

JK

Farm Name: Consolidation Coal Company Operator Well No: SHL-8J-HS

LOCATION: Sandhill 8 Elevation: 1,133.44 Quadrangle: Majorsville

District: Sandhill County: MARSHALL
Latitude: _____ Feet South of _____ Deg. _____ Min. _____ Sec. 39.955531
Longitude: _____ Feet South of _____ Deg. _____ Min. _____ Sec. -80.535781

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	30	40.0	40.0	Cemented in
Agent: Steven Haught	20	495	495	1120 sxs / 250 bbls cemented to surface
Inspector: Bill Hendershot	13 3/8	850	850	708 sxs / 152 bbls cemented to surface
Date Permit Issued: 5/30/2012	9 5/8	3,032	3,032	1320 sxs / 280 bbls cemented to surface
Date Well Work Commenced: 7/18/2012	5 1/2	10,323	10,323	1490 sxs / 371 bbls cemented
Date Well Work Completed: 7/21/2013				
Verbal Plugging:				
Date Permission granted on: 7/18/12				
Rotary Cable Rig X				
Total Vertical Depth (ft): Original Hole – 6,533.82				
Total Measured Depth (ft): 10,333.00				
Fresh Water Depth (ft): 396				
Salt Water Depth (ft): None				
Is coal being mined in the area (N/Y)? Y				
Coal Depths (ft.): 584 – 588 Pittsburgh Seam				
Void(s) encountered (N/Y) Depth(s) None				

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

Producing formation Marcellus Pay zone depth (ft) NA
Gas: Initial open flow 1124 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 1348 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 1509 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] _____ 1-27-14
Signature Date

03/07/2014

Laura L. Alkins, Noble Energy, Inc 1/27/14

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: Gamma Ray Logs, Bond Log

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

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Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Shale	0	584	0	584	
Pittsburgh Coal	584	588	584	588	
Shale and Sandstone	588	1058	588	1058	
Dunkard Sand	1058	1076	1058	1076	
Shale	1076	1230	1076	1230	
Gas Sand	1230	1273	1230	2449	
Shale	1273	1345	1273	2452	
1st Salt Sand	1345	1407	1345	2508	
Shale	1407	1464	1407	2511	
2nd Salt Sand	1464	1496	1464	2558	
Shale	1496	1578	1496	2566	
Maxton Sand	1578	1627	1578	2601	
Shale	1627	1654	1627	2611	
Big Lime	1654	1719	1654	2714	
Big Injun	1719	1892	1719	2755	
Price	1892	2242	1892	3146	
Murrysville	2242	2255	2242	3185	
Shale	2255	2449	2255	4219	
50' Sand	2449	2452	2449	4229	
Shale	2452	2508	2452	2508	
30' Sand	2508	2511	2508	2511	
Shale	2511	2558	2511	2558	
Gordon Stray	2558	2566	2558	2566	
Shale	2566	2600	2566	2601	
Gordon	2600	2610	2601	2611	
Shale	2610	2713	2611	2714	
Fifth Sand	2713	2754	2714	2755	
Shale	2754	3145	2755	3146	
Speechley Sand	3145	3184	3146	3185	
Shale	3184	4217	3185	4219	
Warren Sand	4217	4227	4219	4229	
Shale	4227	4907	4229	4909	
Java Shale	4907	5011	4909	5013	
Pipe Creek Shale	5011	5109	5013	5111	
Angola Shale	5109	5743	5111	5747	
Rhinestreet	5743	6180	5747	6208	
Cashaqua	6180	6281	6208	6328	
Middlesex	6281	6312	6328	6368	
West River	6312	6369	6368	6445	
Burkett	6369	6394	6445	6482	
Tully Limestone	6394	6421	6482	6525	
Hamilton	6421	6535	6525	6787	
Marcellus	6535	6584	6787	not encountered	Gas
Cherry Valley	6543	6545	not encountered	not encountered	
Onondaga	6584		not encountered	not encountered	

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Stage #	Plug Type	Plug Depth
1	No Plug	No Plug
2	Composite Frac Plug	9,950
3	Composite Frac Plug	9,650
4A,4B	Composite Frac Plug	9,350
5A,5B	Composite Frac Plug	9,100
6A,6B	Composite Frac Plug	8,790
7	Composite Frac Plug	8,200
8	Composite Frac Plug	8,000
9	Composite Frac Plug	7,800
10	Composite Frac Plug	7,550
11	Composite Frac Plug	7,350
12	Composite Frac Plug	7,150
	Bridge Plug	6,000

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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)
7/10/2013	1	Marcellus	Slickwater	9980	10232	48	6572	8113	79.4	4318	1.09	435032	3000	378,125
7/11/2013	2	Marcellus	Slickwater	9675	9927	40	6527	7733	81	4374	1.10	435744	3000	341,804
7/11/2013	3	Marcellus	Slickwater	9375	9627	40	6710	7630	80.8	4332	1.10	435472	3000	337,045
7/11/2013	4	Marcellus	Slickwater	9125	9327	40	6194	8054	78.1	7043	1.51	229584	3000	307,084
7/11/2013	4RP	Marcellus	Slickwater	8925	9157	32	6942	8297	72.9	4610	1.14	288822	3000	356,474
7/12/2013	5	Marcellus	Slickwater	8827	9077	40	5907	7664	78.9	4669	1.15	292119	3000	297,245
7/12/2013	5RP	Marcellus	Slickwater	8815	9077	40	6196	7931	80.7	4672	1.15	288168	3000	275,042
7/16/2013	6	Marcellus	Slickwater	8527	8777	40	6067	7580	57.5	5555	1.28	194468	6000	299,820
7/17/2013	6RP	Marcellus	Slickwater	8227	8477	40	6080	6879	81.3	4590	1.13	437021	3000	337,400
7/18/2013	7	Marcellus	Slickwater	8025	8177	40	6510	7666	79.88	4471	1.12	290245	3000	246,250
7/19/2013	8	Marcellus	Slickwater	7825	7977	40	6111	7426	79.4	4463	1.11	290129	3000	263,073
7/20/2013	9	Marcellus	Slickwater	7574	7777	40	7079	7111	80.84	3966	1.04	360576	3000	320,119
7/20/2013	10	Marcellus	Slickwater	7375	7525	40	6576	7430	73.3	4919	1.18	229282	3000	252,352
7/20/2013	11	Marcellus	Slickwater	7175	7327	40	5848	7017	81.27	4037	1.05	292520	3000	249,758
7/21/2013	12	Marcellus	Slickwater	6876	7125	40	6685	7449	91.91	4276	1.09	436215	3000	321,869

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Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
HYDROCHLORIC ACID 5-10%	Halliburton		Hydrochloric acid	7647-01-0	10.00%	0.09501%	Density = 8.640
Fresh Water	Operator				100.00%	87.58136%	Density = 8.340
SAND - COMMON WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	1.20188%	
SAND - PREMIUM WHITE	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	10.10536%	
FR-66	Halliburton	Friction Reducer	Hydrotreated light petroleum distillate	64742-47-8	30.00%	0.01935%	
BE-9	Halliburton	Biocide	Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00%	0.00408%	
Scalechek® LP-65 Scale Inhibitor	Halliburton	Scale Inhibitor	Ammonium chloride	12125-02-9	10.00%	0.00251%	
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor	Methanol	67-56-1	60.00%	0.00049%	
			Propargyl alcohol	107-19-7	10.00%	0.00008%	
LoSurf-300D	Halliburton	Non-ionic Surfactant	1,2,4 Trimethylbenzene	95-63-6	1.00%	0.00002%	
			Ethanol	64-17-5	60.00%	0.00099%	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00%	0.00050%	
			Naphthalene	91-20-3	5.00%	0.00008%	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00%	0.00008%	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive	Acetic acid	64-19-7	60.00%	0.00296%	
			Acetic anhydride	108-24-7	100.00%	0.00493%	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%	0.00081%	
WG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00%	0.02269%	

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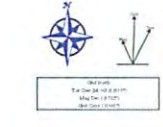
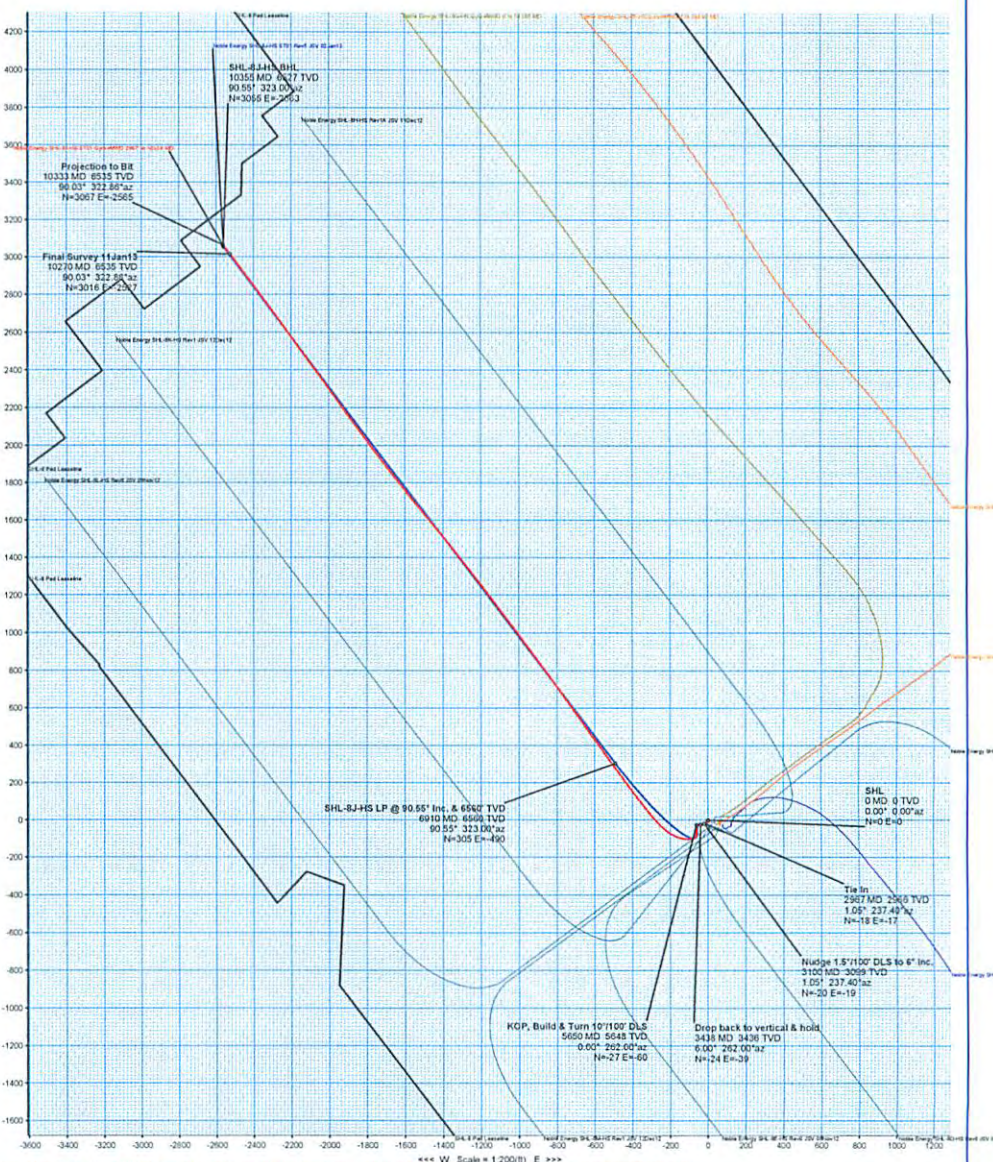
WELL	SHL-8J-HS T01	FIELD	WV Marshall County (NAD 27)	STRUCTURE	Precision 543
Magnetic Parameters			Surface Location		
Model	BQUM 2012	Dip	67.433°	Date	January 02, 2013
Mag Dec	-8.712°	North Pole Location			
			Lat	N 39.37 19.305	Longitude
			Long	W 80.32 8.813	Easting
			NAD27 West Virginia State Plane, Northern Zone, 1°S Foot		Grid Contour
			531317.42 80.5		-8.841°
			1709833.46 80.5		Scale Factor
					0.9999725
			Miscellaneous		TVD Ref
			SHA 43-855		KR(1)19.878 above MSE.)
			Rev 12/15/12		Shy Date
					January 02, 2013

Legend

- Noble Energy SHL-8J-HS T01 (Red)
- Noble Energy SHL-8J-HS T02 (Blue)
- Noble Energy SHL-8J-HS T03 (Green)
- Noble Energy SHL-8J-HS T04 (Purple)
- Noble Energy SHL-8J-HS T05 (Yellow)
- Noble Energy SHL-8J-HS T06 (Cyan)
- Noble Energy SHL-8J-HS T07 (Magenta)
- Noble Energy SHL-8J-HS T08 (Black)
- Noble Energy SHL-8J-HS T09 (Grey)
- Noble Energy SHL-8J-HS T10 (White)
- Noble Energy SHL-8J-HS T11 (Pink)
- Noble Energy SHL-8J-HS T12 (Light Blue)
- Noble Energy SHL-8J-HS T13 (Light Green)
- Noble Energy SHL-8J-HS T14 (Light Purple)
- Noble Energy SHL-8J-HS T15 (Light Yellow)
- Noble Energy SHL-8J-HS T16 (Light Cyan)
- Noble Energy SHL-8J-HS T17 (Light Magenta)
- Noble Energy SHL-8J-HS T18 (Light Black)
- Noble Energy SHL-8J-HS T19 (Light Grey)
- Noble Energy SHL-8J-HS T20 (Light White)
- Noble Energy SHL-8J-HS T21 (Light Pink)
- Noble Energy SHL-8J-HS T22 (Light Light Blue)
- Noble Energy SHL-8J-HS T23 (Light Light Green)
- Noble Energy SHL-8J-HS T24 (Light Light Purple)
- Noble Energy SHL-8J-HS T25 (Light Light Yellow)
- Noble Energy SHL-8J-HS T26 (Light Light Cyan)
- Noble Energy SHL-8J-HS T27 (Light Light Magenta)
- Noble Energy SHL-8J-HS T28 (Light Light Black)
- Noble Energy SHL-8J-HS T29 (Light Light Grey)
- Noble Energy SHL-8J-HS T30 (Light Light White)

Well Name	SHA	MD	ASZ	SD	SHL	SHL	SHL	SHL
SHL-8J-HS T01	43-855	0	0	0	0	0	0	0
SHL-8J-HS T02	43-855	0	0	0	0	0	0	0
SHL-8J-HS T03	43-855	0	0	0	0	0	0	0
SHL-8J-HS T04	43-855	0	0	0	0	0	0	0
SHL-8J-HS T05	43-855	0	0	0	0	0	0	0
SHL-8J-HS T06	43-855	0	0	0	0	0	0	0
SHL-8J-HS T07	43-855	0	0	0	0	0	0	0
SHL-8J-HS T08	43-855	0	0	0	0	0	0	0
SHL-8J-HS T09	43-855	0	0	0	0	0	0	0
SHL-8J-HS T10	43-855	0	0	0	0	0	0	0
SHL-8J-HS T11	43-855	0	0	0	0	0	0	0
SHL-8J-HS T12	43-855	0	0	0	0	0	0	0
SHL-8J-HS T13	43-855	0	0	0	0	0	0	0
SHL-8J-HS T14	43-855	0	0	0	0	0	0	0
SHL-8J-HS T15	43-855	0	0	0	0	0	0	0
SHL-8J-HS T16	43-855	0	0	0	0	0	0	0
SHL-8J-HS T17	43-855	0	0	0	0	0	0	0
SHL-8J-HS T18	43-855	0	0	0	0	0	0	0
SHL-8J-HS T19	43-855	0	0	0	0	0	0	0
SHL-8J-HS T20	43-855	0	0	0	0	0	0	0
SHL-8J-HS T21	43-855	0	0	0	0	0	0	0
SHL-8J-HS T22	43-855	0	0	0	0	0	0	0
SHL-8J-HS T23	43-855	0	0	0	0	0	0	0
SHL-8J-HS T24	43-855	0	0	0	0	0	0	0
SHL-8J-HS T25	43-855	0	0	0	0	0	0	0
SHL-8J-HS T26	43-855	0	0	0	0	0	0	0
SHL-8J-HS T27	43-855	0	0	0	0	0	0	0
SHL-8J-HS T28	43-855	0	0	0	0	0	0	0
SHL-8J-HS T29	43-855	0	0	0	0	0	0	0
SHL-8J-HS T30	43-855	0	0	0	0	0	0	0

Well Name	SHA	MD	ASZ	SD	SHL	SHL	SHL	SHL
SHL-8J-HS T01	43-855	0	0	0	0	0	0	0
SHL-8J-HS T02	43-855	0	0	0	0	0	0	0
SHL-8J-HS T03	43-855	0	0	0	0	0	0	0
SHL-8J-HS T04	43-855	0	0	0	0	0	0	0
SHL-8J-HS T05	43-855	0	0	0	0	0	0	0
SHL-8J-HS T06	43-855	0	0	0	0	0	0	0
SHL-8J-HS T07	43-855	0	0	0	0	0	0	0
SHL-8J-HS T08	43-855	0	0	0	0	0	0	0
SHL-8J-HS T09	43-855	0	0	0	0	0	0	0
SHL-8J-HS T10	43-855	0	0	0	0	0	0	0
SHL-8J-HS T11	43-855	0	0	0	0	0	0	0
SHL-8J-HS T12	43-855	0	0	0	0	0	0	0
SHL-8J-HS T13	43-855	0	0	0	0	0	0	0
SHL-8J-HS T14	43-855	0	0	0	0	0	0	0
SHL-8J-HS T15	43-855	0	0	0	0	0	0	0
SHL-8J-HS T16	43-855	0	0	0	0	0	0	0
SHL-8J-HS T17	43-855	0	0	0	0	0	0	0
SHL-8J-HS T18	43-855	0	0	0	0	0	0	0
SHL-8J-HS T19	43-855	0	0	0	0	0	0	0
SHL-8J-HS T20	43-855	0	0	0	0	0	0	0
SHL-8J-HS T21	43-855	0	0	0	0	0	0	0
SHL-8J-HS T22	43-855	0	0	0	0	0	0	0
SHL-8J-HS T23	43-855	0	0	0	0	0	0	0
SHL-8J-HS T24	43-855	0	0	0	0	0	0	0
SHL-8J-HS T25	43-855	0	0	0	0	0	0	0
SHL-8J-HS T26	43-855	0	0	0	0	0	0	0
SHL-8J-HS T27	43-855	0	0	0	0	0	0	0
SHL-8J-HS T28	43-855	0	0	0	0	0	0	0
SHL-8J-HS T29	43-855	0	0	0	0	0	0	0
SHL-8J-HS T30	43-855	0	0	0	0	0	0	0



Drawn By: J. Johnson
 Date Created: January 02, 2013 10:11:57 AM
 Checked By: [Blank]
 Checked Date: [Blank]
 Approved By: [Blank]
 Approved Date: [Blank]

03/07/2014

4705101529



Noble Energy SHL-8J-HS ST01 Gyro+MWD 2967' to 10333' MD Survey Report

(Def Survey)

Report Date: January 14, 2013 - 09:18 AM
Client: Noble Energy
Field: WV Marshall County (NAD 27)
Structure / Slot: CNX/Noble Energy SHL-8 Pad / SHL-8J-HS
Well: SHL-8J-HS
Borehole: ST01
UWI / API#: Unknown / Unknown
Survey Name: Noble Energy SHL-8J-HS ST01 Gyro+MWD 2967' to 10333' MD
Survey Date: January 03, 2013
Tort / AHD / DDI / ERD Ratio: 190.683° / 4235.545 ft / 6.105 / 0.646
Coordinate Reference System: NAD27 West Virginia State Plane, Northern Zone, US Feet
Location Lat / Long: N 39° 57' 19.90525", W 80° 32' 8.81266"
Location Grid N/E Y/X: N 531817.620 ftUS, E 1709635.461 ftUS
CRS Grid Convergence Angle: -0.6606°
Grid Scale Factor: 0.99995725

Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° '")	Longitude (E/W ° ° '")	Directional Difficulty Index
SHL	0.00	0.00	0.00	0.00	-1149.67	0.00	0.00	0.00	N/A	N/A	N/A	531817.62	1709635.46	N 39 57 19.91	W 80 32 8.81	0.00
	107.00	0.13	308.98	107.00	-1042.67	0.12	0.08	-0.09	0.12	0.12	0.00	531817.70	1709635.37	N 39 57 19.91	W 80 32 8.81	0.00
	207.00	0.09	343.00	207.00	-942.67	0.30	0.22	-0.21	0.07	-0.04	34.02	531817.84	1709635.26	N 39 57 19.91	W 80 32 8.82	0.00
	307.00	0.14	308.32	307.00	-842.67	0.49	0.37	-0.32	0.08	0.05	-34.68	531817.99	1709635.14	N 39 57 19.91	W 80 32 8.82	0.00
	407.00	0.09	346.14	407.00	-742.67	0.68	0.53	-0.44	0.09	-0.05	37.82	531818.15	1709635.02	N 39 57 19.91	W 80 32 8.82	0.00
	507.00	0.13	40.79	507.00	-642.67	0.77	0.69	-0.38	0.11	0.04	54.65	531818.31	1709635.08	N 39 57 19.91	W 80 32 8.82	0.00
	607.00	0.05	170.23	607.00	-542.67	0.75	0.73	-0.30	0.17	-0.08	129.44	531818.35	1709635.16	N 39 57 19.91	W 80 32 8.82	0.00
	707.00	0.10	282.63	707.00	-442.67	0.79	0.71	-0.38	0.13	0.05	112.40	531818.33	1709635.08	N 39 57 19.91	W 80 32 8.82	0.00
	807.00	0.07	164.75	807.00	-342.67	0.80	0.67	-0.45	0.15	-0.03	-117.88	531818.29	1709635.01	N 39 57 19.91	W 80 32 8.82	0.04
	907.00	0.31	151.04	907.00	-242.67	0.48	0.37	-0.30	0.24	0.24	-13.71	531817.99	1709635.16	N 39 57 19.91	W 80 32 8.82	0.25
	1007.00	0.54	128.49	1007.00	-142.67	-0.25	-0.16	0.20	0.28	0.23	-22.55	531817.46	1709635.66	N 39 57 19.90	W 80 32 8.81	0.51
	1107.00	0.77	120.77	1106.99	-42.68	-1.34	-0.80	1.14	0.25	0.23	-7.72	531816.82	1709636.61	N 39 57 19.90	W 80 32 8.80	0.76
	1207.00	0.82	120.83	1206.98	57.31	-2.66	-1.51	2.34	0.05	0.05	0.06	531816.11	1709637.80	N 39 57 19.89	W 80 32 8.78	0.92
	1307.00	0.63	111.11	1306.97	157.30	-3.81	-2.07	3.46	0.23	-0.19	-9.72	531815.55	1709638.92	N 39 57 19.89	W 80 32 8.77	1.08
	1407.00	0.45	114.13	1406.97	257.30	-4.65	-2.43	4.33	0.18	-0.18	3.02	531815.19	1709639.80	N 39 57 19.88	W 80 32 8.76	1.18
	1507.00	0.35	110.25	1506.96	357.29	-5.27	-2.70	4.98	0.10	-0.10	-3.88	531814.92	1709640.44	N 39 57 19.88	W 80 32 8.75	1.24
	1607.00	0.38	106.25	1606.96	457.29	-6.54	-2.89	5.58	0.04	0.03	-4.00	531814.73	1709641.05	N 39 57 19.88	W 80 32 8.74	1.28
	1707.00	0.53	145.59	1706.96	557.29	-7.36	-3.37	6.16	0.34	0.15	39.34	531814.25	1709641.62	N 39 57 19.87	W 80 32 8.73	1.38
	1807.00	0.45	153.26	1806.96	657.29	-8.18	-4.10	6.60	0.10	-0.08	7.67	531813.52	1709642.06	N 39 57 19.87	W 80 32 8.73	1.43
	1907.00	0.49	152.18	1906.95	757.28	-8.78	-4.83	6.98	0.04	0.04	-1.08	531812.79	1709642.44	N 39 57 19.86	W 80 32 8.72	1.48
	2007.00	0.21	153.89	2006.95	857.28	-8.78	-5.37	7.26	0.28	-0.28	1.71	531812.25	1709642.72	N 39 57 19.85	W 80 32 8.72	1.54
	2107.00	0.18	151.84	2106.95	957.28	-9.11	-5.68	7.41	0.03	-0.03	-2.05	531811.94	1709642.87	N 39 57 19.85	W 80 32 8.72	1.56
	2207.00	0.09	154.36	2206.95	1057.28	-9.34	-5.88	7.52	0.09	-0.09	2.52	531811.74	1709642.98	N 39 57 19.85	W 80 32 8.72	1.58
	2307.00	0.16	229.30	2306.95	1157.28	-9.42	-6.05	7.45	0.16	0.07	74.94	531811.57	1709642.91	N 39 57 19.85	W 80 32 8.72	1.61

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Directional Difficulty Index
	9630.00	89.21	323.95	6541.22	5391.55	3296.25	2501.69	-2146.66	0.88	-0.88	-0.10	534319.20	1707488.90	N 39 57 44.38	W 80 32 36.75	5.98
	9719.00	90.72	323.60	6541.27	5391.60	3385.05	2573.49	-2199.25	1.74	1.70	-0.39	534390.99	1707436.31	N 39 57 45.08	W 80 32 37.44	6.00
	9809.00	90.17	324.47	6540.57	5390.90	3474.83	2646.33	-2252.11	1.14	-0.61	0.97	534463.83	1707383.45	N 39 57 45.80	W 80 32 38.12	6.01
	9899.00	90.41	323.34	6540.12	5390.45	3564.61	2719.05	-2305.13	1.28	0.27	-1.26	534536.55	1707330.44	N 39 57 46.51	W 80 32 38.82	6.03
	9989.00	90.58	323.55	6539.34	5389.67	3654.45	2791.34	-2358.73	0.30	0.19	0.23	534608.84	1707276.84	N 39 57 47.22	W 80 32 39.52	6.05
	10079.00	91.68	323.75	6537.56	5387.89	3744.25	2863.81	-2412.06	1.24	1.22	0.22	534681.30	1707223.51	N 39 57 47.93	W 80 32 40.21	6.06
	10169.00	90.58	323.00	6535.79	5386.12	3834.08	2936.03	-2465.74	1.48	-1.22	-0.83	534753.52	1707169.83	N 39 57 48.64	W 80 32 40.91	6.08
	10259.00	90.14	322.66	6535.22	5385.55	3923.96	3007.74	-2520.12	0.62	-0.49	-0.38	534825.23	1707115.46	N 39 57 49.34	W 80 32 41.62	6.09
Final Survey 11Jan13	10270.00	90.03	322.86	6535.21	5385.54	3934.95	3016.50	-2526.77	2.08	-1.00	1.82	534833.98	1707108.80	N 39 57 49.42	W 80 32 41.71	6.10
Projection to Bit	10333.00	90.03	322.86	6535.17	5385.50	3997.87	3066.72	-2564.81	0.00	0.00	0.00	534884.20	1707070.76	N 39 57 49.92	W 80 32 42.20	6.10

Survey Type: Def Survey

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

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	18.200	Act Sns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	ST01 / Noble Energy SHL-8JHS ST01 Gyro+MWD 2967' to 10333' MD
	18.200	2967.000	Act Sns	30.000	30.000	SLB_NSG+MSHOT	ST01 / Noble Energy SHL-8JHS ST01 Gyro+MWD 2967' to 10333'
	2967.000	10270.000	Act Sns	30.000	30.000	SLB_MWD-STD	ST01 / Noble Energy SHL-8JHS ST01 Gyro+MWD 2967' to 10333'
	10270.000	10333.000	Act Sns	30.000	30.000	SLB_BLIND+TREND	ST01 / Noble Energy SHL-8JHS ST01 Gyro+MWD 2967' to 10333'

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