

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

Farm Name: Riggle, Patrick Shane \_\_\_\_\_ Operator Well No: SHL-3B-HS

LOCATION: Sand Hill Elevation: 1,289.18' Quadrangle: Majorsville

District: SAND HILL County: MARSHALL  
Latitude: \_\_\_\_\_ Feet South of \_\_\_\_\_ Deg. \_\_\_\_\_ Min. \_\_\_\_\_ Sec. 39.97112200  
Longitude: \_\_\_\_\_ Feet South of \_\_\_\_\_ Deg. \_\_\_\_\_ Min. \_\_\_\_\_ Sec. -80.55686100

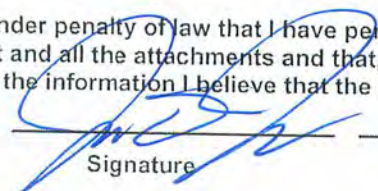
Company: CNX Gas Company LLC	Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. Ft.
Address: 200 Evergreene Drive Waynesburg, PA 15370	20	40	40	Grouted In
Agent: Ryan Morgan	13 3/8	1017	1017	605 Sxs (35 bbls to surface)
Inspector: Bill Hendershot	9 5/8	3065	3065	1018 sxs cemented back to surface
Date Permit Issued: 11/1/2010	5 1/2	10476	10476	1826 sxs (453 bbls) Class A
Date Well Work Commenced: 6/21/2011				
Date Well Work Completed: 7/19/2012				
Verbal Plugging:				
Date Permission granted on: 6/21/2011				
Rotary Cable Rig X				
Total Vertical Depth (ft): Original Hole - 6,686.73'				
Total Measured Depth (ft): 10,536.0				
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) 6669'  
Gas: Initial open flow 7180 MCF/d Oil: Initial open flow 30 Bbl/d  
Final open flow N/A MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 24 Hours  
Static rock Pressure 2900 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.

  
Signature \_\_\_\_\_ Date 1/9/14

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

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

51-01368

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

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

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

Surface: \_\_\_\_\_

Formations Encountered: Please see Attached



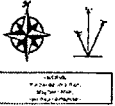
CNX



WELL	SHL-3B-HS	FMS	WV Marshall County (NAD 27)	STRUCTURE	Nabors M59
Location Parameters	Well Name: SHL-3B-HS	Top of Hole: 3' NS	Date: November 01, 2011	Well Status: 1220' - 34'	Well Type: 3
Well Data	Well ID: 30304 2011	Well Depth: 1220' - 34'	Well Type: 3	Well Status: 1220' - 34'	Well Type: 3

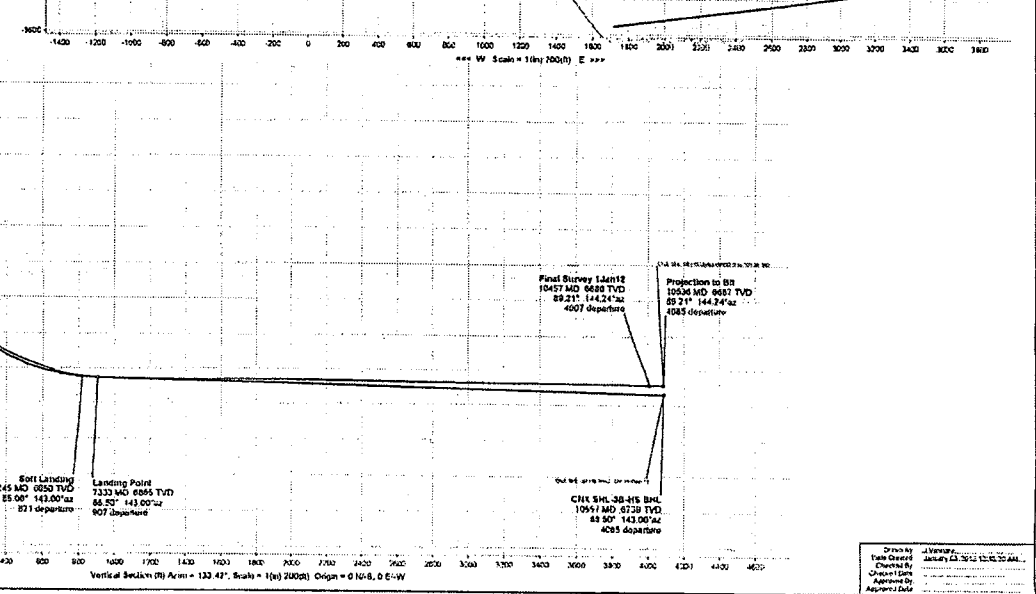
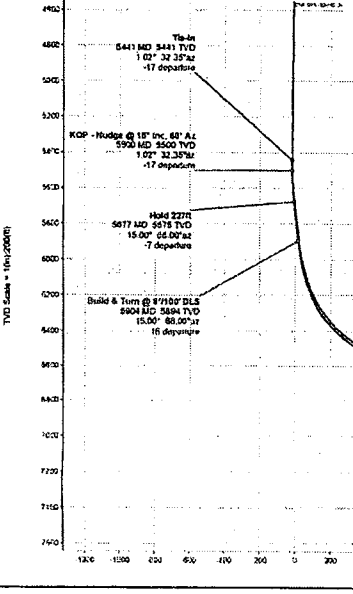
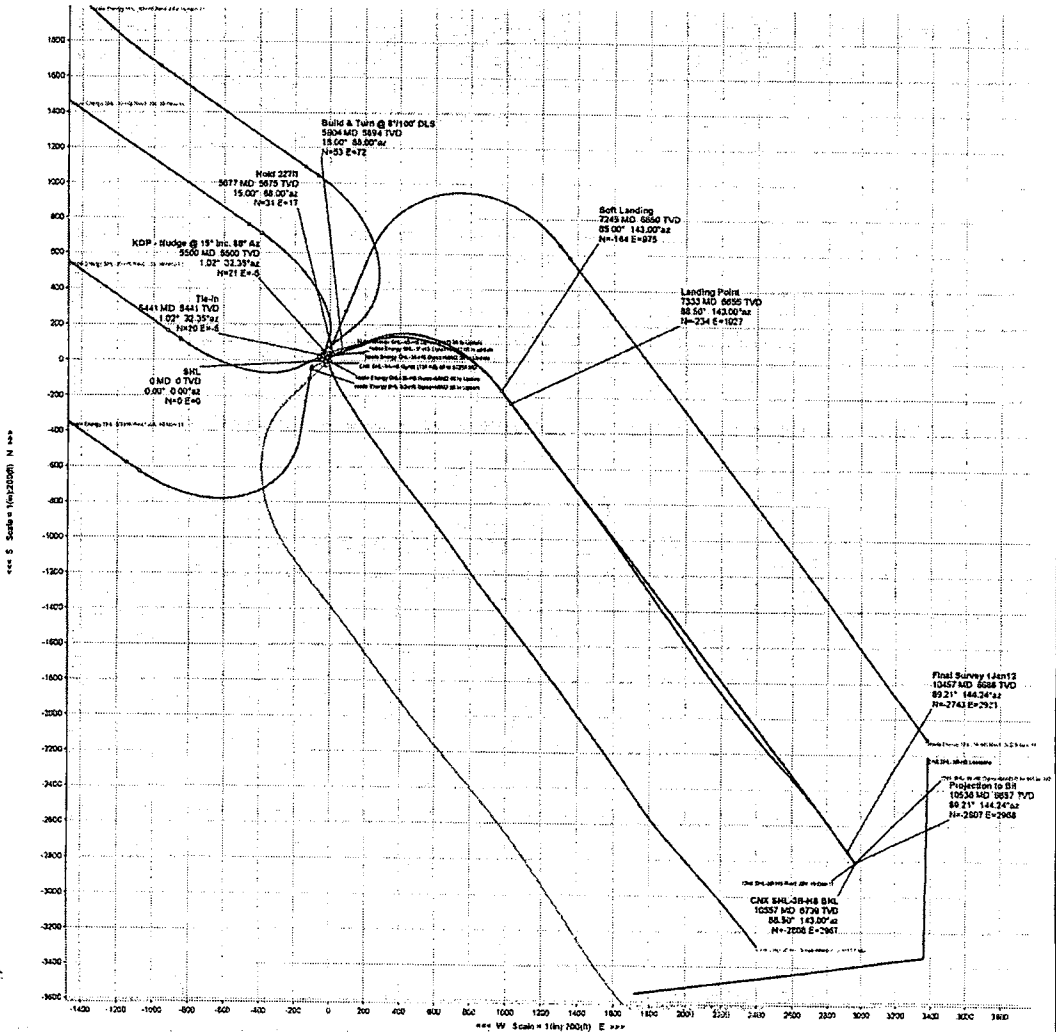
**Legend**

- Well Path
- Wellbore
- Wellhead
- Well Completion
- Well Casing
- Well Cement
- Well Isolation
- Well Annulus
- Well Perforation
- Well Production
- Well Abandonment



Well Name	Well ID	Well Depth	Well Type	Well Status
SHL-3B-HS	30304 2011	1220' - 34'	3	1220' - 34'

Well Name	Well ID	Well Depth	Well Type	Well Status
SHL-3B-HS	30304 2011	1220' - 34'	3	1220' - 34'



Drawn by: [Name]  
 Checked by: [Name]  
 Approved by: [Name]  
 Date: 04/04/2014

Schlumberger

[Original Borehole] Actual Survey Report  
(Non-Def Survey)

Report Date: December 31, 2011 - 09:12 AM  
 Client: CNX  
 Field: WV Marshall County (NAD 27)  
 Structure / Slot: CNX SHL-3Pad / CNX SHL-3B-HS  
 Well: SHL-3B-HS  
 Borehole: Original Borehole  
 UWI / API#: Unknown / Unknown  
 Survey Name: [Original Borehole] Actual Survey  
 Survey Date: December 22, 2011  
 Tort / AHD / DDI / ERD Ratio: 163.680' / 4439.801 ft / 6.059 / 0.664  
 Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet  
 Location Lat / Long: N 39° 58' 16.03621", W 80° 33' 24.77948"  
 Location Grid N/E Y/X: N 537565.675 ftUS, E 1703786.971 ftUS  
 CRS Grid Convergence Angle: -0.67405154 °  
 Grid Scale Factor: 0.99995885

Survey / DLS Computation: Minimum Curvature / Lubinski  
 Vertical Section Azimuth: 133.419 ° (Grid North)  
 Vertical Section Origin: 0.000 ft, 0.000 ft  
 TVD Reference Datum: KB  
 TVD Reference Elevation: 1312.160 ft above Unknown  
 Seated / Ground Elevation: 1289.180 ft above Unknown  
 Magnetic Declination: -8.751 °  
 Total Field Strength: 52882.369 nT  
 Magnetic Dip Angle: 67.557 °  
 Declination Date: December 22, 2011  
 Magnetic Declination Model: BGGM 2011  
 North Reference: Grid North  
 Grid Convergence Used: -0.674 °  
 Total Corr Mag North->Grid North: -8.077 °  
 Local Coord Referencad To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (N/S ft)	EW (E/W ft)	Closure (ft)	Closure Azim (°)	DLS (*/100ft)	TF (°)
SHL	0.00	0.00	0.00	0.00	0.00	N 0.00	E 0.00	0.00	0.00	N/A	159.87M
	108.00	0.10	159.87	108.00	0.08	S 0.09	E 0.03	0.09	159.87	0.09	60.24M
	208.00	0.14	60.24	208.00	0.20	S 0.11	E 0.17	0.20	123.08	0.19	165.75M
	308.00	0.14	165.75	308.00	0.34	S 0.17	E 0.30	0.35	118.81	0.22	114.62M
	408.00	0.11	114.62	408.00	0.53	S 0.33	E 0.42	0.53	127.68	0.11	145.15M
	508.00	0.17	145.15	508.00	0.77	S 0.49	E 0.59	0.77	129.39	0.09	163.75M
	608.00	0.16	163.75	608.00	1.03	S 0.74	E 0.72	1.03	136.00	0.05	117.74M
	708.00	0.13	117.74	708.00	1.26	S 0.93	E 0.86	1.27	137.34	0.12	86.57M
	808.00	0.14	86.57	808.00	1.45	S 0.98	E 1.08	1.46	132.11	0.07	278.28M
	908.00	0.06	278.28	908.00	1.50	S 0.96	E 1.15	1.50	129.89	0.20	287.62M
	1008.00	0.06	287.62	1008.00	1.41	S 0.94	E 1.05	1.41	131.81	0.01	113.83M
	1108.00	0.10	113.83	1108.00	1.44	S 0.96	E 1.08	1.44	131.60	0.16	286.25M
	1208.00	0.29	286.25	1208.00	1.30	S 0.92	E 0.91	1.30	135.20	0.39	326.33M
	1308.00	0.25	326.33	1308.00	0.86	S 0.67	E 0.55	0.87	140.53	0.19	263.52M
	1408.00	0.42	263.52	1408.00	0.41	S 0.53	E 0.07	0.53	172.80	0.38	272.19M
	1508.00	0.24	272.19	1508.00	0.02	S 0.56	W 0.51	0.76	222.08	0.19	316.76M
	1608.00	0.18	316.76	1608.00	-0.30	S 0.44	W 0.82	0.93	241.92	0.17	308.25M
	1708.00	0.22	308.25	1708.00	-0.64	S 0.21	W 1.08	1.10	259.20	0.05	180.80M
	1808.00	0.16	9.44	1808.00	-0.91	N 0.05	W 1.21	1.21	272.37	0.20	337.49M
	1908.00	0.14	337.49	1908.00	-1.10	N 0.30	W 1.23	1.27	283.69	0.08	355.62M
	2008.00	0.16	355.62	2008.00	-1.32	N 0.55	W 1.29	1.41	293.16	0.05	1.79M
	2108.00	0.23	1.79	2108.00	-1.56	N 0.89	W 1.30	1.57	304.55	0.07	358.54M
	2208.00	0.17	358.54	2208.00	-1.79	N 1.24	W 1.29	1.79	313.82	0.06	8.57M
	2308.00	0.16	8.57	2308.00	-1.98	N 1.63	W 1.28	1.99	320.11	0.03	302.31M
	2408.00	0.15	302.31	2408.00	-2.19	N 1.74	W 1.37	2.21	321.79	0.17	307.59M
	2508.00	0.10	307.59	2508.00	-2.40	N 1.86	W 1.55	2.42	320.24	0.05	305.96M
	2608.00	0.18	305.96	2608.00	-2.64	N 2.00	W 1.74	2.66	319.00	0.08	324.03M
	2708.00	0.28	324.03	2708.00	-3.04	N 2.29	W 2.01	3.05	318.73	0.12	268.73M
	2808.00	0.27	268.73	2808.00	-3.45	N 2.49	W 2.39	3.45	316.11	0.26	266.94M
	2908.00	0.20	266.94	2908.00	-3.73	N 2.47	W 2.80	3.74	311.42	0.07	255.76M
	3008.00	0.22	255.76	3008.00	-3.96	N 2.42	W 3.16	3.98	307.38	0.05	234.94M
	3108.00	0.40	234.94	3108.00	-4.13	N 2.17	W 3.63	4.23	300.82	0.21	242.39M
	3208.00	0.39	242.39	3208.00	-4.31	N 1.81	W 4.22	4.59	293.21	0.05	267.61M
	3308.00	0.53	267.61	3308.00	-4.74	N 1.63	W 4.99	5.25	288.14	0.24	266.03M
	3408.00	0.31	266.03	3408.00	-5.25	N 1.60	W 5.72	5.94	285.59	0.22	171.44M
	3508.00	0.06	171.44	3508.00	-5.39	N 1.52	W 5.98	6.17	284.30	0.32	278.12M
	3608.00	0.29	278.12	3608.00	-5.56	N 1.51	W 6.22	6.40	283.63	0.31	267.25M
	3708.00	0.21	267.25	3708.00	-5.89	N 1.54	W 6.66	6.83	282.99	0.09	276.44M
	3808.00	0.42	276.44	3808.00	-6.31	N 1.57	W 7.20	7.37	282.28	0.22	293.19M
	3908.00	0.46	293.19	3908.00	-6.98	N 1.77	W 7.94	8.13	282.55	0.13	282.99M
	4008.00	0.34	282.99	4008.00	-7.61	N 1.99	W 8.59	8.82	283.04	0.14	3.45M
	4108.00	0.60	3.45	4108.00	-8.20	N 2.58	W 8.85	9.22	286.25	0.64	0.99M
	4208.00	0.43	0.99	4208.00	-8.79	N 3.48	W 8.81	9.48	281.54	0.17	12.92M
	4308.00	0.96	12.92	4308.00	-9.47	N 4.67	W 8.62	9.80	298.45	0.55	351.17M
	4408.00	0.83	351.17	4408.00	-10.47	N 6.20	W 8.54	10.56	305.98	0.36	0.44M
	4508.00	1.00	0.44	4508.00	-11.64	N 7.79	W 8.65	11.64	312.01	0.22	14.57M
	4608.00	0.78	14.57	4608.00	-12.56	N 9.32	W 8.47	12.60	317.74	0.31	16.74M
	4708.00	0.52	16.74	4708.00	-13.09	N 10.42	W 8.17	13.24	321.89	0.26	3.08M
	4808.00	0.75	3.08	4808.00	-13.72	N 11.50	W 8.00	14.01	325.17	0.27	359.91M
	4908.00	0.74	359.91	4908.00	-14.59	N 12.80	W 7.97	15.08	328.10	0.04	1.74M
	5008.00	0.71	1.74	5008.00	-15.44	N 14.07	W 7.95	16.16	330.52	0.04	29.05M
	5108.00	0.81	29.05	5108.00	-16.45	N 15.30	W 7.59	17.08	333.63	0.37	23.77M
	5208.00	0.83	23.77	5208.00	-16.45	N 16.59	W 6.95	17.98	337.25	0.08	22.09M
	5308.00	0.89	22.09	5308.00	-16.98	N 17.97	W 6.37	19.06	340.48	0.07	32.35M
	5441.00	1.02	32.35	5440.84	-17.58	N 19.93	W 5.35	20.63	344.98	0.16	41.3M
	5486.00	0.67	41.30	5485.83	-17.67	N 20.46	W 4.96	21.05	346.37	0.83	71.02M
	5533.00	2.93	71.02	5532.81	-17.12	N 21.06	W 3.64	21.37	350.19	5.05	72.3M
	5581.00	8.35	72.30	5580.56	-14.87	N 22.52	E 0.84	22.53	2.14	11.29	1.09R
	5628.00	11.66	72.51	5626.84	-10.90	N 24.98	E 8.63	26.42	19.06	7.04	5.54R
	5675.00	15.00	73.86	5672.56	-5.50	N 28.09	E 19.00	33.91	34.08	7.13	104.68L
	5721.00	14.88	71.96	5717.01	0.34	N 31.57	E 30.34	43.79	43.86	1.10	107.85L
	5768.00	14.55	67.31	5762.47	5.61	N 35.72	E 41.52	54.77	49.30	2.61	156.47R
	5815.00	14.24	67.86	5807.99	10.39	N 40.17	E 52.33	65.97	52.48	0.72	39.49R
	5863.00	15.38	71.32	5854.40	15.82	N 44.44	E 63.82	77.77	55.15	3.00	47.58L
	5910.00	15.53	70.71	5899.70	21.62	N 48.51	E 75.67	89.88	57.34	0.47	6.45R
	5958.00	19.13	71.95	5945.51	28.32	N 53.07	E 89.22	103.81	59.25	7.54	4.46L
	6005.00	24.52	70.94	5989.13	36.51	N 58.65	E 105.77	120.94	60.99	11.50	3.33R
	6053.00	29.23	71.50	6031.93	46.64	N 65.62	E 126.31	142.34	62.55	9.83	17.47L
	6103.00	32.32	69.69	6074.89	58.30	N 74.14	E 150.43	167.70	63.76	6.45	0.63R
	6148.00	35.48	69.75	6112.23	69.42	N 82.84	E 173.97	192.68	64.54	7.02	3.03R
	6195.00	38.93	70.04	6149.66	82.09	N 92.60	E 200.65	220.99	65.23	7.35	1.89R
	6243.00	43.29	70.25	6185.82	96.29	N 103.32	E 230.33	252.44	65.84	9.09	12.57R
Tie-In											

51-01368

Comments	MD (ft)	Incl (°)	Adm Grd (°)	TVD (ft)	VSEC (ft)	NS (N/S ft)	EW (E/W ft)	Closure (ft)	Closure Arithm	DLS (1/100ft)	TF (°)
	6390.00	47.25	71.45	6318.89	111.80	N 114.26	E 267.87	265.71	66.43	8.62	83.22R
	6340.00	47.86	76.90	6282.65	130.54	N 124.30	E 297.34	322.28	67.31	8.13	78.2R
	6385.00	48.70	81.63	6282.60	130.20	N 130.55	E 330.33	365.19	68.44	8.06	92.19R
	6432.00	48.67	86.95	6313.65	173.29	N 134.06	E 365.43	389.24	69.85	8.50	78.91R
	6486.00	49.20	90.21	6343.16	198.95	N 134.95	E 401.60	423.67	71.43	5.24	60.74R
	6526.00	51.25	94.10	6374.62	225.94	N 133.41	E 436.90	456.82	73.02	8.72	58.9R
	6573.00	53.18	98.55	6403.42	255.99	N 129.11	E 473.78	491.06	74.76	7.67	42.16R
	6623.00	56.15	101.74	6431.18	288.12	N 122.20	E 512.31	526.68	76.98	8.23	8.23R
	6669.00	59.60	104.61	6456.18	322.51	N 113.11	E 551.05	562.54	78.40	8.98	46.99R
	6716.00	61.86	107.59	6479.72	359.59	N 101.68	E 591.28	609.96	80.24	6.22	80.24R
	6763.00	63.42	109.55	6501.40	397.35	N 88.67	E 630.86	637.05	82.01	5.97	41.35R
	6810.00	65.75	111.78	6523.57	436.50	N 73.58	E 670.59	674.60	83.74	6.55	44.22R
	6857.00	67.39	113.50	6540.26	476.81	N 58.98	E 710.37	712.65	85.41	4.64	82.34R
	6905.00	68.05	116.34	6556.46	519.16	N 46.81	E 750.30	758.24	87.13	4.84	88.14R
	6952.00	70.01	121.64	6575.29	561.84	N 15.63	E 788.30	788.46	88.36	7.77	88.36R
	6999.00	69.97	125.75	6591.38	605.36	N 53.97	E 825.04	825.00	90.92	8.22	81.35R
	7047.00	70.21	131.35	6607.73	650.30	N 65.30	E 862.36	861.11	92.46	10.99	80.38R
	7094.00	72.89	135.32	6622.61	694.87	N 77.59	E 899.28	895.28	94.35	9.83	55.2R
	7142.00	76.68	137.99	6635.20	741.10	N 101.26	E 937.03	930.03	96.23	9.56	36.16R
	7189.00	81.09	141.23	6644.26	786.33	N 114.81	E 974.50	964.47	98.13	11.55	35.22R
	7236.00	86.29	143.57	6650.20	832.98	N 121.04	E 1010.95	1000.00	100.00	8.60	5.13R
	7283.00	88.42	143.74	6655.86	879.07	N 130.38	E 1047.80	1032.36	101.80	4.04	HS
	7330.00	88.56	143.09	6658.36	918.38	N 142.82	E 1080.80	1062.42	103.24	0.70	77.85L
	7376.00	88.79	142.82	6659.47	958.18	N 151.91	E 1117.41	1108.57	104.97	0.44	34.41R
	7418.00	89.59	143.45	6661.58	1011.91	N 164.16	E 1147.41	1123.34	108.97	0.44	42.86L
	7460.00	89.79	143.45	6661.58	1051.81	N 175.49	E 1172.55	1136.62	111.34	0.20	58.3R
	7512.00	89.89	143.82	6661.58	1091.81	N 186.41	E 1198.21	1151.15	113.42	0.42	90L
	7564.00	89.90	144.32	6661.58	1131.81	N 197.93	E 1223.33	1166.95	115.29	0.29	111.9R
	7616.00	89.90	144.32	6661.58	1171.81	N 209.37	E 1249.47	1183.11	117.45	0.62	103.8R
	7668.00	89.86	144.67	6661.58	1211.81	N 220.82	E 1275.77	1209.99	119.41	0.85	83.85R
	7720.00	89.90	145.32	6661.58	1251.81	N 232.27	E 1302.21	1226.17	120.99	1.01	130.6R
	7772.00	89.86	145.60	6661.58	1291.81	N 243.72	E 1328.66	1242.47	122.17	0.69	162.07L
	7824.00	89.86	145.60	6661.58	1331.81	N 255.17	E 1355.11	1258.71	123.26	0.93	104.30R
	7876.00	89.82	145.32	6661.58	1371.81	N 266.62	E 1381.56	1274.86	124.25	0.85	53.59R
	7928.00	89.36	144.67	6661.58	1411.81	N 278.07	E 1408.01	1291.01	125.25	0.90	103.58R
	7980.00	89.28	144.69	6661.58	1451.81	N 289.52	E 1434.46	1307.16	126.24	0.45	66.63L
	8032.00	89.36	144.92	6661.58	1491.81	N 300.97	E 1460.91	1323.31	127.23	0.39	88.88L
	8084.00	89.52	144.54	6661.58	1531.81	N 312.42	E 1487.36	1339.46	128.22	0.85	53.59R
	8136.00	89.45	144.12	6661.58	1571.81	N 323.87	E 1513.81	1355.61	129.21	0.45	103.58R
	8188.00	89.45	143.12	6661.58	1611.81	N 335.32	E 1540.26	1371.76	130.20	0.39	162.07L
	8240.00	89.45	142.70	6661.58	1651.81	N 346.77	E 1566.71	1387.91	131.19	0.76	85.00L
	8292.00	89.42	142.70	6661.58	1691.81	N 358.22	E 1593.16	1404.06	132.18	0.87	112.79R
	8344.00	89.18	141.89	6661.58	1731.81	N 369.67	E 1619.61	1420.21	133.17	1.61	88.88L
	8396.00	89.28	141.79	6661.58	1771.81	N 381.12	E 1646.06	1436.36	134.16	0.76	95.00L
	8448.00	89.18	140.79	6661.58	1811.81	N 392.57	E 1672.51	1452.51	135.15	0.85	77.74L
	8500.00	89.28	139.99	6661.58	1851.81	N 404.02	E 1698.96	1468.66	136.14	0.85	83.56R
	8552.00	89.14	138.87	6661.58	1891.81	N 415.47	E 1725.41	1484.81	137.13	0.76	91.57R
	8604.00	89.28	138.87	6661.58	1931.81	N 426.92	E 1751.86	1500.96	138.12	0.85	81.35R
	8656.00	89.28	138.11	6661.58	1971.81	N 438.37	E 1778.31	1517.11	139.11	0.85	83.56R
	8708.00	89.38	138.87	6661.58	2011.81	N 449.82	E 1804.76	1533.26	140.10	0.76	95.00L
	8760.00	89.20	138.87	6661.58	2051.81	N 461.27	E 1831.21	1549.41	141.09	0.66	95.5R
	8812.00	89.42	141.78	6661.58	2091.81	N 472.72	E 1857.66	1565.56	142.08	1.10	81.35R
	8864.00	89.32	141.78	6661.58	2131.81	N 484.17	E 1884.11	1581.71	143.07	0.99	91.57R
	8916.00	89.32	142.88	6661.58	2171.81	N 495.62	E 1910.56	1597.86	144.06	1.16	100.02R
	8968.00	89.18	144.07	6661.58	2211.81	N 507.07	E 1937.01	1614.01	145.05	1.29	79.99R
	9020.00	89.21	144.24	6661.58	2251.81	N 518.52	E 1963.46	1630.16	146.04	1.33	HS

BHA # 2  
Projection to TD  
10336.00

Survey Type: Non-Def Survey

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

Survey Program	Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Original Borehole / (Original Borehole / Actual Survey
		0.00	22.980	Acq Sins	SLB_UNDEFINED-Depth Only	Original Borehole / (Original Borehole / Actual Survey
		22.980	22.980	Acq Sins	SLB_UNDEFINED-Depth Only	Original Borehole / (Original Borehole / Actual Survey
		22.980	5441.000	Acq Sins	SLB_UNDEFINED	Original Borehole / (Original Borehole / Actual Survey
		5441.000	10457.000	Acq Sins	SLB_UNDEFINED	Original Borehole / (Original Borehole / Actual Survey
		10457.000	10536.000	Acq Sins	SLB_UNDEFINED	Original Borehole / (Original Borehole / Actual Survey

51-01368

SHL 3B

47-051-01368

Stage #	Plug Type	Plug Depth
1	No Plug	No Plug
2	Composite Frac Plug	10,243
3	Composite Frac Plug	9,943
4	Composite Frac Plug	9,643
5	Composite Frac Plug	9,343
6	Composite Frac Plug	9,043
7	Composite Frac Plug	8,833
8	Composite Frac Plug	8,592
9	Composite Frac Plug	8,292
10	Composite Frac Plug	7,992
11	Composite Frac Plug	7,692
12	Composite Frac Plug	7,392
13	Composite Frac Plug	7,092

04/04/2014

51-01368

SHL 3B  
47-051-01368

## Stimulation Summary

Date	Stage #	Formation	Frac Type	Top Perf	Bottom Perf	# of Perfs	BD Press		Avg Rate		Frac		Water	
							(psi)	ATP (psi)	(bpm)	ISIP (psi)	Gradient	Sand (lbs)	Acid (gals)	(gals)
6/5/2012	1	Marcellus	Slickwater	10,268	10,470	45	5,240	7,249	67.6	3,833	1.01	389,671	2,000	493,164
6/5/2012	2	Marcellus	Slickwater	9,968	10,220	40	5,637	8,320	73.0	5,540	1.26	99,477	2,000	263,424
6/6/2012	3	Marcellus	Slickwater	9,668	9,920	40	5,422	7,345	75.3	4,803	1.16	84,525	4,000	202,902
6/7/2012	4	Marcellus	Slickwater	9,368	9,620	40	5,618	7,316	82.2	4,300	1.08	383,780	2,000	404,040
6/7/2012	5	Marcellus	Slickwater	9,068	9,320	40	5,355	7,487	80.4	3,972	1.03	348,146	2,000	338,310
6/8/2012	6	Marcellus	Slickwater	8,857	9,019	34	5,740	7,782	37.0	4,700	1.14	1,088	4,000	335,916
6/8/2012	7	Marcellus	Slickwater	8,617	8,809	40	5,250	7,089	75.6	4,038	1.04	341,028	2,000	294,672
6/25/2012	8	Marcellus	Slickwater	8,317	8,569	40	5,787	7,548	79.5	4,199	1.06	299,656	2,000	306,096
6/25/2012	9	Marcellus	Slickwater	8,017	8,269	40	4,965	8,381	10.9	5,097	1.20	2,616	3,000	153,342
7/18/2012	10	Marcellus	Slickwater	7,717	7,969	40	5,313	6,942	64.2	3,988	1.03	352,773	2,000	325,962
7/18/2012	11	Marcellus	Slickwater	7,417	7,669	40	6,627	7,538	87.0	4,006	1.04	351,632	2,000	333,858
7/18/2012	12	Marcellus	Slickwater	7,117	7,369	40	5,964	7,196	85.0	4,227	1.07	352,408	2,000	317,478
7/19/2012	13	Marcellus	Slickwater	6,817	7,069	40	6,760	6,333	65.9	3,804	1.01	352,362	2,000	320,712

51-01368

SHL 3B

47-051-01368

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	5865	
Rhinestreet	5856	6272	5865	6369	
Cashaqua	6272	6363	6369	6508	
Middlesex	6363	6398	6508	6564	
West River	6398	6450	6564	6656	
Burkett	6450	6473	6656	6702	
Tully Limestone	6473	6503	6702	6767	
Hamilton	6503	6614	6767	7067	
Marcellus	6614	6664	7067	not encountered	Gas
Onondaga	6664	not encountered	not encountered	not encountered	

04/04/2014