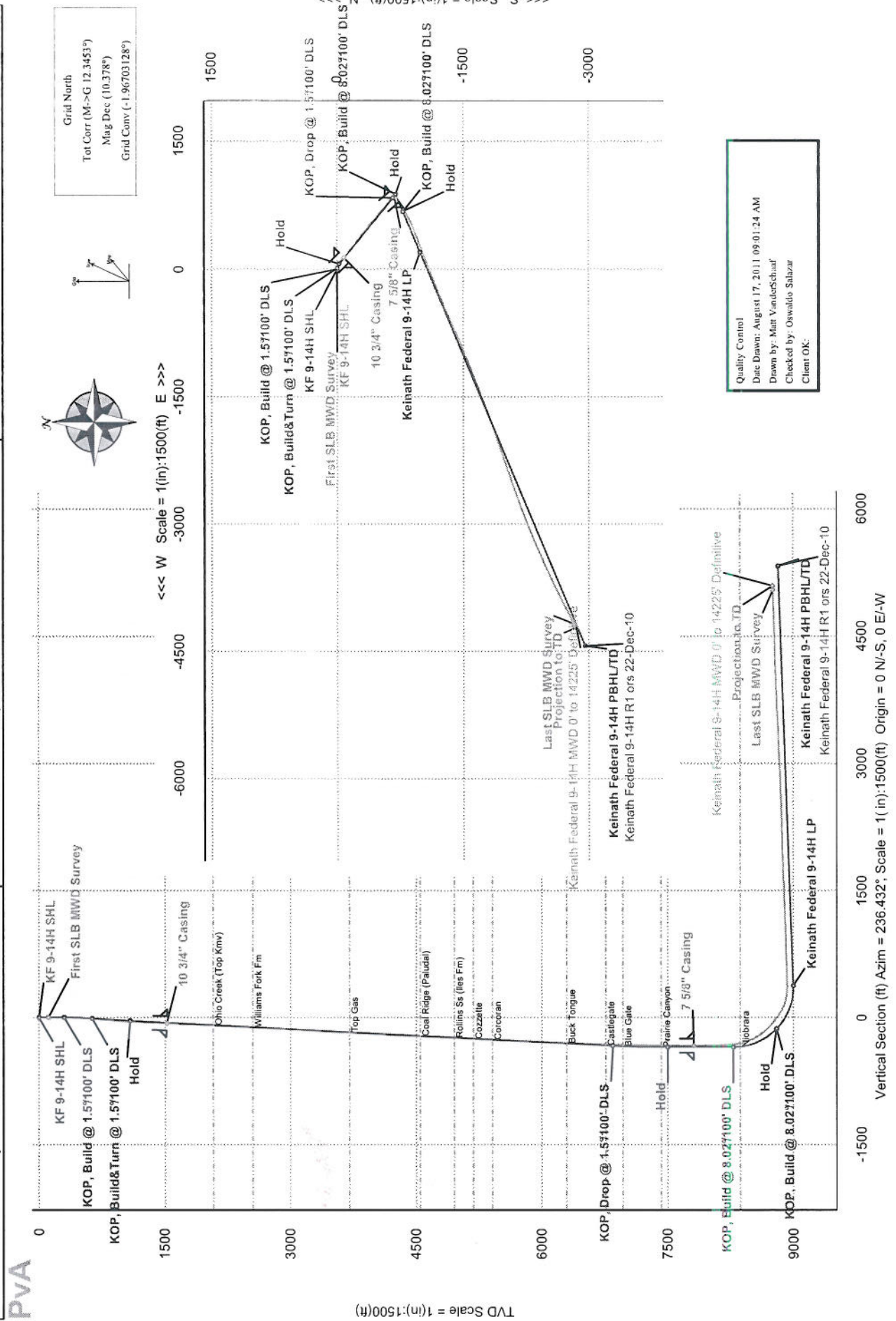


WELL	FIELD	STRUCTURE
Keinath Federal 9-14H	CO, Garfield County (NAD 83 UTM 13)	Encana 10-08S-96W (C10OU Pad)
Magnetic Parameters Dip: 65.81° Model: BGSIM 2011 Date: August 04, 2011 52.26 InT FS:	Surface Location Lat: N 39.92 4.589 Lon: W 108.5 7.271 UTM Zone 13N, US Feet Northing: 14311865.48 mUS Easting: 764445.74 mUS Grid Conv: -1.9E70328° Scale Fact: 1.00047781	Miscellaneous Std: Keinath Federal 9-14H Spv Date: RGL550UR allow M&L Plan: MWYD 2 to 14225 Defect-4 August 04, 2011





Keinath Federal 9-14H MWD 0' to 14225' Definitive Survey Report



(Def Survey)

Report Date: August 17, 2011 - 08:59 AM
Client: EnCana Oil & Gas (USA) Inc.
Field: CO, Garfield County (NAD 83 UTM 13) EnCana 2010
Structure / Slot: EnCana 10-085-96W (C10DU Pad) - Nabors M-11
Well: Keinath Federal 9-14H
Borehole: Original Hole
UWI / APW: Unknown / Unknown
Survey Name: Keinath Federal 9-14H MWD 0' to 14225' Definitive
Survey Date: August 04, 2011
Foot / AHD / DDI / ERD Ratio: 199.015 / 6638.311 ft / 6.321 / 0.744
Coordinate Reference System: NAD83 UTM Zone 13N, US Feet
Location Lat / Long: N 39°22' 5.98900", W 108° 5' 57.27102"
Location Grid N/E Y/X: N 14311866.494 ftUS, E 764445.735 ftUS
CRS Grid Convergence Angle: -1.96703128 °
Grid Scale Factor: 1.00047781

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 236.432 °(Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 5590.000 ft above MSL
Seabed / Ground Elevation: 5568.000 ft above MSL
Magnetic Declination: 10.378 °
Total Field Strength: 52126.772 nT
Magnetic Dip Angle: 65.611 °
Declination Date: August 04, 2011
Magnetic Declination Model: BGGM 2011
North Reference: Grid North
Grid Convergence Used: -1.967 °
Total Corr Mag North-Grid North: 12.345 °

Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° ')	Longitude (E/W ° ° ')
KF 9-14H SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	14311866.49	764445.74	N 39 22 6.99	W 108 5 57.27
First SLB MWD Survey	111.00	0.24	85.09	111.00	-0.20	0.02	0.23	0.22	14311866.51	764445.97	N 39 22 6.99	W 108 5 57.27
	144.00	0.34	252.96	144.00	-0.17	0.00	0.21	1.75	14311866.49	764445.94	N 39 22 6.99	W 108 5 57.27
	180.00	0.25	216.00	180.00	0.01	-0.10	0.06	0.57	14311866.40	764445.79	N 39 22 6.99	W 108 5 57.27
	200.00	0.33	249.17	200.00	0.10	-0.15	-0.02	0.91	14311866.34	764445.71	N 39 22 6.99	W 108 5 57.27
	234.00	0.09	216.08	234.00	0.22	-0.21	-0.13	0.76	14311866.28	764445.61	N 39 22 6.99	W 108 5 57.27
	265.00	0.47	141.43	265.00	0.23	-0.33	-0.06	1.47	14311866.17	764445.67	N 39 22 6.99	W 108 5 57.27
	270.00	0.75	116.00	270.00	0.22	-0.36	-0.02	7.66	14311866.13	764445.71	N 39 22 6.99	W 108 5 57.27
	297.00	0.72	109.10	297.00	0.02	-0.49	0.30	0.35	14311866.00	764446.03	N 39 22 6.98	W 108 5 57.27
	328.00	1.03	106.60	327.99	-0.27	-0.64	0.75	1.01	14311865.86	764446.48	N 39 22 6.98	W 108 5 57.26
	358.00	1.38	103.65	357.99	-0.69	-0.80	1.36	1.18	14311865.70	764447.09	N 39 22 6.98	W 108 5 57.25
	389.00	1.81	101.66	388.97	-1.29	-0.98	2.20	1.40	14311865.51	764447.94	N 39 22 6.98	W 108 5 57.24
	420.00	2.24	101.74	419.95	-2.06	-1.21	3.27	1.39	14311865.29	764449.01	N 39 22 6.98	W 108 5 57.23
	450.00	3.01	104.93	449.92	-2.99	-1.53	4.61	2.61	14311864.96	764450.35	N 39 22 6.98	W 108 5 57.21
	481.00	3.53	100.59	480.87	-4.22	-1.91	6.33	1.86	14311864.58	764452.07	N 39 22 6.97	W 108 5 57.19
	512.00	4.10	103.45	511.80	-5.66	-2.35	8.35	1.94	14311864.15	764454.09	N 39 22 6.97	W 108 5 57.16
	541.00	4.70	101.62	540.72	-7.20	-2.83	10.52	2.12	14311863.66	764456.26	N 39 22 6.96	W 108 5 57.14
	572.00	5.37	98.99	571.60	-9.17	-3.31	13.20	2.29	14311863.18	764458.94	N 39 22 6.96	W 108 5 57.10
	602.00	5.82	98.47	601.45	-11.33	-3.75	16.09	1.51	14311862.74	764461.83	N 39 22 6.96	W 108 5 57.06
	633.00	6.22	96.46	632.28	-13.78	-4.17	19.31	1.46	14311862.32	764465.06	N 39 22 6.95	W 108 5 57.02
	663.00	6.33	94.75	662.10	-15.33	-4.49	22.58	0.72	14311862.00	764468.32	N 39 22 6.95	W 108 5 56.98
	694.00	6.63	94.76	692.91	-19.07	-4.78	26.06	0.97	14311861.71	764471.81	N 39 22 6.95	W 108 5 56.94
	724.00	6.92	95.10	722.70	-21.84	-5.09	29.59	0.98	14311861.40	764475.34	N 39 22 6.95	W 108 5 56.89
	755.00	7.12	97.01	753.46	-24.76	-5.49	33.35	0.99	14311861.00	764479.11	N 39 22 6.95	W 108 5 56.84
	785.00	7.55	101.43	783.22	-27.56	-6.11	37.13	2.36	14311860.38	764482.89	N 39 22 6.94	W 108 5 56.80
	815.00	7.80	104.05	812.95	-30.33	-6.99	41.04	1.43	14311859.50	764486.79	N 39 22 6.93	W 108 5 56.75
	847.00	8.11	107.31	844.64	-33.22	-8.19	45.30	1.71	14311858.30	764491.06	N 39 22 6.92	W 108 5 56.69
	877.00	8.33	111.74	874.33	-35.79	-9.62	49.34	2.23	14311856.87	764495.10	N 39 22 6.91	W 108 5 56.64
	908.00	8.46	113.81	905.00	-38.30	-11.38	53.51	1.06	14311855.11	764499.27	N 39 22 6.89	W 108 5 56.59
	939.00	8.75	116.36	935.65	-40.71	-13.34	57.71	1.55	14311853.14	764503.47	N 39 22 6.88	W 108 5 56.53
	1000.00	8.92	124.69	995.93	-44.78	-18.10	65.76	2.11	14311848.39	764511.52	N 39 22 6.83	W 108 5 56.43
	1062.00	9.24	127.64	1057.16	-48.17	-23.87	73.65	0.91	14311842.61	764519.42	N 39 22 6.78	W 108 5 56.32
	1126.00	9.73	128.63	1120.28	-51.48	-30.39	81.94	0.81	14311836.09	764527.72	N 39 22 6.72	W 108 5 56.21
	1190.00	10.38	126.78	1183.30	-55.07	-37.21	90.79	1.13	14311829.26	764535.57	N 39 22 6.65	W 108 5 56.10
	1221.00	10.60	126.31	1213.78	-56.99	-40.58	95.32	0.76	14311825.90	764541.10	N 39 22 6.62	W 108 5 56.04
	1317.00	10.41	132.15	1308.17	-62.17	-51.62	108.87	1.13	14311814.85	764554.65	N 39 22 6.52	W 108 5 55.86
	1412.00	10.76	136.60	1401.56	-65.80	-63.83	121.32	0.94	14311802.64	764567.12	N 39 22 6.40	W 108 5 55.70
	1496.00	11.30	136.24	1484.01	-68.59	-75.47	132.40	0.65	14311790.99	764578.20	N 39 22 6.29	W 108 5 55.55
10 3/4" Casing	1532.00	11.35	135.33	1519.30	-69.90	-80.53	137.33	0.51	14311785.92	764583.13	N 39 22 6.24	W 108 5 55.49
	1587.00	11.42	133.96	1573.22	-72.12	-88.16	145.05	0.51	14311778.29	764590.86	N 39 22 6.17	W 108 5 55.39
	1618.00	11.28	133.92	1603.62	-73.44	-92.40	149.45	0.45	14311774.06	764595.25	N 39 22 6.13	W 108 5 55.33
	1714.00	9.34	130.28	1698.06	-77.64	-103.95	162.15	2.13	14311762.50	764607.97	N 39 22 6.02	W 108 5 55.16
	1809.00	9.09	129.43	1791.84	-81.98	-113.70	173.83	0.30	14311752.74	764619.65	N 39 22 5.92	W 108 5 55.01
	1905.00	8.98	133.17	1886.65	-85.91	-123.64	185.15	0.62	14311742.80	764630.98	N 39 22 5.83	W 108 5 54.86
	2001.00	9.87	126.82	1981.35	-90.39	-133.70	197.21	1.42	14311732.74	764643.03	N 39 22 5.74	W 108 5 54.70
	2096.00	9.74	126.06	2074.96	-95.92	-143.31	210.22	0.19	14311723.12	764656.06	N 39 22 5.64	W 108 5 54.53
	2192.00	9.46	124.21	2169.62	-101.73	-152.52	223.31	0.43	14311713.90	764669.15	N 39 22 5.56	W 108 5 54.36
	2288.00	10.12	133.79	2264.23	-106.56	-162.79	235.92	1.83	14311703.62	764681.77	N 39 22 5.46	W 108 5 54.20
	2383.00	9.97	134.50	2357.77	-110.09	-174.33	247.81	0.20	14311692.08	764693.67	N 39 22 5.35	W 108 5 54.04
	2479.00	9.66	129.88	2452.37	-114.10	-185.32	259.92	0.88	14311681.08	764705.78	N 39 22 5.25	W 108 5 53.88
	2575.00	9.41	131.04	2547.04	-118.48	-195.64	272.02	0.33	14311670.76	764717.89	N 39 22 5.15	W 108 5 53.72
	2670.00	9.13	130.67	2640.80	-123.49	-205.65	283.60	0.30	14311660.46	764729.47	N 39 22 5.05	W 108 5 53.57
	2765.00	8.91	131.93	2734.83	-126.48	-215.48	294.79	0.31	14311650.91	764740.66	N 39 22 4.96	W 108 5 53.43
	2861.00	9.63	125.35	2829.37	-131.23	-225.09	306.87	1.33	14311641.29	764752.75	N 39 22 4.87	W 108 5 53.27
	2955.00	9.21	123.76	2922.11	-136.96	-233.82	319.53	0.53	14311632.56	764765.42	N 39 22 4.79	W 108 5 53.10
	3050.00	9.84	125.75	3015.80	-142.76	-242.79	332.44	0.75	14311623.59	764778.34	N 39 22 4.70	W 108 5 52.93
	3146.00	9.64	122.90	3110.41	-148.86	-251.95	345.85	0.54	14311614.43	764791.75	N 39 22 4.62	W 108 5 52.76
	3241.00	9.52	125.23	3204.09	-154.88	-260.80	358.94	0.43	14311605.57	764804.85	N 39 22 4.53	W 108 5 52.59
	3336.00	9.52	125.36	3297.78	-160.55	-269.88	371.77	0.02	14311596.49	764817.68	N 39 22 4.45	W 108 5 52.42
	3431.00	9.24	124.30	3391.51	-166.24	-278.72	384.48	0.35	14311587.64	764830.39	N 39 22 4.37	W 108 5 52.26
	3526.00	9.69	128.58	3485.22	-171.57	-288.01	397.03	0.88	14311578.35	764842.95	N 39 22 4.28	W 108 5 52.09
	3621.00	9.30	127.86	3578.92	-176.46	-297.71	409.34	0.43	14311568.65	764855.27	N 39 22 4.19	W 108 5 51.93
	3716.00	8.83	126.07	3672.73	-181.45	-306.71	421.29	0.58	14311559.64	764867.23	N 39 22 4.10	W 108 5 51.78
	3812.00	9.98	132.43	3766.44	-186.02	-316.66	433.39	1.61	14311549.68	764879.31	N 39 22 4.01	W 108 5 51.62
	3908.00	9.35	131.47	3860.08	-190.05	-327.44	445.37	0.68	14311538.90	764891.32	N 39 22 3.91	W 108 5 51.46
	4003.00	10.17	127.84	3955.70	-194.71	-337.69	457.78	1.08	14311528.64	764903.73	N 39 22 3.81	W 108 5 51.30
	4099.00	9.49	127.67	4050.29	-199.96	-347.73	470.74	0.71	14311518.60	764916.70	N 39 22 3.71	W 108 5 51.13
	4194.00	10.67	130.71	4143.83	-204.86	-358.25	483.60	1.36	14311508.07	764929.57	N 39 22 3.61	W 108 5 50.96
	4289.00	10.36	129.65	4237.23	-209.71	-369.44	496.85	0.38	14311498.88	764942.82	N 39 22 3.51	W 108 5 50.79
	4385.00	10.14	130.01	4331.70	-214.60	-380.38	509.96	0.24	14311488.93	764955.94	N 39 22 3.40	W 108 5 50.62
	4480.00	9.69	130.07	4425.28	-219.21	-390.90	522.49	0.47	14311478.51	764968.47	N 39 22 3.31	W 108 5 50.45
	4576.00	9.15	131.24	4519.98	-223.49	-401.14	534.41	0.60	14311468.17	764980.40	N 39 22 3.21	W 108

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (1100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	4958.00	8.57	133.69	4897.67	-239.26	-438.11	577.87	1.10	14311428.18	765023.88	N 39 22 2.86	W 108 5 49.73
	5054.00	9.84	131.21	4992.43	-242.99	-448.45	589.21	1.39	14311417.83	765035.23	N 39 22 2.76	W 108 5 49.58
	5150.00	9.57	130.04	5087.06	-247.40	-458.99	601.49	0.35	14311407.29	765047.52	N 39 22 2.66	W 108 5 49.42
	5245.00	9.99	126.85	5180.68	-252.39	-469.01	614.13	0.72	14311397.26	765060.16	N 39 22 2.56	W 108 5 49.25
	5341.00	9.66	125.39	5275.27	-258.07	-478.67	627.36	0.43	14311387.60	765073.40	N 39 22 2.47	W 108 5 49.08
	5436.00	10.08	127.44	5368.87	-263.64	-488.34	640.46	0.58	14311377.92	765086.50	N 39 22 2.38	W 108 5 48.91
	5532.00	9.35	126.83	5463.49	-268.99	-498.12	653.38	0.77	14311368.14	765099.42	N 39 22 2.29	W 108 5 48.74
	5628.00	8.84	127.57	5558.28	-273.99	-507.29	665.46	0.55	14311358.96	765111.52	N 39 22 2.20	W 108 5 48.58
	5724.00	8.27	130.52	5653.21	-278.27	-516.28	678.56	0.75	14311349.97	765122.62	N 39 22 2.12	W 108 5 48.44
	5819.00	7.50	131.93	5747.32	-281.69	-524.86	686.37	0.84	14311341.38	765132.43	N 39 22 2.04	W 108 5 48.31
	5914.00	8.44	133.31	5841.40	-284.83	-533.79	696.05	1.01	14311332.45	765142.12	N 39 22 1.95	W 108 5 48.18
	6009.00	9.55	133.77	5935.23	-288.14	-544.02	706.82	1.17	14311322.22	765152.89	N 39 22 1.86	W 108 5 48.04
	6105.00	10.40	133.03	6029.78	-291.89	-555.44	718.90	0.90	14311310.79	765164.98	N 39 22 1.75	W 108 5 47.88
	6199.00	9.08	131.75	6122.42	-295.74	-566.17	730.64	1.42	14311300.05	765176.72	N 39 22 1.64	W 108 5 47.73
	6295.00	9.70	132.10	6217.13	-299.66	-576.64	742.29	0.65	14311289.58	765188.38	N 39 22 1.54	W 108 5 47.57
	6390.00	8.92	130.48	6310.88	-303.67	-586.78	753.83	0.87	14311279.43	765199.92	N 39 22 1.45	W 108 5 47.42
	6485.00	8.38	130.68	6404.80	-307.57	-596.08	764.68	0.57	14311270.13	765210.78	N 39 22 1.36	W 108 5 47.28
	6580.00	7.69	131.17	6498.87	-311.12	-604.77	774.72	0.73	14311261.43	765220.82	N 39 22 1.28	W 108 5 47.15
	6675.00	6.91	129.89	6593.09	-314.42	-612.62	783.89	0.84	14311253.58	765229.99	N 39 22 1.20	W 108 5 47.03
	6770.00	6.23	131.79	6687.47	-317.35	-619.72	792.11	0.75	14311246.48	765238.23	N 39 22 1.14	W 108 5 46.92
	6866.00	5.48	131.85	6782.97	-319.82	-626.25	799.41	0.78	14311239.94	765245.53	N 39 22 1.07	W 108 5 46.82
	6962.00	5.21	131.65	6878.55	-322.09	-632.21	806.08	0.28	14311233.98	765252.20	N 39 22 1.02	W 108 5 46.74
	7057.00	4.96	136.25	6973.18	-323.92	-638.04	812.15	0.50	14311228.15	765258.27	N 39 22 0.96	W 108 5 46.66
	7152.00	4.84	135.26	7067.83	-325.42	-643.86	817.81	0.15	14311222.33	765263.93	N 39 22 0.91	W 108 5 46.58
	7248.00	4.89	130.84	7163.48	-327.30	-649.41	823.75	0.39	14311216.78	765269.88	N 39 22 0.85	W 108 5 46.50
	7344.00	4.46	133.31	7259.17	-329.25	-654.64	829.57	0.49	14311211.54	765275.70	N 39 22 0.80	W 108 5 46.43
	7438.00	4.36	135.59	7352.89	-330.75	-659.70	834.73	0.21	14311206.48	765280.86	N 39 22 0.76	W 108 5 46.36
	7533.00	4.19	137.57	7447.62	-331.97	-664.84	839.59	0.24	14311201.33	765285.73	N 39 22 0.71	W 108 5 46.30
	7629.00	3.71	133.23	7543.39	-333.21	-669.56	844.22	0.59	14311196.62	765290.36	N 39 22 0.66	W 108 5 46.24
	7723.00	2.84	133.61	7637.24	-334.43	-673.25	848.13	0.93	14311192.92	765294.26	N 39 22 0.63	W 108 5 46.18
	7818.00	2.61	140.02	7732.13	-335.19	-676.53	851.22	0.40	14311189.64	765297.36	N 39 22 0.60	W 108 5 46.14
	7898.00	2.54	139.52	7812.05	-335.61	-678.28	853.54	0.09	14311186.76	765299.68	N 39 22 0.57	W 108 5 46.11
	7902.00	2.54	139.49	7816.05	-335.63	-679.41	853.66	0.09	14311186.76	765299.80	N 39 22 0.57	W 108 5 46.11
	8002.00	2.61	178.87	7915.95	-334.68	-683.37	855.14	1.74	14311182.80	765301.28	N 39 22 0.53	W 108 5 46.09
	8099.00	3.04	187.65	8012.84	-331.80	-688.13	854.84	0.63	14311178.04	765300.98	N 39 22 0.48	W 108 5 46.09
	8196.00	2.83	184.63	8109.71	-328.62	-693.07	854.31	0.27	14311173.10	765300.45	N 39 22 0.43	W 108 5 46.10
	8294.00	3.07	195.28	8207.58	-325.15	-698.01	853.42	0.61	14311168.15	765299.56	N 39 22 0.38	W 108 5 46.11
	8326.00	3.04	193.58	8239.54	-323.88	-699.66	853.00	0.30	14311166.50	765299.14	N 39 22 0.37	W 108 5 46.11
	8358.00	4.92	224.19	8271.46	-321.92	-701.47	851.84	8.67	14311164.69	765297.98	N 39 22 0.35	W 108 5 46.12
	8390.00	8.10	235.13	8303.25	-318.32	-703.74	849.03	10.62	14311162.42	765295.17	N 39 22 0.33	W 108 5 46.16
	8422.00	10.59	236.02	8334.82	-313.13	-706.68	844.74	7.79	14311159.48	765290.88	N 39 22 0.30	W 108 5 46.21
	8455.00	13.49	235.08	8367.09	-306.24	-710.57	839.07	8.81	14311155.58	765285.21	N 39 22 0.25	W 108 5 46.28
	8487.00	14.83	236.18	8398.12	-298.42	-714.99	832.61	4.27	14311151.16	765278.74	N 39 22 0.21	W 108 5 46.36
	8520.00	17.45	234.11	8429.82	-289.25	-720.24	825.09	8.13	14311145.91	765271.22	N 39 22 0.15	W 108 5 46.46
	8552.00	20.24	232.98	8460.10	-278.93	-726.39	816.78	8.79	14311139.76	765262.91	N 39 22 0.09	W 108 5 46.56
	8585.00	23.04	234.28	8490.77	-266.77	-733.60	806.98	8.61	14311132.55	765253.10	N 39 22 0.02	W 108 5 46.68
	8617.00	26.10	236.40	8519.87	-253.47	-741.15	796.03	9.95	14311124.99	765242.14	N 39 21 59.94	W 108 5 46.82
	8649.00	29.00	237.92	8548.24	-238.68	-749.17	783.59	9.32	14311116.37	765229.70	N 39 21 59.85	W 108 5 46.97
	8681.00	31.86	238.87	8575.83	-222.48	-757.66	769.79	9.06	14311108.48	765215.89	N 39 21 59.77	W 108 5 47.14
	8713.00	34.76	240.54	8602.57	-204.94	-766.51	754.61	9.50	14311099.62	765200.71	N 39 21 59.67	W 108 5 47.33
	8745.00	37.84	241.15	8628.36	-186.06	-775.74	738.07	9.69	14311090.39	765184.15	N 39 21 59.58	W 108 5 47.54
	8777.00	40.08	241.89	8653.24	-166.02	-785.33	720.38	7.15	14311080.79	765166.46	N 39 21 59.48	W 108 5 47.76
	8810.00	43.07	242.25	8677.92	-144.23	-795.58	701.03	9.09	14311070.53	765147.10	N 39 21 59.37	W 108 5 48.00
	8843.00	45.39	241.44	8701.57	-121.31	-806.44	680.74	7.24	14311059.67	765126.80	N 39 21 59.25	W 108 5 48.26
	8875.00	46.77	240.84	8723.76	-98.34	-817.57	660.56	4.52	14311048.53	765106.61	N 39 21 59.14	W 108 5 48.51
	8907.00	49.11	240.42	8745.20	-74.65	-829.22	639.85	7.38	14311036.88	765085.89	N 39 21 59.02	W 108 5 48.77
	8936.00	51.70	241.14	8763.68	-52.37	-840.13	620.35	9.13	14311025.97	765066.38	N 39 21 58.90	W 108 5 49.01
	8968.00	52.46	242.61	8783.35	-27.24	-852.03	598.09	4.33	14311014.06	765044.11	N 39 21 58.78	W 108 5 49.29
	8999.00	53.90	244.41	8801.93	-2.61	-863.09	575.88	6.57	14311002.99	765021.89	N 39 21 58.66	W 108 5 49.57
	9030.00	55.41	245.57	8819.86	22.39	-873.78	552.96	5.75	14310992.30	764998.96	N 39 21 58.55	W 108 5 49.85
	9050.00	56.59	245.05	8831.04	38.77	-880.71	537.90	6.28	14310985.37	764983.89	N 39 21 58.47	W 108 5 50.04
	9082.00	58.48	246.63	8848.22	65.40	-891.75	513.27	7.23	14310974.32	764959.25	N 39 21 58.35	W 108 5 50.35
	9113.00	62.28	247.41	8863.54	91.89	-902.27	488.46	12.45	14310963.80	764934.43	N 39 21 58.24	W 108 5 50.66
	9145.00	65.88	247.94	8877.52	120.11	-913.20	461.84	11.35	14310952.86	764907.80	N 39 21 58.13	W 108 5 50.99
	9178.00	69.79	247.09	8889.97	150.10	-924.88	433.61	12.09	14310941.17	764879.55	N 39 21 58.00	W 108 5 51.35
	9210.00	73.54	248.47	8900.04	179.87	-936.37	405.49	12.41	14310929.68	764851.42	N 39 21 57.88	W 108 5 51.70
	9243.00	76.56	249.33	8908.55	211.00	-947.84	375.75	9.49	14310918.20	764821.67	N 39 21 57.75	W 108 5 52.08
	9275.00	79.76	250.46	8915.11	241.45	-958.60	346.34	10.58	14310907.44	764792.24	N 39 21 57.64	W 108 5 52.44
	9306.00	82.38	250.03	8919.93	271.19	-968.95	317.53	8.56	14310897.08	764763.41	N 39 21 57.53	W 108 5 52.81
	9340.00	85.39	248.88	8923.55	304.12	-980.82	285.87	9.47	14310885.21	764731.74	N 39 21 57.40	W 108 5 53.20
	9371.00	87.42	248.52	8925.49	334.35	-992.05	257.05	6.65	14310873.97	764702.91	N 39 21 57.28	W 108 5 53.57
	9403.00	90.52	248.12	8928.07	365.66	-1003.87	227.32	9.77	14310862.14	764673.17	N 39 21 57.15	W 108 5 53.94
	9452.00	91.99	248.84	8924.99	413.56	-1021.84	181.75	3.34	14310844.17	764627.57	N 39 21 56.96	W 108 5 54.51
	9549.00	90.48	248.18	8922.90	508.39	-1057.37	91.52	1.70	14310806.62	764537.30	N 39 21 56.58	W 108 5 55.64
	9646.00	92.27	248.26	8920.58	603.31	-1093.35	1.47	1.85	14310772.63	764447.21	N 39 21 56.19	W 108 5 56.77
	9743.00	91.72	247.77	8917.20	698.28	-1129.64	-88.42	0.76	14310736.32	764357.27	N 39 21 55.80	W 108 5 57.90
	9841.00	92.03	248.46	8913.99	794.20</							

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ft/US)	Easting (ft/US)	Latitude (N/S ° ° ' '')	Longitude (E/W ° ° ' '')
	12061.00	92.47	250.99	8837.18	2564.79	-1987.69	-2239.17	0.14	14309877.86	762265.50	N 39 21 41 59	W 108 6 24 80
	12158.00	92.47	250.89	8833.00	3058.61	-2019.34	-2330.77	0.10	14309846.20	762113.86	N 39 21 41 25	W 108 6 26 05
	12255.00	92.37	250.32	8828.90	3152.58	-2051.52	-2422.18	0.60	14309814.00	762022.40	N 39 21 41 00	W 108 6 27 20
	12350.00	92.54	250.85	8824.83	3244.61	-2083.07	-2511.70	0.59	14309782.43	761932.84	N 39 21 41 56	W 108 6 28 32
	12446.00	92.54	250.00	8820.58	3337.67	-2115.20	-2602.06	0.88	14309750.29	761842.44	N 39 21 41 21	W 108 6 29 46
	12542.00	92.61	250.22	8816.26	3430.85	-2147.83	-2692.24	0.24	14309717.84	761752.21	N 39 21 41 46	W 108 6 30 58
	12639.00	92.47	249.89	8811.97	3525.03	-2180.89	-2783.34	0.37	14309684.57	761661.08	N 39 21 41 50	W 108 6 31 73
	12736.00	92.30	248.87	8807.93	3619.52	-2215.17	-2873.98	1.27	14309650.27	761570.39	N 39 21 41 11	W 108 6 32 87
	12834.00	92.37	248.30	8803.34	3715.28	-2251.09	-2965.08	0.38	14309614.34	761479.25	N 39 21 41 75	W 108 6 34 02
	12930.00	92.44	247.97	8799.91	3809.20	-2286.81	-3054.09	0.35	14309578.60	761390.19	N 39 21 41 36	W 108 6 35 13
	13026.00	92.27	246.99	8795.96	3903.34	-2323.54	-3142.70	1.04	14309541.85	761301.54	N 39 21 41 97	W 108 6 36 24
	13121.00	91.92	246.31	8792.49	3996.77	-2361.17	-3229.86	0.80	14309504.20	761214.34	N 39 21 41 57	W 108 6 37 34
	13217.00	91.51	245.55	8789.52	4091.41	-2400.31	-3317.47	0.90	14309465.05	761126.69	N 39 21 41 15	W 108 6 38 43
	13312.00	91.75	246.57	8786.91	4185.03	-2438.84	-3404.26	1.10	14309426.49	761039.86	N 39 21 41 74	W 108 6 39 52
	13407.00	91.61	244.65	8784.13	4278.77	-2478.05	-3490.74	2.03	14309387.26	760953.33	N 39 21 41 33	W 108 6 40 61
	13503.00	91.93	245.24	8781.16	4373.67	-2518.69	-3577.66	0.70	14309346.61	760866.37	N 39 21 41 89	W 108 6 41 69
	13599.00	92.03	245.08	8777.95	4468.50	-2558.99	-3664.73	0.20	14309306.29	760779.26	N 39 21 41 47	W 108 6 42 78
	13695.00	91.75	243.27	8774.68	4563.57	-2600.79	-3751.09	1.91	14309264.47	760692.86	N 39 21 41 02	W 108 6 43 86
	13791.00	91.78	243.18	8771.72	4658.85	-2644.01	-3836.76	0.10	14309221.22	760607.15	N 39 21 41 57	W 108 6 44 94
	13887.00	91.75	242.46	8768.77	4754.21	-2687.84	-3922.12	0.75	14309177.37	760521.75	N 39 21 41 11	W 108 6 46 00
	13982.00	91.75	242.09	8765.87	4848.67	-2732.02	-4006.17	0.39	14309133.18	760437.66	N 39 21 41 64	W 108 6 47 05
	14079.00	91.82	241.94	8762.84	4945.16	-2777.51	-4091.79	0.17	14309087.66	760352.00	N 39 21 41 16	W 108 6 48 12
Last SLB MWD Survey	14176.00	91.99	242.25	8759.62	5041.63	-2822.88	-4177.46	0.36	14309042.27	760266.29	N 39 21 37 69	W 108 6 49 19
Projection to TD	14225.00	91.99	242.25	8757.92	5090.35	-2845.69	-4220.80	0.00	14309019.45	760222.93	N 39 21 37 45	W 108 6 49 73

Survey Type: 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	Borehole / Survey
	0.000	22.000	Act Sins	SLB_MWD-STD-Depth Only	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	22.000	144.000	Act Sins	SLB_MWD-STD	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	144.000	180.000	Act Sins	SLB_FREE GYRO	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	180.000	265.000	Act Sins	SLB_MWD-STD	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	265.000	270.000	Act Sins	SLB_FREE GYRO	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	270.000	541.000	Act Sins	SLB_MWD-STD	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	541.000	7902.000	Act Sins	SLB_MWD+DMAG	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	7902.000	14176.000	Act Sins	SLB_MWD-STD	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive
	14176.000	14225.000	Act Sins	SLB_BLIND+TREND	Original Hole / Keinath Federal 9-14H MWD 0' to 14225' Definitive