

WELL	Orchard Unit 30-5H2	FIELD	Mesa County, CO	STRUCTURE	Encana 29-08S-96W (D29OU Pa
Magnetic Parameters	Model: BGM 2010	Dip: 65.601°	Date: May 01, 2011	Surface Location	NAD83 UTM Zone 13N, US Feet
	Mag Dec: 10.412°	Mag Dec: 10.412°	PS: 52131.3mT	Lat: N 39 19 33.431	North: 14296714.31 RUS
				Lon: W 108 8 18.427	East: 752821.15 RUS
					Grid Conv: -1.99014066°
					Scale Fact: 1.00050128
				Miscellaneous	Sit: Federal 4
				Plan: R1 ors 24-Feb-11	TVD Ref: RKB(51128 above MSL)
					Srvy Date: May 01, 2011

Proposal

North: 14296714.31 East: 752821.15

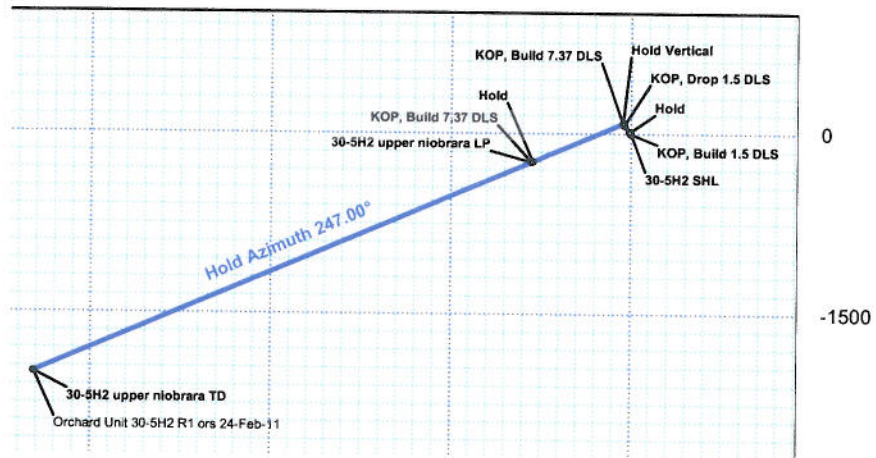
Surface Location

Target Name	Shape	Major Axis	N(+)S(-)	E(+)W(-)	TVD	YSec	N(+)S(-)	E(+)W(-)
30-5H2 upper niobrara KOP	Point	0.00	14296802.35	752757.43	7589.00	26.33	87.99	-63.69
30-5H2 upper niobrara LP	Point	0.00	14296477.63	751992.42	8364.36	856.83	-236.56	-828.31
30-5H2 upper niobrara TD	Point	0.00	14294718.74	747848.73	8120.50	5355.24	-1994.58	-4969.94



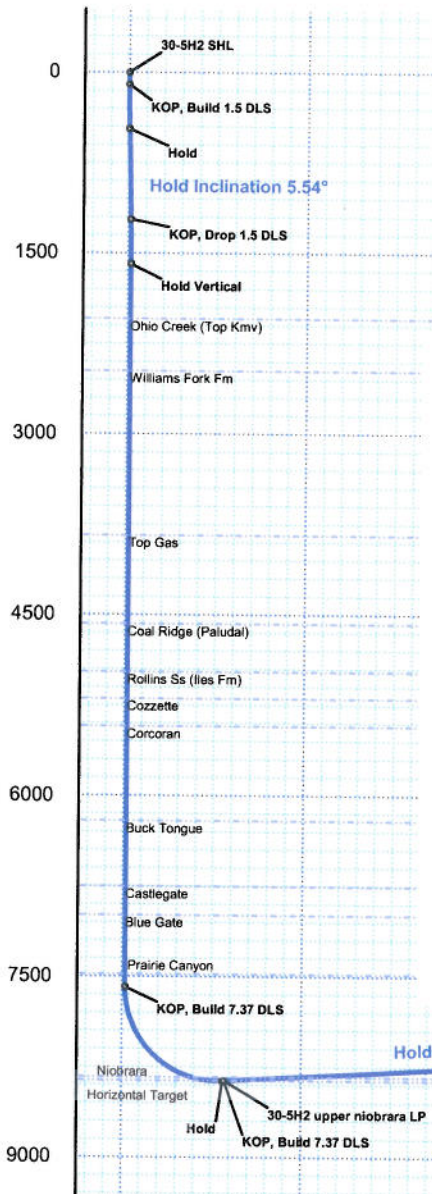
Grid North
Tot Corr (M->G 12.4017°)
Mag Dec (10.412°)
Grid Conv (-1.99014066°)

<<< W Scale = 1(in):1500(ft) E >>>
-4500 -3000 -1500 0



<<< S Scale = 1(in):1500(ft) N >>>

TVD Scale = 1(in):1500(ft)



Critical Point	MD	INCL	AZIM	TVD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
30-5H2 SHL	0.00	0.00	324.10	0.00	0.00	0.00	0.00	
KOP, Build 1.5 DLS	100.00	0.00	324.10	100.00	0.00	0.00	0.00	0.00
Hold	469.58	5.54	324.10	469.00	4.33	14.47	-10.47	1.50
KOP, Drop 1.5 DLS	1224.10	5.54	324.10	1220.00	22.00	73.52	-53.21	0.00
Hold Vertical	1593.68	0.00	324.10	1589.00	26.33	87.99	-63.69	1.50
Ohio Creek (Top Km)	2049.68	0.00	324.10	2045.00	26.33	87.99	-63.69	0.00
Williams Fork Fm	2481.68	0.00	324.10	2477.00	26.33	87.99	-63.69	0.00
Top Gas	3847.68	0.00	324.10	3843.00	26.33	87.99	-63.69	0.00
Coal Ridge (Paludal)	4582.68	0.00	324.10	4578.00	26.33	87.99	-63.69	0.00
Rollins Ss (Iles Fm)	4980.68	0.00	324.10	4976.00	26.33	87.99	-63.69	0.00
Cozzette	5201.68	0.00	324.10	5197.00	26.33	87.99	-63.69	0.00
Corcoran	5432.68	0.00	324.10	5428.00	26.33	87.99	-63.69	0.00
Buck Tongue	6215.68	0.00	324.10	6211.00	26.33	87.99	-63.69	0.00
Castlegate	6760.68	0.00	324.10	6756.00	26.33	87.99	-63.69	0.00
Blue Gate	6997.68	0.00	324.10	6993.00	26.33	87.99	-63.69	0.00
Prairie Canyon	7486.68	0.00	324.10	7482.00	26.33	87.99	-63.69	0.00
KOP, Build 7.37 DLS	7593.68	0.00	324.10	7589.00	26.33	87.99	-63.69	0.00
Niobrara	8597.39	74.01	247.00	8336.00	589.18	-131.97	-581.89	7.37
Horizontal Target	8773.27	86.97	247.00	8365.00	762.24	-199.60	-741.23	7.37
Hold	8853.76	92.91	247.00	8365.08	842.68	-231.04	-815.29	7.37
Horizontal Target	8855.40	92.91	247.00	8365.00	844.32	-231.68	-816.80	0.00
KOP, Build 7.37 DLS	8865.33	92.91	247.00	8364.50	854.23	-235.55	-825.92	0.00
30-5H2 upper niobrara LP	8867.93	93.10	247.00	8364.36	856.83	-236.56	-828.31	7.37
Niobrara	9392.31	93.10	247.00	8336.00	1380.33	-441.15	-1310.30	0.00
30-5H2 upper niobrara TD	13373.83	93.10	247.00	8120.50	5355.24	-1994.58	-4969.94	0.00

Vertical Section (ft) Azim = 248.133°, Scale = 1(in):1500(ft) Origin = 0 N-S, 0 E-W

Quality Control
Date Drawn: February 24, 2011 03:38:05 PM
Drawn by: Jeff Wilson
Checked by: Oswaldo Salazar
Client OK:

Orchard Unit 30-5H2 R1 ors 24-Feb-11 Proposal Report

(Def Plan)

Report Date: February 24, 2011 - 04:20 PM
Client: EnCana Oil&Gas (USA) Inc.
Field: CO, Mesa County (NAD 83 UTM 13) EnCana 2010
Structure / Slot: Encana 29-08S-96W (D29OU Pad) / Federal 4
Well: Orchard Unit 30-5H2
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: Orchard Unit 30-5H2 R1 ors 24-Feb-11
Survey Date: May 01, 2011
Tort / AHD / DDI / ERD Ratio: 104.192 ° / 5438.574 ft / 5.957 / 0.650
Coordinate Reference System: NAD83 UTM Zone 13N, US Feet
Location Lat / Long: N 39° 19' 33.43080", W 108° 8' 18.42722"
Location Grid N/E Y/X: N 14296714.313 NUS, E 752821.148 NUS
CRS Grid Convergence Angle: -1.99014066 °
Grid Scale Factor: 1.00050128

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 248.133 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 6112.000 ft above MSL
Seabed / Ground Elevation: 6081.000 ft above MSL
Magnetic Declination: 10.412 °
Total Field Strength: 52131.338 nT
Magnetic Dip Angle: 65.601 °
Declination Date: May 01, 2011
Magnetic Declination Model: BGGM 2010
North Reference: Grid North
Grid Convergence Used: -1.990 °
Total Corr Mag North->Grid North: 12.402 °

Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
30-5H2 SHL	0.00	0.00	324.10	0.00	0.00	0.00	0.00	N/A	14296714.31	752821.15	N 39 19 33.43	W 108 8 18.43
KOP, Build 1.5 DLS	100.00	0.00	324.10	100.00	0.00	0.00	0.00	0.00	14296714.31	752821.15	N 39 19 33.43	W 108 8 18.43
	200.00	1.50	324.10	199.99	0.32	1.06	-0.77	1.50	14296715.37	752820.38	N 39 19 33.44	W 108 8 18.44
	300.00	3.00	324.10	299.91	1.27	4.24	-3.07	1.50	14296718.56	752818.08	N 39 19 33.47	W 108 8 18.47
	400.00	4.50	324.10	399.69	2.85	9.54	-6.90	1.50	14296723.86	752814.24	N 39 19 33.52	W 108 8 18.52
Hold	469.58	5.54	324.10	469.00	4.33	14.47	-10.47	1.50	14296728.79	752810.67	N 39 19 33.57	W 108 8 18.57
	500.00	5.54	324.10	499.28	5.04	16.85	-12.20	0.00	14296731.17	752808.94	N 39 19 33.59	W 108 8 18.59
	600.00	5.54	324.10	598.81	7.38	24.68	-17.86	0.00	14296739.00	752803.28	N 39 19 33.87	W 108 8 18.67
	700.00	5.54	324.10	698.35	9.73	32.50	-23.53	0.00	14296746.83	752797.61	N 39 19 33.74	W 108 8 18.74
	800.00	5.54	324.10	797.88	12.07	40.33	-29.19	0.00	14296754.66	752791.94	N 39 19 33.82	W 108 8 18.82
	900.00	5.54	324.10	897.41	14.41	48.16	-34.85	0.00	14296762.49	752786.28	N 39 19 33.89	W 108 8 18.89
	1000.00	5.54	324.10	996.94	16.75	55.98	-40.52	0.00	14296770.32	752780.61	N 39 19 33.97	W 108 8 18.97
	1100.00	5.54	324.10	1096.48	19.09	63.81	-46.18	0.00	14296778.15	752774.94	N 39 19 34.05	W 108 8 19.04
	1200.00	5.54	324.10	1196.01	21.44	71.63	-51.85	0.00	14296785.98	752769.28	N 39 19 34.12	W 108 8 19.12
KOP, Drop 1.5 DLS	1224.10	5.54	324.10	1220.00	22.00	73.52	-53.21	0.00	14296787.87	752767.91	N 39 19 34.14	W 108 8 19.14
	1300.00	4.41	324.10	1295.61	23.60	78.85	-57.07	1.50	14296793.20	752764.05	N 39 19 34.19	W 108 8 19.19
	1400.00	2.91	324.10	1395.40	25.14	84.02	-60.81	1.50	14296798.37	752760.31	N 39 19 34.24	W 108 8 19.24
	1500.00	1.41	324.10	1495.33	26.05	87.06	-63.01	1.50	14296801.42	752758.10	N 39 19 34.27	W 108 8 19.27
Hold Vertical	1583.68	0.00	324.10	1589.00	26.33	87.99	-63.69	1.50	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	1600.00	0.00	324.10	1595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	1700.00	0.00	324.10	1695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	1800.00	0.00	324.10	1795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	1900.00	0.00	324.10	1895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2000.00	0.00	324.10	1995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Ohio Creek (Top Kmv)	2049.68	0.00	324.10	2045.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2100.00	0.00	324.10	2095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2200.00	0.00	324.10	2195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2300.00	0.00	324.10	2295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2400.00	0.00	324.10	2395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Williams Fork Fm	2481.68	0.00	324.10	2477.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2500.00	0.00	324.10	2495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2600.00	0.00	324.10	2595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2700.00	0.00	324.10	2695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2800.00	0.00	324.10	2795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	2900.00	0.00	324.10	2895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3000.00	0.00	324.10	2995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3100.00	0.00	324.10	3095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3200.00	0.00	324.10	3195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3300.00	0.00	324.10	3295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3400.00	0.00	324.10	3395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3500.00	0.00	324.10	3495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3600.00	0.00	324.10	3595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3700.00	0.00	324.10	3695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3800.00	0.00	324.10	3795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Top Gas	3847.68	0.00	324.10	3843.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	3900.00	0.00	324.10	3895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4000.00	0.00	324.10	3995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4100.00	0.00	324.10	4095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4200.00	0.00	324.10	4195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4300.00	0.00	324.10	4295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4400.00	0.00	324.10	4395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4500.00	0.00	324.10	4495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Coal Ridge (Paludal)	4582.68	0.00	324.10	4578.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4600.00	0.00	324.10	4595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4700.00	0.00	324.10	4695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4800.00	0.00	324.10	4795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	4900.00	0.00	324.10	4895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Rollins Ss (lles Fm)	4980.68	0.00	324.10	4976.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5000.00	0.00	324.10	4995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5100.00	0.00	324.10	5095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5200.00	0.00	324.10	5195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Cozzette	5201.68	0.00	324.10	5197.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28

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 ° ' ")
Corcoran	5300.00	0.00	324.10	5295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5400.00	0.00	324.10	5395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5432.68	0.00	324.10	5428.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5500.00	0.00	324.10	5495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5600.00	0.00	324.10	5595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5700.00	0.00	324.10	5695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5800.00	0.00	324.10	5795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	5900.00	0.00	324.10	5895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6000.00	0.00	324.10	5995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6100.00	0.00	324.10	6095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Buck Tongue	6200.00	0.00	324.10	6195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6215.68	0.00	324.10	6211.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6300.00	0.00	324.10	6295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6400.00	0.00	324.10	6395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6500.00	0.00	324.10	6495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6600.00	0.00	324.10	6595.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6700.00	0.00	324.10	6695.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6760.68	0.00	324.10	6756.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6800.00	0.00	324.10	6795.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	6900.00	0.00	324.10	6895.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Blue Gate	6997.68	0.00	324.10	6993.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7000.00	0.00	324.10	6995.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7100.00	0.00	324.10	7095.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7200.00	0.00	324.10	7195.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7300.00	0.00	324.10	7295.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
Prairie Canyon	7400.00	0.00	324.10	7395.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7486.68	0.00	324.10	7482.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7500.00	0.00	324.10	7495.32	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7593.68	0.00	324.10	7589.00	26.33	87.99	-63.69	0.00	14296802.35	752757.43	N 39 19 34.28	W 108 8 19.28
	7600.00	0.47	247.00	7595.32	26.36	87.98	-63.71	7.37	14296802.34	752757.41	N 39 19 34.28	W 108 8 19.28
KOP, Build 7.37 DLS	7700.00	7.84	247.00	7694.99	33.59	85.16	-70.37	7.37	14296799.51	752750.74	N 39 19 34.25	W 108 8 19.36
	7800.00	15.21	247.00	7792.90	53.55	77.35	-88.75	7.37	14296791.71	752732.35	N 39 19 34.16	W 108 8 19.59
	7900.00	22.59	247.00	7887.45	85.92	64.71	-118.54	7.37	14296779.05	752702.54	N 39 19 34.03	W 108 8 19.96
	8000.00	29.96	247.00	7977.06	130.14	47.42	-159.26	7.37	14296761.76	752661.81	N 39 19 33.84	W 108 8 20.47
	8100.00	37.33	247.00	8060.25	185.49	25.79	-210.23	7.37	14296740.12	752610.82	N 39 19 33.61	W 108 8 21.11
	8200.00	44.70	247.00	8135.64	251.07	0.17	-270.60	7.37	14296714.48	752550.41	N 39 19 33.34	W 108 8 21.87
	8300.00	52.08	247.00	8202.00	325.77	-29.03	-339.38	7.37	14296685.27	752481.60	N 39 19 33.03	W 108 8 22.73
	8400.00	59.45	247.00	8258.22	408.37	-81.31	-415.43	7.37	14296652.97	752405.51	N 39 19 32.68	W 108 8 23.68
	8500.00	66.82	247.00	8303.38	497.50	-96.14	-497.49	7.37	14296618.12	752323.41	N 39 19 32.31	W 108 8 24.71
	8597.39	74.01	247.00	8336.00	589.18	-131.97	-581.89	7.37	14296582.28	752238.96	N 39 19 31.93	W 108 8 25.77
Horizontal Target	8600.00	74.20	247.00	8336.72	591.69	-132.95	-584.20	7.37	14296581.30	752236.65	N 39 19 31.92	W 108 8 25.80
	8700.00	81.57	247.00	8357.69	689.37	-171.12	-674.14	7.37	14296543.10	752146.87	N 39 19 31.51	W 108 8 26.93
	8773.27	86.97	247.00	8365.00	762.24	-199.60	-741.23	7.37	14296514.61	752079.55	N 39 19 31.20	W 108 8 27.77
	8800.00	88.94	247.00	8365.95	788.94	-210.04	-765.82	7.37	14296504.17	752054.95	N 39 19 31.09	W 108 8 28.07
	8853.76	92.91	247.00	8365.08	842.68	-231.04	-815.29	7.37	14296483.16	752005.45	N 39 19 30.87	W 108 8 28.69
Hold Horizontal Target KOP, Build 7.37 DLS 30-SH2 upper niobrara LP	8855.40	92.91	247.00	8365.00	844.32	-231.68	-816.80	0.00	14296482.52	752003.94	N 39 19 30.86	W 108 8 28.71
	8865.33	92.91	247.00	8364.50	854.23	-235.55	-825.92	0.00	14296478.65	751994.81	N 39 19 30.82	W 108 8 28.83
	8867.93	93.10	247.00	8364.36	856.83	-236.56	-828.31	7.37	14296477.63	751992.42	N 39 19 30.81	W 108 8 28.86
	8900.00	93.10	247.00	8362.83	888.84	-249.08	-857.79	0.00	14296465.11	751962.93	N 39 19 30.68	W 108 8 29.23
	9000.00	93.10	247.00	8357.22	988.68	-288.09	-949.71	0.00	14296428.08	751870.97	N 39 19 30.28	W 108 8 30.38
Niobrara	9100.00	93.10	247.00	8351.81	1088.51	-327.11	-1041.62	0.00	14296387.04	751779.01	N 39 19 29.84	W 108 8 31.53
	9200.00	93.10	247.00	8346.40	1188.34	-366.12	-1133.54	0.00	14296348.01	751687.05	N 39 19 29.43	W 108 8 32.68
	9300.00	93.10	247.00	8340.99	1288.18	-405.14	-1225.45	0.00	14296308.97	751595.08	N 39 19 29.01	W 108 8 33.83
	9392.31	93.10	247.00	8336.00	1380.33	-441.15	-1310.30	0.00	14296272.94	751510.20	N 39 19 28.62	W 108 8 34.90
	9400.00	93.10	247.00	8335.58	1388.01	-444.16	-1317.37	0.00	14296269.94	751503.12	N 39 19 28.59	W 108 8 34.98
	9500.00	93.10	247.00	8330.17	1487.85	-483.17	-1409.28	0.00	14296230.90	751411.16	N 39 19 28.17	W 108 8 36.14
	9600.00	93.10	247.00	8324.77	1587.68	-522.19	-1501.20	0.00	14296191.86	751319.20	N 39 19 27.76	W 108 8 37.29
	9700.00	93.10	247.00	8319.36	1687.51	-561.20	-1593.12	0.00	14296152.83	751227.24	N 39 19 27.34	W 108 8 38.44
	9800.00	93.10	247.00	8313.95	1787.35	-600.22	-1685.03	0.00	14296113.79	751135.28	N 39 19 26.92	W 108 8 39.59
	9900.00	93.10	247.00	8308.54	1887.18	-639.24	-1776.95	0.00	14296074.76	751043.31	N 39 19 26.51	W 108 8 40.74
	10000.00	93.10	247.00	8303.13	1987.02	-678.25	-1868.86	0.00	14296035.72	750951.35	N 39 19 26.09	W 108 8 41.89
	10100.00	93.10	247.00	8297.72	2086.85	-717.27	-1960.78	0.00	14295996.69	750859.39	N 39 19 25.67	W 108 8 43.05
	10200.00	93.10	247.00	8292.31	2186.68	-756.28	-2052.69	0.00	14295957.65	750767.43	N 39 19 25.26	W 108 8 44.20
	10300.00	93.10	247.00	8286.90	2286.52	-795.30	-2144.61	0.00</				

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 ° ' ")
	12700.00	93.10	247.00	8156.99	4682.53	-1731.68	-4350.58	0.00	14294981.77	748468.39	N 39 19 14.83	W 108 9 12.99
	12800.00	93.10	247.00	8151.58	4782.37	-1770.69	-4442.50	0.00	14294942.74	748376.43	N 39 19 14.41	W 108 9 14.14
	12900.00	93.10	247.00	8146.16	4882.20	-1809.71	-4534.41	0.00	14294903.70	748284.47	N 39 19 14.00	W 108 9 15.29
	13000.00	93.10	247.00	8140.75	4982.03	-1848.72	-4626.33	0.00	14294864.67	748192.51	N 39 19 13.58	W 108 9 16.44
	13100.00	93.10	247.00	8135.33	5081.87	-1887.74	-4718.24	0.00	14294825.63	748100.55	N 39 19 13.16	W 108 9 17.59
	13200.00	93.10	247.00	8129.91	5181.70	-1926.76	-4810.16	0.00	14294786.59	748008.59	N 39 19 12.74	W 108 9 18.74
	13300.00	93.10	247.00	8124.50	5281.53	-1965.77	-4902.08	0.00	14294747.56	747916.62	N 39 19 12.33	W 108 9 19.90
30-5H2 upper niobrara TD	13373.83	93.10	247.00	8120.50	5355.24	-1994.58	-4969.94	0.00	14294718.74	747848.73	N 39 19 12.02	W 108 9 20.75

Survey Type: Def Plan

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

MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
0.000	31.000	1/100.000	SLB_MWD-STD-Depth Only	Original Hole / Orchard Unit 30-5H2 R1 ors 24-Feb-11
31.000	13373.830	1/100.000	SLB_MWD-STD	Original Hole / Orchard Unit 30-5H2 R1 ors 24-Feb-11