

WELL	Nichols 19-10H	FIELD	CO, Mesa Co.(NAD83UTM13)	STRUCTURE	Encana 31-09S-95W (PL31SE)
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Magnetic Parameters				Surface Location				NAD83 UTM Zone 13N, US Feet				Miscellaneous			
Model:	BGGM 2011	Dip:	65.499°	Date:	November 01, 2011	Lat:	N 39 13 42 S28	Northing:	14260151.85 RUS	Grid Conv:	-1.5626154°	Stat:	Nichols 19-10H	TVD Ref:	RK5193/7ft above MSL
		Mag Dec:	10.296°	FS:	52027.1mT	Lon:	W 108 1 42 E02	Easting:	782773.80 RUS	Scale Factor:	1.00043449	Plan:	R2 as of 01-Dec-11	Srvy Date:	November 01, 2011

Surface Location

Nothing: 14260151.85 Easting: 782773.80

Quality Control

Date Drawn: December 04, 2011 03:26:33 PM

Drawn by: Oswaldo Salazar

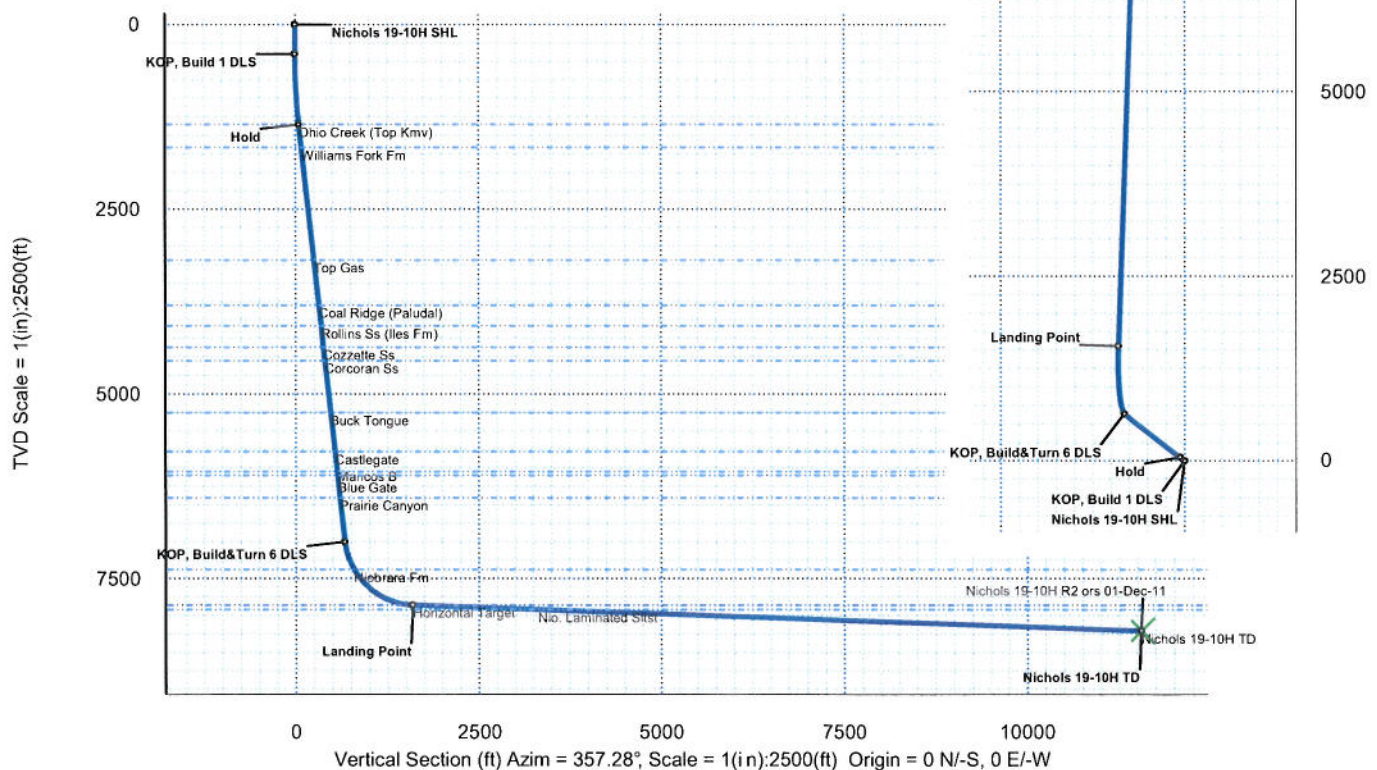
Checked by:

Client OK:

Proposal

Target Description				Grid Coord			Local Coord	
Target Name	Shape	Major Axis	N(t)/S(-)	E(t)/W(-)	TYD	VSec	N(t)/S(-)	E(t)/W(-)
Nichols 19-1011 TD	Point	0.00	39.26	-108.03	8208.00	11555.82	11542.79	-548.61

Critical Point	Critical Points							
	MD	INCL	AZIM	TVD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
Nichols 19-10H SHL	0.00	0.00	307.84	0.00	0.00	0.00	0.00	
Marker MudLine	22.00	0.00	307.84	22.00	0.00	0.00	0.00	0.00
KOP, Build 1 DLS	400.00	0.00	307.84	400.00	0.00	0.00	0.00	0.00
Ohio Creek (Top Km)	1352.38	9.52	307.84	1348.00	51.35	48.44	-62.37	1.00
Hold	1358.20	9.58	307.84	1353.74	51.97	49.03	-63.13	1.00
Williams Fork Fm	1671.84	9.58	307.84	1663.00	85.92	81.06	-104.36	0.00
Top Gas	3218.41	9.58	307.84	3188.00	253.31	238.97	-307.69	0.00
Coal Ridge (Paludal)	3841.10	9.58	307.84	3802.00	320.70	302.55	-389.55	0.00
Rollins Ss (fles Fm)	4124.05	9.58	307.84	4081.00	351.33	331.44	-426.75	0.00
Cozette Ss	4414.10	9.58	307.84	4367.00	382.72	361.05	-464.88	0.00
Corcoran Ss	4597.66	9.58	307.84	4548.00	402.58	379.80	-489.01	0.00
Buck Tongue	5313.65	9.58	307.84	5254.00	480.08	452.90	-583.14	0.00
Castlegate	5850.13	9.58	307.84	5783.00	538.14	507.68	-653.67	0.00
Mancos B	6118.88	9.58	307.84	6048.00	567.23	535.12	-689.00	0.00
Blue Gate	6177.70	9.58	307.84	6106.00	573.59	541.13	-696.73	0.00
Prairie Canyon	6478.90	9.58	307.84	6403.00	606.19	571.88	-736.33	0.00
KOP, Build&Turn 6 DLS	7089.55	9.58	307.84	7005.13	672.29	634.23	-816.61	0.00
Niohara Fm	7490.48	30.54	348.81	7381.00	796.56	756.42	-863.42	6.00
Horizontal Target	8463.17	87.99	2.00	7859.00	1595.68	1554.83	-897.40	6.00
Landing Point	8463.31	88.00	2.00	7859.01	1595.82	1554.97	-897.39	6.00
Nio. Laminated Shst	10182.39	88.00	2.00	7919.00	3308.02	3271.95	-837.43	0.00
Nichols 19-10H TD	18463.31	88.00	2.00	8208.00	11555.82	11542.79	-548.61	0.00



Nichols 19-10H R2 ors 01-Dec-11 Proposal Report

(Def Plan)

Report Date:	December 01, 2011 - 03:44 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	EnCana Oil & Gas (USA) Inc.	Vertical Section Azimuth:	357.279 ° (Grid North)
Field:	CO, Mesa County (NAD 83 UTM 13) EnCana 2010	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Encana 31-09S-95W (PL31SE Pad) / Nichols 19-10H	TVD Reference Datum:	RKB
Well:	Nichols 19-10H	TVD Reference Elevation:	5937.000 ft above MSL
Borehole:	Original Hole	Seabed / Ground Elevation:	5915.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	10.296 °
Survey Name:	Nichols 19-10H R2 ors 01-Dec-11	Total Field Strength:	52027.117 nT
Survey Date:	November 01, 2011	Magnetic Dip Angle:	65.499 °
Tort / AHD / DDI / ERD Ratio:	92.008 ° / 11961.202 ft / 6.394 / 1.457	Declination Date:	November 01, 2011
Coordinate Reference System:	NAD83 UTM Zone 13N, US Feet	Magnetic Declination Model:	BGGM 2011
Location Lat / Long:	N 39° 13' 42.52800", W 108° 1' 42.09242"	North Reference:	Grid North
Location Grid N/E Y/X:	N 14260151.848 ftUS, E 782773.797 ftUS	Grid Convergence Used:	-1.916 °
CRS Grid Convergence Angle:	-1.91626154 °	Total Corr Mag North->Grid North:	12.212 °
Grid Scale Factor:	1.00044149	Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (RUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Nichols 19-10H SHL	0.00	0.00	307.84	0.00	0.00	0.00	0.00	N/A	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
Marker MudLine	22.00	0.00	307.84	22.00	0.00	0.00	0.00	0.00	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
	100.00	0.00	307.84	100.00	0.00	0.00	0.00	0.00	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
	200.00	0.00	307.84	200.00	0.00	0.00	0.00	0.00	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
	300.00	0.00	307.84	300.00	0.00	0.00	0.00	0.00	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
	400.00	0.00	307.84	400.00	0.00	0.00	0.00	0.00	14260151.85	782773.80	N 39 13 42.53	W 108 1 42.09
	500.00	1.00	307.84	499.99	0.57	0.54	-0.69	1.00	14260152.38	782773.11	N 39 13 42.53	W 108 1 42.10
	600.00	2.00	307.84	599.96	2.27	2.14	-2.76	1.00	14260153.99	782771.04	N 39 13 42.55	W 108 1 42.13
	700.00	3.00	307.84	599.86	5.11	4.82	-6.20	1.00	14260156.67	782767.59	N 39 13 42.57	W 108 1 42.17
	800.00	4.00	307.84	799.68	9.07	8.56	-11.02	1.00	14260160.41	782762.77	N 39 13 42.61	W 108 1 42.24
	900.00	5.00	307.84	899.37	14.18	13.37	-17.22	1.00	14260165.23	782756.57	N 39 13 42.65	W 108 1 42.32
KOP. Build 1 DLS	1000.00	6.00	307.84	998.90	20.41	19.25	-24.79	1.00	14260171.11	782749.00	N 39 13 42.71	W 108 1 42.42
	1100.00	7.00	307.84	1098.26	27.77	26.20	-33.73	1.00	14260178.06	782740.05	N 39 13 42.78	W 108 1 42.53
	1200.00	8.00	307.84	1197.40	36.25	34.20	-44.04	1.00	14260186.07	782729.74	N 39 13 42.85	W 108 1 42.67
	1300.00	9.00	307.84	1296.30	45.87	43.27	-55.71	1.00	14260195.14	782718.06	N 39 13 42.94	W 108 1 42.82
	1352.38	9.52	307.84	1348.00	51.35	48.44	-62.37	1.00	14260200.31	782711.40	N 39 13 42.99	W 108 1 42.91
	1358.20	9.58	307.84	1353.74	51.97	49.03	-63.13	1.00	14260200.90	782710.64	N 39 13 42.99	W 108 1 42.92
	1400.00	9.58	307.84	1394.96	56.50	53.30	-68.63	0.00	14260205.17	782705.14	N 39 13 43.03	W 108 1 42.99
	1500.00	9.58	307.84	1493.56	67.32	63.51	-81.77	0.00	14260215.39	782691.99	N 39 13 43.13	W 108 1 43.16
	1600.00	9.58	307.84	1592.17	78.14	73.72	-94.92	0.00	14260225.60	782678.83	N 39 13 43.22	W 108 1 43.33
	1671.84	9.58	307.84	1663.00	85.92	81.06	-104.36	0.00	14260232.94	782669.39	N 39 13 43.29	W 108 1 43.45
Williams Fork Fm	1700.00	9.58	307.84	1690.77	88.97	83.93	-108.07	0.00	14260235.82	782665.68	N 39 13 43.32	W 108 1 43.50
	1800.00	9.58	307.84	1789.38	99.79	94.14	-121.21	0.00	14260246.03	782652.53	N 39 13 43.42	W 108 1 43.67
	1900.00	9.58	307.84	1887.98	110.61	104.35	-134.36	0.00	14260256.25	782639.38	N 39 13 43.51	W 108 1 43.84
	2000.00	9.58	307.84	1986.59	121.44	114.56	-147.51	0.00	14260266.46	782626.23	N 39 13 43.61	W 108 1 44.01
	2100.00	9.58	307.84	2085.19	132.26	124.77	-160.65	0.00	14260276.68	782613.07	N 39 13 43.71	W 108 1 44.19
	2200.00	9.58	307.84	2183.80	143.08	134.98	-173.80	0.00	14260286.89	782599.92	N 39 13 43.80	W 108 1 44.36
	2300.00	9.58	307.84	2282.40	153.91	145.20	-186.95	0.00	14260297.11	782586.77	N 39 13 43.90	W 108 1 44.53
	2400.00	9.58	307.84	2381.00	164.73	155.41	-200.09	0.00	14260307.32	782573.62	N 39 13 44.00	W 108 1 44.70
	2500.00	9.58	307.84	2479.61	175.55	165.62	-213.24	0.00	14260317.54	782560.46	N 39 13 44.09	W 108 1 44.87
	2600.00	9.58	307.84	2578.21	186.38	175.83	-226.39	0.00	14260327.75	782547.31	N 39 13 44.19	W 108 1 45.04
Top Gas	2700.00	9.58	307.84	2676.82	197.20	186.04	-239.53	0.00	14260337.97	782534.16	N 39 13 44.29	W 108 1 45.21
	2800.00	9.58	307.84	2775.42	208.02	196.25	-252.68	0.00	14260348.18	782521.01	N 39 13 44.38	W 108 1 45.39
	2900.00	9.58	307.84	2874.03	218.85	206.46	-265.83	0.00	14260358.40	782507.85	N 39 13 44.48	W 108 1 45.56
	3000.00	9.58	307.84	2972.63	229.67	216.67	-278.97	0.00	14260368.61	782494.70	N 39 13 44.58	W 108 1 45.73
	3100.00	9.58	307.84	3071.24	240.49	226.88	-292.12	0.00	14260378.83	782481.55	N 39 13 44.67	W 108 1 45.90
	3200.00	9.58	307.84	3169.84	251.31	237.09	-305.27	0.00	14260389.04	782468.40	N 39 13 44.77	W 108 1 46.07
	3218.47	9.58	307.84	3188.00	253.31	238.97	-307.69	0.00	14260390.92	782465.97	N 39 13 44.79	W 108 1 46.10
	3300.00	9.58	307.84	3268.45	262.14	247.30	-318.41	0.00	14260399.26	782455.24	N 39 13 44.87	W 108 1 46.24
	3400.00	9.58	307.84	3367.05	272.96	257.51	-331.56	0.00	14260409.47	782442.09	N 39 13 44.96	W 108 1 46.41
	3500.00	9.58	307.84	3465.66	283.78	267.72	-344.71	0.00	14260419.69	782428.94	N 39 13 45.06	W 108 1 46.58
Coal Ridge (Paludal)	3600.00	9.58	307.84	3564.26	294.61	277.93	-357.85	0.00	14260429.90	782415.79	N 39 13 45.16	W 108 1 46.76
	3700.00	9.58	307.84	3662.87	305.43	288.14	-371.00	0.00	14260440.12	782402.63	N 39 13 45.25	W 108 1 46.93
	3800.00	9.58	307.84	3761.47	316.25	298.35	-384.15	0.00	14260450.33	782389.48	N 39 13 45.35	W 108 1 47.10
	3841.10	9.58	307.84	3802.00	320.70	302.55	-389.55	0.00	14260454.53	782384.08	N 39 13 45.39	W 108 1 47.17
	3900.00	9.58	307.84	3860.08	327.08	308.56	-397.29	0.00	14260460.55	782376.33	N 39 13 45.44	W 108 1 47.27
	4000.00	9.58	307.84	3958.68	337.90	318.77	-410.44	0.00	14260470.76	782363.18	N 39 13 45.54	W 108 1 47.44
	4100.00	9.58	307.84	4057.29	348.72	328.98	-423.59	0.00	14260480.98	782350.03	N 39 13 45.64	W 108 1 47.61
	4124.05	9.58	307.84	4081.00	351.33	331.44	-426.75	0.00	14260483.43	782346.86	N 39 13 45.66	W 108 1 47.65
	4200.00	9.58	307.84	4155.89	359.55	339.19	-436.73	0.00	14260491.19	782336.87	N 39 13 45.73	W 108 1 47.78
	4300.00	9.58	307.84	4254.50	370.37	349.41	-449.88	0.00	14260501.41	782323.72	N 39 13 45.83	W 108 1 47.95
Cozzette Ss	4400.00	9.58	307.84	4353.10	381.19	359.62	-463.03	0.00	14260511.62	782310.57	N 39 13 45.93	W 108 1 48.13
	4414.10	9.58	307.84	4367.00	382.72	361.05	-464.88	0.00	14260513.06	782308.71	N 39 13 45.94	W 108 1 48.15
	4500.00	9.58	307.84	4451.71	392.02	369.83	-476.17	0.00	14260521.84	782297.42	N 39 13 46.02	W 108 1 48.30
	4597.66	9.58	307.84	4548.00	402.58	379.80	-489.01	0.00	14260531.81	782284.57	N 39 13 46.12	W 108 1 48.46
	4600.00	9.58	307.84	4550.31	402.84	380.04	-489.32	0.00	14260532.05	782284.26	N 39 13 46.12	W 108 1 48.47
	4700.00	9.58	307.84	4648.92	413.66	390.25	-502.47	0.00	14260542.27	782271.11	N 39 13 46.22	W 108 1 48.64
	4800.00	9.58	307.84	4747.52	424.48	400.46	-515.61	0.00	14260552.48	782257.96	N 39 13 46.31	W 108 1 48.81
	4900.00	9.58	307.84	4846.13	435.31	410.67	-528.76	0.00	14260562.70	782244.81	N 39 13 46.41	W 108 1 48.98
	5000.00	9.58	307.84	4944.73	446.13	420.88	-541.90	0.00	14260572.91	782231.65	N 39 13 46.51	W 108 1 49.15
	5100.00	9.58	307.84	5043.34	456.95	431.09	-555.05	0.00	14260583.13	782218.50	N 39 13 46.60	W 108 1 49.33
Buck Tonque	5200.00	9.58	307.84	5141.94	467.78	441.30	-568.20	0.00	14260593.34	782205.35	N 39 13 46.70	W 108 1 49.50
	5300.00	9.58	307.84	5240.54	478.60	451.51	-581.34	0.00	14260603.56	782192.20	N 39 13 46.80	W 108 1 49.67
	5313.65	9.58	307.84	5254.00	480.08	452.90	-583.14	0.00	14260604.95	782190.40	N 39 13 46.81	W 108 1 49.69
	5400.00	9.58	307.84	5339.15	489.42	461.72	-594.49	0.00	14260613.77	782179.04	N 39 13 46.89	W 108 1 49.84
	5500.00	9.58	307.84	5437.75	500.25	471.93	-607.64	0.00	14260623.99	782165.89	N 39 13 46.99	W 108 1 50.01
	5600.00	9.58	307.84	5536.36	511.07	482.14	-620.78	0.00	14260634.20	782152.74	N 39 13 47.09	W 108 1 50.18
	5700.00	9.58	307.84	5634.96	521.89	492.35	-633.93	0.00	14260644.42	782139.59	N 39 13 47.18	W 108 1 50.35
	5800.00	9.58	307.84	5733.57	532.72	502.56	-647.08	0.00	14260654.63	782126.44	N 39 13 47.28	W 108 1 50.52
	5850.13	9.58	307.84	5783.00	538.14	507.68	-653.67	0.00	14260659.75	782119.84	N 39 13 47.33	W 108 1 50.61
	5900.00	9.58	307.84	5832.17	543.54	512.77	-660.22	0.00	14260664.85	782113.28	N 39 13 47.37	W 108 1 50.70
Mancos B Blue Gate	6000.00	9.58	307.84	5930.78	554.36	522.98	-673.37	0.00	14260675.06	782100.13	N 39 13 47.47	W 108 1 50.87
	6100.00	9.58	307.84	6029.38	565.19	533.19	-686.52	0.00	14260685.28	782086.98	N	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	
Prairie Canyon	6400.00	9.58	307.84	6325.20	597.65	563.83	-725.96	0.00	14260715.92	782047.52	N 39 13 47.86	W 108 1 51.55	
	6478.90	9.58	307.84	6403.00	606.19	571.88	-736.33	0.00	14260723.98	782037.14	N 39 13 47.93	W 108 1 51.69	
	6500.00	9.58	307.84	6423.80	608.48	574.04	-739.10	0.00	14260726.14	782034.37	N 39 13 47.95	W 108 1 51.72	
	6600.00	9.58	307.84	6522.41	619.30	584.25	-752.25	0.00	14260736.35	782021.22	N 39 13 48.05	W 108 1 51.89	
	6700.00	9.58	307.84	6621.01	630.12	594.46	-765.40	0.00	14260746.57	782008.06	N 39 13 48.15	W 108 1 52.07	
	6800.00	9.58	307.84	6719.62	640.95	604.67	-778.54	0.00	14260756.78	781994.91	N 39 13 48.24	W 108 1 52.24	
	6900.00	9.58	307.84	6818.22	651.77	614.88	-791.69	0.00	14260767.00	781981.76	N 39 13 48.34	W 108 1 52.41	
	7000.00	9.58	307.84	6916.83	662.59	625.09	-804.84	0.00	14260777.21	781968.61	N 39 13 48.44	W 108 1 52.58	
KOP, Build&Turn 6 DLS	7089.55	9.58	307.84	7005.13	672.29	634.23	-816.61	0.00	14260786.36	781956.83	N 39 13 48.52	W 108 1 52.73	
Niobrara Fm	7100.00	9.96	310.80	7015.43	673.47	635.36	-817.98	6.00	14260787.48	781955.46	N 39 13 48.53	W 108 1 52.75	
	7200.00	14.44	330.06	7113.18	690.53	651.83	-830.76	6.00	14260803.96	781942.67	N 39 13 48.69	W 108 1 52.92	
	7300.00	19.74	339.77	7208.75	717.75	678.50	-842.84	6.00	14260830.65	781930.59	N 39 13 48.95	W 108 1 53.09	
	7400.00	25.34	345.42	7301.08	754.84	715.10	-854.07	6.00	14260867.26	781919.35	N 39 13 49.31	W 108 1 53.24	
	7490.48	30.54	348.81	7381.00	796.56	756.42	-863.42	6.00	14260908.60	781910.00	N 39 13 49.71	W 108 1 53.38	
	7500.00	31.09	349.11	7389.17	801.38	761.20	-864.35	6.00	14260913.39	781909.07	N 39 13 49.76	W 108 1 53.39	
	7600.00	36.90	351.74	7472.05	856.87	816.32	-873.55	6.00	14260968.52	781899.86	N 39 13 50.30	W 108 1 53.53	
	7700.00	42.77	353.74	7548.81	920.70	879.84	-881.58	6.00	14261032.07	781891.83	N 39 13 50.93	W 108 1 53.66	
	7800.00	48.66	355.33	7618.61	992.16	951.06	-888.34	6.00	14261103.33	781885.07	N 39 13 51.63	W 108 1 53.78	
	7900.00	54.57	356.67	7680.68	1070.49	1029.22	-893.77	6.00	14261181.52	781879.64	N 39 13 52.40	W 108 1 53.88	
	8000.00	60.49	357.82	7734.35	1154.81	1113.45	-897.80	6.00	14261265.78	781875.61	N 39 13 53.23	W 108 1 53.97	
	8100.00	66.42	358.84	7779.02	1244.21	1202.82	-900.39	6.00	14261355.20	781873.01	N 39 13 54.11	W 108 1 54.04	
	8200.00	72.35	359.77	7814.22	1337.71	1296.37	-901.51	6.00	14261448.79	781871.89	N 39 13 55.04	W 108 1 54.09	
	8300.00	78.29	0.64	7839.54	1434.27	1393.06	-901.15	6.00	14261545.52	781872.25	N 39 13 55.99	W 108 1 54.13	
	8400.00	84.24	1.48	7854.72	1532.85	1491.84	-899.31	6.00	14261644.35	781874.09	N 39 13 56.97	W 108 1 54.15	
	Horizontal Target Landing Point	8463.17	87.99	2.00	7859.00	1595.68	1554.83	-897.40	6.00	14261707.36	781876.01	N 39 13 57.59	W 108 1 54.15
		8463.31	88.00	2.00	7859.01	1595.82	1554.97	-897.39	6.00	14261707.50	781876.01	N 39 13 57.59	W 108 1 54.15
		8500.00	88.00	2.00	7860.29	1632.36	1591.61	-896.11	0.00	14261744.16	781877.29	N 39 13 57.95	W 108 1 54.15
		8600.00	88.00	2.00	7863.78	1731.96	1691.49	-892.62	0.00	14261844.08	781880.78	N 39 13 58.94	W 108 1 54.15
		8700.00	88.00	2.00	7867.27	1831.56	1791.37	-889.14	0.00	14261944.00	781884.27	N 39 13 59.93	W 108 1 54.15
		8800.00	88.00	2.00	7870.76	1931.16	1891.25	-885.65	0.00	14262043.93	781887.76	N 39 14 0.92	W 108 1 54.15
		8900.00	88.00	2.00	7874.25	2030.76	1991.12	-882.16	0.00	14262143.85	781891.25	N 39 14 1.90	W 108 1 54.14
		9000.00	88.00	2.00	7877.74	2130.36	2091.00	-878.67	0.00	14262243.77	781894.74	N 39 14 2.89	W 108 1 54.14
		9100.00	88.00	2.00	7881.23	2229.96	2190.88	-875.18	0.00	14262343.69	781898.23	N 39 14 3.88	W 108 1 54.14
		9200.00	88.00	2.00	7884.72	2329.56	2290.76	-871.70	0.00	14262443.61	781901.72	N 39 14 4.87	W 108 1 54.14
		9300.00	88.00	2.00	7888.20	2429.16	2390.64	-868.21	0.00	14262543.54	781905.21	N 39 14 5.86	W 108 1 54.14
		9400.00	88.00	2.00	7891.69	2528.76	2490.52	-864.72	0.00	14262643.46	781908.70	N 39 14 6.84	W 108 1 54.13
		9500.00	88.00	2.00	7895.18	2628.36	2590.39	-861.23	0.00	14262743.38	781912.19	N 39 14 7.83	W 108 1 54.13
		9600.00	88.00	2.00	7898.67	2727.96	2690.27	-857.75	0.00	14262843.30	781915.67	N 39 14 8.82	W 108 1 54.13
		9700.00	88.00	2.00	7902.16	2827.56	2790.15	-854.26	0.00	14262943.22	781919.16	N 39 14 9.81	W 108 1 54.13
		9800.00	88.00	2.00	7905.65	2927.16	2890.03	-850.77	0.00	14263043.15	781922.65	N 39 14 10.79	W 108 1 54.13
		9900.00	88.00	2.00	7909.14	3026.76	2989.91	-847.28	0.00	14263143.07	781926.14	N 39 14 11.78	W 108 1 54.13
		10000.00	88.00	2.00	7912.63	3126.36	3089.78	-843.79	0.00	14263242.99	781929.63	N 39 14 12.77	W 108 1 54.12
		10100.00	88.00	2.00	7916.12	3225.96	3189.66	-840.31	0.00	14263342.91	781933.12	N 39 14 13.76	W 108 1 54.12
Nio Laminated Siltst		10182.39	88.00	2.00	7919.00	3308.02	3271.95	-837.43	0.00	14263442.84	781936.00	N 39 14 14.57	W 108 1 54.12
		10200.00	88.00	2.00	7919.61	3325.56	3289.54	-836.82	0.00	14263442.83	781936.61	N 39 14 14.75	W 108 1 54.12
		10300.00	88.00	2.00	7923.10	3425.16	3389.42	-833.33	0.00	14263542.76	781940.10	N 39 14 15.73	W 108 1 54.12
		10400.00	88.00	2.00	7926.59	3524.76	3489.30	-829.84	0.00	14263642.68	781943.59	N 39 14 16.72	W 108 1 54.12
		10500.00	88.00	2.00	7930.08	3624.36	3589.18	-826.36	0.00	14263742.60	781947.08	N 39 14 17.71	W 108 1 54.11
		10600.00	88.00	2.00	7933.57	3723.96	3689.05	-822.87	0.00	14263842.52	781950.57	N 39 14 18.70	W 108 1 54.11
		10700.00	88.00	2.00	7937.06	3823.56	3788.93	-819.38	0.00	14263942.45	781954.06	N 39 14 19.68	W 108 1 54.11
		10800.00	88.00	2.00	7940.55	3923.16	3888.81	-815.89	0.00	14264042.37	781957.55	N 39 14 20.67	W 108 1 54.11
		10900.00	88.00	2.00	7944.04	4022.76	3988.69	-812.40	0.00	14264142.29	781961.04	N 39 14 21.66	W 108 1 54.11
		11000.00	88.00	2.00	7947.53	4122.36	4088.57	-808.92	0.00	14264242.21	781964.53	N 39 14 22.65	W 108 1 54.11
		11100.00	88.00	2.00	7951.02	4221.96	4188.44	-805.43	0.00	14264342.13	781968.01	N 39 14 23.64	W 108 1 54.10
		11200.00	88.00	2.00	7954.51	4321.56	4288.32	-801.94	0.00	14264442.06	781971.50	N 39 14 24.62	W 108 1 54.10
		11300.00	88.00	2.00	7958.00	4421.16	4388.20	-798.45	0.00	14264541.98	781974.99	N 39 14 25.61	W 108 1 54.10
		11400.00	88.00	2.00	7961.49	4520.76	4488.08	-794.96	0.00	14264641.90	781978.48	N 39 14 26.60	W 108 1 54.10
		11500.00	88.00	2.00	7964.98	4620.36	4587.96	-791.48	0.00	14264741.82	781981.97	N 39 14 27.59	W 108 1 54.10
	11600.00	88.00	2.00	7968.47	4719.96	4687.84	-787.99	0.00	14264841.74	781985.46	N 39 14 28.57	W 108 1 54.09	
	11700.00	88.00	2.00	7971.96	4819.56	4787.71	-784.50	0.00	14264941.67	781988.95	N 39 14 29.56	W 108 1 54.09	
	11800.00	88.00	2.00	7975.45	4919.16	4887.59	-781.01	0.00	14265041.59	781992.44	N 39 14 30.55	W 108 1 54.09	
	11900.00	88.00	2.00	7978.94	5018.76	4987.47	-777.53	0.00	14265141.51	781995.93	N 39 14 31.54	W 108 1 54.09	
	12000.00	88.00	2.00	7982.43	5118.36	5087.35	-774.04	0.00	14265241.43	781999.42	N 39 14 32.53	W 108 1 54.09	
	12100.00	88.00	2.00	7985.92	5217.96	5187.23	-770.55	0.00	14265341.35				

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	16500.00	88.00	2.00	8139.48	9800.36	9581.87	-617.09	0.00	14269737.93	782156.44	N 39 15 16.97	W 108 1 54.01
	16600.00	88.00	2.00	8142.97	9899.96	9681.75	-613.60	0.00	14269837.85	782159.93	N 39 15 17.96	W 108 1 54.01
	16700.00	88.00	2.00	8146.46	9799.56	9781.62	-610.11	0.00	14269937.77	782163.42	N 39 15 18.95	W 108 1 54.00
	16800.00	88.00	2.00	8149.95	9899.16	9881.50	-606.62	0.00	14270037.69	782166.91	N 39 15 19.94	W 108 1 54.00
	16900.00	88.00	2.00	8153.44	9998.76	9981.38	-603.13	0.00	14270137.62	782170.40	N 39 15 20.93	W 108 1 54.00
	17000.00	88.00	2.00	8156.93	10098.36	10081.26	-599.65	0.00	14270237.54	782173.89	N 39 15 21.91	W 108 1 54.00
	17100.00	88.00	2.00	8160.42	10197.96	10181.14	-596.16	0.00	14270337.46	782177.38	N 39 15 22.90	W 108 1 54.00
	17200.00	88.00	2.00	8163.91	10297.56	10281.01	-592.67	0.00	14270437.38	782180.87	N 39 15 23.89	W 108 1 53.99
	17300.00	88.00	2.00	8167.40	10397.16	10380.89	-589.18	0.00	14270537.30	782184.36	N 39 15 24.88	W 108 1 53.99
	17400.00	88.00	2.00	8170.89	10496.76	10480.77	-585.70	0.00	14270637.23	782187.84	N 39 15 25.86	W 108 1 53.99
	17500.00	88.00	2.00	8174.38	10596.36	10580.65	-582.21	0.00	14270737.15	782191.33	N 39 15 26.85	W 108 1 53.99
	17600.00	88.00	2.00	8177.87	10695.96	10680.53	-578.72	0.00	14270837.07	782194.82	N 39 15 27.84	W 108 1 53.99
	17700.00	88.00	2.00	8181.36	10795.56	10780.41	-575.23	0.00	14270936.99	782198.31	N 39 15 28.83	W 108 1 53.99
	17800.00	88.00	2.00	8184.85	10895.16	10880.28	-571.74	0.00	14271036.91	782201.80	N 39 15 29.82	W 108 1 53.98
	17900.00	88.00	2.00	8188.34	10994.76	10980.16	-568.26	0.00	14271136.84	782205.29	N 39 15 30.80	W 108 1 53.98
	18000.00	88.00	2.00	8191.83	11094.36	11080.04	-564.77	0.00	14271236.76	782208.78	N 39 15 31.79	W 108 1 53.98
	18100.00	88.00	2.00	8195.32	11193.96	11179.92	-561.28	0.00	14271336.68	782212.27	N 39 15 32.78	W 108 1 53.98
	18200.00	88.00	2.00	8198.81	11293.56	11279.80	-557.79	0.00	14271436.60	782215.76	N 39 15 33.77	W 108 1 53.98
	18300.00	88.00	2.00	8202.30	11393.16	11379.68	-554.30	0.00	14271536.52	782219.25	N 39 15 34.75	W 108 1 53.97
	18400.00	88.00	2.00	8205.79	11492.76	11479.55	-550.82	0.00	14271636.45	782222.74	N 39 15 35.74	W 108 1 53.97
Nichols 19-10H TD	18463.31	88.00	2.00	8208.00	11555.82	11542.79	-548.61	0.00	14271699.71	782224.95	N 39 15 36.37	W 108 1 53.97

Survey Type: Def Plan

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	1/100.000	SLB_MWD-STD-Depth Only	Original Hole / Nichols 19-10H R2 ors 01-Dec-11
	22.000	18463.313	1/100.000	SLB_MWD-STD	Original Hole / Nichols 19-10H R2 ors 01-Dec-11