	39 58 15.83 W	80 33 24.93 W
	2808.00	0.18	344.74	2808.00	1495.72	-0.34	-2.28	-3.69	0.21	537544.94	1703774.88	39 58 15.83 W	80 33 24.93 W
	2908.00	0.20	299.63	2908.00	1595.72	-0.63	-2.08	-3.88	0.14	537545.16	1703774.70	39 58 15.83 W	80 33 24.93 W
	3008.00	0.09	307.13	3008.00	1695.72	-0.87	-1.93	-4.10	0.11	537545.29	1703774.49	39 58 15.83 W	80 33 24.94 W
	3108.00	0.13	289.67	3108.00	1795.72	-1.04	-1.85	-4.27	0.05	537545.37	1703774.32	39 58 15.83 W	80 33 24.94 W
	3208.00	0.22	304.42	3208.00	1895.71	-1.31	-1.70	-4.63	0.10	537545.52	1703774.05	39 58 15.84 W	80 33 24.94 W
	3308.00	0.22	326.72	3308.00	1995.71	-1.68	-1.43	-4.80	0.09	537545.79	1703773.79	39 58 15.84 W	80 33 24.95 W
	3408.00	0.23	294.65	3408.00	2095.71	-2.05	-1.19	-5.08	0.12	537546.03	1703773.50	39 58 15.84 W	80 33 24.95 W
	3508.00	0.13	294.17	3508.00	2195.71	-2.32	-1.06	-5.37	0.10	537546.16	1703773.22	39 58 15.84 W	80 33 24.95 W
	3608.00	0.25	250.24	3608.00	2295.71	-2.58	-0.97	-5.69	0.13	537546.25	1703772.90	39 58 15.84 W	80 33 24.96 W
	3708.00	0.26	15.30	3708.00	2395.71	-2.88	-0.71	-6.04	0.38	537546.51	1703772.74	39 58 15.85 W	80 33 24.96 W
	3808.00	0.26	277.90	3808.00	2495.71	-3.18	-0.48	-6.81	0.39	537546.76	1703772.58	39 58 15.85 W	80 33 24.96 W
	3908.00	0.52	273.81	3908.00	2595.71	-3.63	-0.40	-6.69	0.26	537546.82	1703771.90	39 58 15.85 W	80 33 24.97 W
	4008.00	0.41	339.63	4008.00	2695.71	-4.27	-0.04	-7.26	0.51	537547.18	1703771.32	39 58 15.85 W	80 33 24.88 W
	4108.00	0.84	16.23	4108.00	2795.70	-5.08	1.00	-7.18	0.57	537548.22	1703771.41	39 58 15.85 W	80 33 24.98 W
	4208.00	0.92	15.80	4208.00	2895.69	-6.00	2.48	-6.76	0.98	537549.70	1703771.83	39 58 15.88 W	80 33 24.97 W
	4308.00	0.60	343.94	4308.00	2995.89	-6.88	3.76	-6.69	0.52	537550.97	1703771.00	39 58 15.83 W	80 33 24.97 W
	4408.00	0.93	4.18	4408.00	3095.67	-8.02	4.98	-6.78	0.34	537552.20	1703771.81	39 58 15.80 W	80 33 24.97 W
	4508.00	0.82	338.13	4508.00	3195.66	-9.27	6.37	-6.99	0.37	537553.98	1703771.59	39 58 15.91 W	80 33 24.98 W
	4608.00	0.61	18.08	4608.00	3295.85	-10.27	7.54	-7.00	0.33	537554.75	1703771.49	39 58 15.93 W	80 33 24.98 W
	4708.00	0.58	19.38	4708.00	3395.65	-10.87	8.82	-6.76	0.03	537555.74	1703771.83	39 58 15.94 W	80 33 24.97 W
	4808.00	0.61	20.18	4808.00	3495.64	-11.45	9.50	-6.41	0.03	537556.72	1703772.18	39 58 15.95 W	80 33 24.97 W
	4908.00	0.58	13.79	4908.00	3595.64	-12.07	10.49	-6.10	0.07	537557.71	1703772.48	39 58 15.96 W	80 33 24.96 W
	5008.00	0.98	350.87	5008.00	3695.63	-13.15	11.82	-6.12	0.50	537559.04	1703772.47	39 58 15.97 W	80 33 24.96 W
	5108.00	0.82	344.21	5108.00	3795.62	-14.88	13.36	-6.45	0.19	537560.58	1703772.14	39 58 15.98 W	80 33 24.97 W
	5208.00	0.74	351.51	5208.00	3895.61	-15.83	14.86	-6.74	0.13	537561.90	1703771.85	39 58 16.00 W	80 33 24.97 W
	5308.00	0.58	357.94	5308.00	3995.50	-17.10	16.19	-6.87	0.26	537563.40	1703771.72	39 58 16.00 W	80 33 24.98 W
	5408.00	0.82	12.18	5408.00	4095.58	-18.29	17.73	-6.75	0.27	537564.95	1703771.84	39 58 16.03 W	80 33 24.97 W
	5508.00	0.85	31.12	5508.00	4195.57	-19.05	19.06	-6.21	0.28	537566.28	1703772.38	39 58 16.04 W	80 33 24.97 W
	5613.00	0.75	36.94	5613.00	4305.56	-19.84	20.51	-6.24	0.10	537567.73	1703773.35	39 58 16.05 W	80 33 24.95 W
	5672.00	0.52	29.71	5672.00	4395.96	-19.79	20.37	-3.08	0.52	537568.09	1703773.59	39 58 16.06 W	80 33 24.95 W
	5719.00	2.85	158.56	5719.00	4495.54	-18.71	19.89	-4.42	6.78	537569.21	1703774.17	39 58 16.05 W	80 33 24.94 W
	5767.00	6.97	167.67	5767.00	4454.36	-14.80	16.05	-3.31	8.79	537563.27	1703775.28	39 58 16.01 W	80 33 24.93 W
	5814.00	8.15	168.78	5814.00	4500.55	-0.23	10.02	-1.93	2.52	537567.24	1703776.65	39 58 15.95 W	80 33 24.91 W
	5862.00	10.27	166.71	5862.00	4548.33	-2.16	2.55	-0.17	4.42	537549.77	1703778.41	39 58 15.88 W	80 33 24.89 W
	5909.00	9.60	165.33	5909.00	4594.62	3.35	-4.32	1.78	1.61	537541.90	1703780.37	39 58 16.00 W	80 33 24.96 W
	5956.00	9.27	164.02	5956.00	4640.98	12.81	-12.7						

51-01364

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ° ' ° '')	Longitude (E/W ° ° ' ° '')
	7890.00	90.07	143.11	6659.13	5346.86	1571.24	-1290.18	897.65	0.32	536257.10	1704676.20	N 39 58 3.21	W 80 33 13.16
	7986.00	90.07	142.55	6659.01	5346.74	1667.22	-1366.67	955.65	0.58	536180.61	1704734.20	N 39 58 2.46	W 80 33 12.41
	8079.00	90.07	142.79	6658.90	5346.63	1760.21	-1440.62	1012.05	0.26	536106.66	1704790.29	N 39 58 1.73	W 80 33 11.67
	8175.00	90.07	142.25	6658.78	5346.51	1856.19	-1516.80	1070.46	0.56	536030.49	1704849.00	N 39 58 0.99	W 80 33 10.91
	8268.00	89.76	142.93	6658.52	5346.65	1956.17	-1591.47	1127.57	0.80	535955.82	1704906.10	N 39 58 0.26	W 80 33 10.16
	8364.00	89.59	143.40	6659.46	5347.19	2048.16	-1667.60	1184.82	0.53	535879.79	1704963.06	N 39 57 59.51	W 80 33 9.42
	8453.00	89.28	142.93	6660.40	5348.13	2140.15	-1743.53	1241.47	0.59	535803.76	1705020.00	N 39 57 58.77	W 80 33 8.68
	8533.00	89.31	144.41	6661.55	5349.26	2234.14	-1819.26	1297.15	1.57	535728.05	1705075.68	N 39 57 58.03	W 80 33 7.95
	8648.00	89.14	144.69	6662.64	5350.57	2329.12	-1896.63	1352.25	0.34	535650.67	1705130.78	N 39 57 57.27	W 80 33 7.23
	8743.00	89.14	144.43	6664.26	5351.99	2424.10	-1974.02	1407.33	0.27	535573.28	1705185.85	N 39 57 56.51	W 80 33 6.51
	8837.00	89.11	143.86	6665.70	5353.43	2518.09	-2050.20	1462.38	0.61	535497.11	1705240.80	N 39 57 55.78	W 80 33 5.79
	8932.00	89.24	144.07	6667.07	5354.89	2613.09	-2127.02	1518.26	0.26	535420.29	1705296.78	N 39 57 55.01	W 80 33 5.07
	9027.00	89.28	145.39	6668.29	5356.22	2708.08	-2204.67	1573.11	1.39	535342.74	1705351.63	N 39 57 54.25	W 80 33 4.35
	9121.00	89.45	145.93	6669.34	5357.07	2801.99	-2282.18	1626.13	0.60	535265.14	1705404.63	N 39 57 53.49	W 80 33 3.66
	9216.00	89.21	146.30	6670.45	5358.18	2896.90	-2361.04	1679.09	0.46	535188.28	1705457.61	N 39 57 52.72	W 80 33 2.97
	9311.00	89.04	145.77	6671.90	5359.63	2991.82	-2439.82	1732.16	0.59	535107.50	1705510.67	N 39 57 51.94	W 80 33 2.27
	9406.00	89.00	143.68	6673.51	5361.24	3085.78	-2519.65	1786.44	2.22	535030.78	1705564.95	N 39 57 51.19	W 80 33 1.56
	9500.00	89.94	141.59	6675.21	5362.94	3180.76	-2592.04	1844.08	2.20	534953.30	1705622.99	N 39 57 50.45	W 80 33 0.81
	9595.00	88.90	139.67	6677.00	5364.73	3276.69	-2668.57	1904.20	1.81	534871.77	1705682.70	N 39 57 49.73	W 80 33 0.03
	9690.00	89.69	138.63	6678.17	5365.90	3370.23	-2737.53	1966.20	1.55	534809.81	1705744.71	N 39 57 49.03	W 80 32 58.22
	9784.00	89.45	138.16	6678.88	5368.81	3463.98	-2807.81	2028.62	0.56	534739.83	1705807.12	N 39 57 48.34	W 80 32 58.41
	9878.00	89.97	138.33	6679.35	5367.80	3557.45	-2877.94	2091.22	0.38	534685.41	1705869.71	N 39 57 47.68	W 80 32 57.60
	9973.00	90.27	138.47	6679.16	5366.89	3652.04	-2948.58	2154.29	0.35	534638.37	1705932.78	N 39 57 46.96	W 80 32 56.77
	10067.00	89.90	140.09	6679.02	5366.75	3745.76	-3020.22	2215.61	1.77	534587.13	1705994.40	N 39 57 46.28	W 80 32 55.98
	10162.00	89.55	140.98	6679.47	5367.20	3840.80	-3093.26	2275.99	1.01	534543.80	1706054.48	N 39 57 45.55	W 80 32 55.19
	10257.00	89.73	142.11	6680.07	5367.80	3935.82	-3167.95	2335.07	1.20	534379.41	1706113.55	N 39 57 44.82	W 80 32 54.42
Final Survey	10299.00	89.66	143.24	6680.29	5368.02	3977.52	-3201.25	2360.53	2.70	534346.01	1706139.02	N 39 57 44.49	W 80 32 54.09
20Dec11	10377.00	89.66	143.24	6680.78	5368.49	4058.51	-3263.83	2407.21	0.00	534283.53	1706189.70	N 39 57 43.88	W 80 32 53.40
Projection to Bit													

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidenc 2.7955 sigma  
 Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Froq (ft)	Survey Tool Type	Borehole / Survey
	0.000	23.090	Act Sins	SLB_MSG+MSHOT-Depth Only	Original Borehole / CNX SHL-3C-HS Gyros+MWD Off to Update
	23.090	5633.000	Act Sins	SLB_MSG+MSHOT	Original Borehole / CNX SHL-3C-HS Gyros+MWD Off to Update
	5633.000	10299.000	Act Sins	SLB_MWD-STD	Original Borehole / CNX SHL-3C-HS Gyros+MWD Off to Update
	10299.000	10377.000	Act Sins	SLB_BLIND+TREND	Original Borehole / CNX SHL-3C-HS Gyros+MWD Off to Update

04/04/2014