

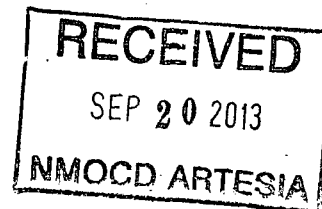


A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

July 18, 2013

COG Operating LLC (Concho)
One Concho Center
600 W. Illinois Avenue
Midland, TX 79701



Attn: Kanicia Castillo

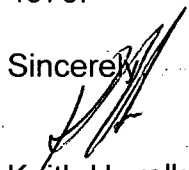
30.015.41157

Re: **Salada Vista 36 State No 003H**

Please find enclosed a copy of the survey from 0' to 8,145' ran on the above referenced well.

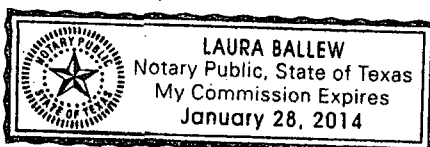
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

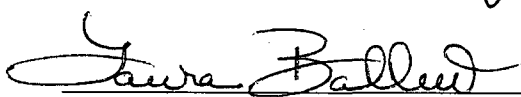
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 18th day of July, A.D., 2013, by Keith Havelka.




Laura Balley
Notary Public, State of Texas



Company: COG Operating-Concho
Lease/Well: Salada Vista 36 State/No 003H

Rig Name: Patriot Drilling #6
State/County: New Mexico/Eddy
Latitude: 32.62, Longitude: -103.92
GRID North is 0.22 Degrees East of True North
VS-Azi: 0.00 Degrees



RKB : 17 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 7/18/2013 / 13:04

Vaughn Energy Services
Fort Worth, TX
817- 741-3610

Surveyor: Jason Wilson
Salada Vista 36 State No 003H / API 30-015-41157



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.90	171.27	100.00	-0.77	0.12	-0.77	0.78	171.27	0.90
200.00	1.52	185.77	199.97	-2.87	0.10	-2.87	2.87	177.93	0.69
300.00	1.81	214.09	299.93	-5.50	-0.91	-5.50	5.57	189.45	0.86
400.00	1.57	206.40	399.89	-8.03	-2.41	-8.03	8.38	196.69	0.33
500.00	1.45	202.17	499.85	-10.43	-3.49	-10.43	11.00	198.52	0.16
600.00	1.27	200.12	599.83	-12.64	-4.35	-12.64	13.37	199.00	0.19
700.00	0.96	205.03	699.81	-14.43	-5.09	-14.43	15.30	199.41	0.33
800.00	0.47	210.37	799.80	-15.54	-5.65	-15.54	16.54	199.96	0.49
900.00	0.22	211.72	899.80	-16.06	-5.95	-16.06	17.12	200.34	0.26
1000.00	0.13	218.88	999.80	-16.30	-6.12	-16.30	17.41	200.58	0.09
1100.00	0.52	97.62	1099.80	-16.45	-5.74	-16.45	17.42	199.24	0.59
1200.00	0.68	85.25	1199.79	-16.46	-4.70	-16.46	17.12	195.95	0.20
1300.00	1.38	81.45	1299.77	-16.23	-2.93	-16.23	16.49	190.23	0.70
1400.00	2.16	71.78	1399.73	-15.47	0.05	-15.47	15.47	179.83	0.83
1500.00	2.24	73.83	1499.65	-14.33	3.71	-14.33	14.81	165.48	0.11
1600.00	2.13	71.07	1599.58	-13.18	7.35	-13.18	15.09	150.87	0.15
1700.00	1.85	64.40	1699.52	-11.88	10.57	-11.88	15.90	138.35	0.36
1800.00	1.44	68.75	1799.48	-10.73	13.20	-10.73	17.01	129.10	0.43

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.77	73.07	1899.46	-10.08	15.01	-10.08	18.08	123.87	0.67
2000.00	0.26	72.25	1999.45	-9.81	15.88	-9.81	18.66	121.71	0.51
2100.00	0.14	227.67	2099.45	-9.82	16.00	-9.82	18.78	121.54	0.40
2200.00	0.09	214.28	2199.45	-9.97	15.87	-9.97	18.74	122.14	0.06
2300.00	0.20	301.49	2299.45	-9.94	15.68	-9.94	18.56	122.38	0.21
2400.00	0.54	317.00	2399.45	-9.50	15.21	-9.50	17.93	122.00	0.35
2500.00	0.68	317.51	2499.45	-8.72	14.48	-8.72	16.91	121.05	0.14
2600.00	0.55	333.88	2599.44	-7.85	13.87	-7.85	15.94	119.52	0.22
2700.00	0.64	334.76	2699.43	-6.92	13.42	-6.92	15.10	117.26	0.09
2800.00	0.48	348.93	2799.43	-6.00	13.10	-6.00	14.41	114.60	0.21
2900.00	0.56	342.68	2899.43	-5.12	12.88	-5.12	13.86	111.69	0.10
3000.00	0.48	346.73	2999.42	-4.25	12.64	-4.25	13.33	108.58	0.09
3100.00	0.53	349.37	3099.42	-3.38	12.45	-3.38	12.91	105.20	0.05
3200.00	0.37	347.97	3199.41	-2.62	12.30	-2.62	12.58	102.02	0.16
3300.00	0.45	349.37	3299.41	-1.92	12.16	-1.92	12.31	98.96	0.09
3400.00	0.50	350.75	3399.41	-1.10	12.02	-1.10	12.07	95.21	0.05
3500.00	0.58	358.55	3499.40	-0.15	11.94	-0.15	11.94	90.74	0.11
3600.00	0.67	345.53	3599.40	0.92	11.78	0.92	11.81	85.55	0.16
3700.00	0.96	338.31	3699.39	2.26	11.32	2.26	11.55	78.71	0.32
3800.00	1.24	332.05	3799.37	4.00	10.51	4.00	11.24	69.17	0.30
3900.00	1.22	337.34	3899.35	5.93	9.59	5.93	11.28	58.28	0.12
4000.00	1.27	318.97	3999.32	7.74	8.46	7.74	11.46	47.54	0.40
4100.00	1.50	316.81	4099.29	9.53	6.84	9.53	11.73	35.66	0.24
4200.00	1.04	318.87	4199.27	11.17	5.34	11.17	12.38	25.58	0.46
4300.00	1.01	323.08	4299.25	12.56	4.22	12.56	13.25	18.56	0.08
4400.00	1.01	327.03	4399.24	14.00	3.21	14.00	14.36	12.90	0.07
4500.00	1.22	318.87	4499.22	15.54	2.03	15.54	15.67	7.45	0.26
4600.00	1.05	323.89	4599.20	17.08	0.79	17.08	17.10	2.66	0.19
4700.00	0.98	328.89	4699.18	18.55	-0.19	18.55	18.55	359.41	0.11
4800.00	1.08	328.45	4799.17	20.09	-1.13	20.09	20.12	356.79	0.09
4900.00	1.22	323.52	4899.15	21.74	-2.25	21.74	21.86	354.09	0.17
5000.00	1.17	308.74	4999.13	23.24	-3.68	23.24	23.52	351.00	0.31
5100.00	1.07	300.30	5099.11	24.35	-5.28	24.35	24.91	347.76	0.20
5200.00	1.12	304.65	5199.09	25.37	-6.89	25.37	26.29	344.81	0.10
5300.00	1.16	312.46	5299.07	26.61	-8.44	26.61	27.92	342.40	0.16
5400.00	1.11	326.37	5399.05	28.11	-9.73	28.11	29.74	340.91	0.28
5500.00	1.02	326.38	5499.03	29.66	-10.76	29.66	31.55	340.06	0.10
5600.00	1.18	325.22	5599.01	31.24	-11.84	31.24	33.41	339.24	0.17
5700.00	1.12	331.21	5698.99	32.95	-12.90	32.95	35.39	338.62	0.14

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	1.04	338.21	5798.98	34.65	-13.71	34.65	37.26	338.41	0.16
5900.00	0.99	340.87	5898.96	36.30	-14.33	36.30	39.03	338.46	0.07
6000.00	0.83	339.63	5998.95	37.79	-14.86	37.79	40.61	338.53	0.16
6100.00	1.08	347.69	6098.93	39.39	-15.31	39.39	42.26	338.76	0.28
6200.00	1.05	342.28	6198.92	41.18	-15.79	41.18	44.11	339.02	0.10
6300.00	1.07	336.24	6298.90	42.91	-16.45	42.91	45.96	339.03	0.11
6400.00	1.10	342.99	6398.88	44.68	-17.10	44.68	47.84	339.05	0.13
6500.00	1.04	343.62	6498.86	46.47	-17.64	46.47	49.70	339.21	0.06
6600.00	1.20	333.72	6598.84	48.28	-18.36	48.28	51.65	339.18	0.25
6700.00	1.39	336.77	6698.82	50.33	-19.30	50.33	53.91	339.02	0.20
6800.00	1.65	319.17	6798.78	52.54	-20.72	52.54	56.48	338.47	0.53
6900.00	1.65	329.32	6898.74	54.87	-22.40	54.87	59.27	337.79	0.29
7000.00	1.35	326.71	6998.71	57.09	-23.78	57.09	61.85	337.39	0.31
7100.00	0.92	326.63	7098.69	58.75	-24.87	58.75	63.79	337.05	0.43
7200.00	1.12	307.95	7198.67	60.02	-26.08	60.02	65.44	336.51	0.38
7300.00	1.19	290.68	7298.65	60.98	-27.82	60.98	67.03	335.48	0.35
7400.00	1.16	275.07	7398.63	61.44	-29.79	61.44	68.28	334.13	0.32
7500.00	1.33	276.10	7498.61	61.65	-31.95	61.65	69.44	332.60	0.17
7600.00	1.26	274.98	7598.58	61.87	-34.20	61.87	70.69	331.07	0.07
7700.00	1.06	288.23	7698.56	62.25	-36.16	62.25	71.99	329.85	0.33
7800.00	1.25	291.09	7798.54	62.93	-38.05	62.93	73.54	328.84	0.20
7900.00	1.23	290.78	7898.52	63.70	-40.07	63.70	75.26	327.83	0.02
8000.00	1.00	281.21	7998.50	64.26	-41.94	64.26	76.73	326.87	0.29
8100.00	0.64	285.54	8098.49	64.58	-43.33	64.58	77.77	326.14	0.37
8145.00	0.47	280.81	8143.49	64.68	-43.76	64.68	78.09	325.92	0.40



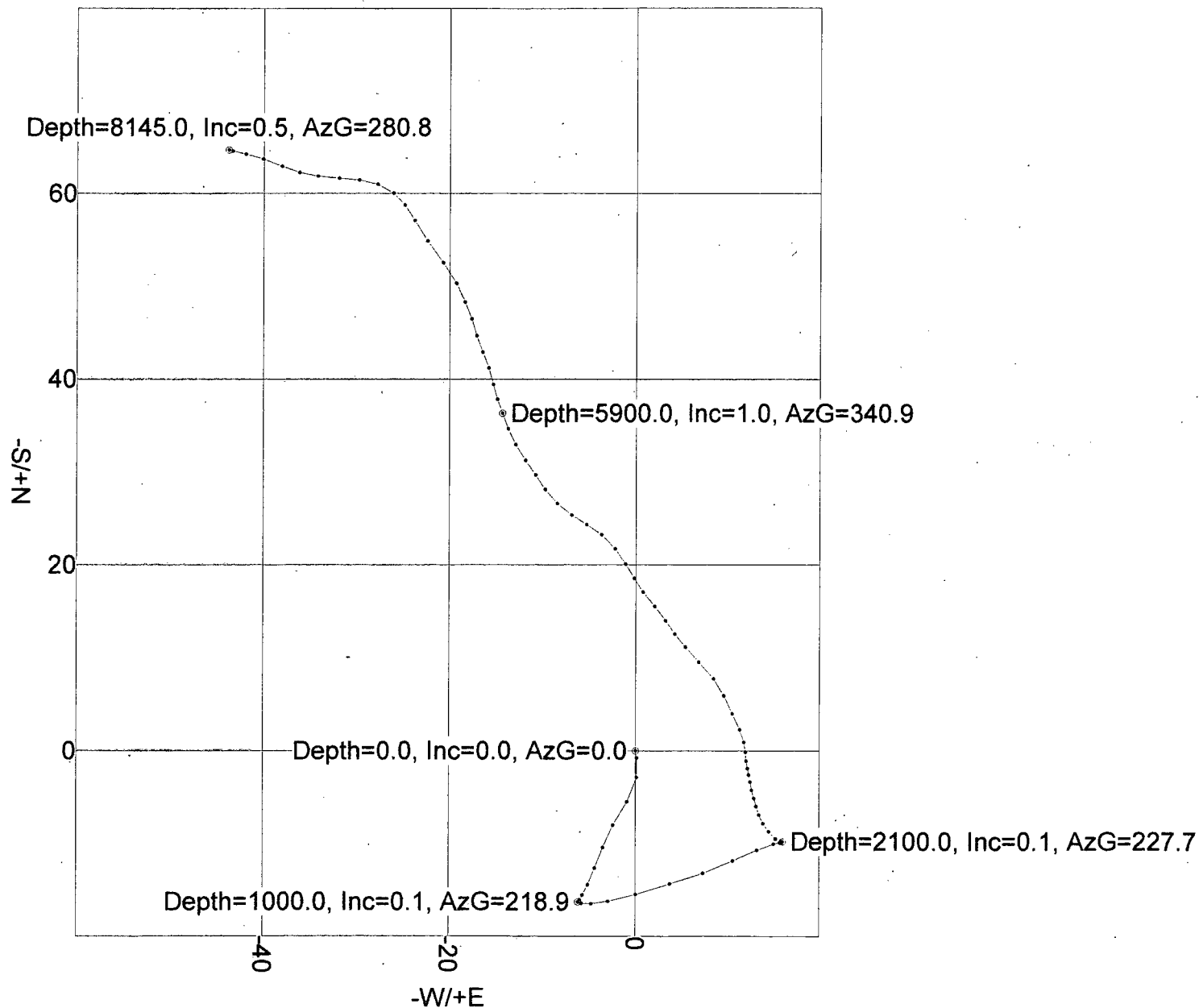
Vaughn Energy Services

Fort Worth, TX

817- 741-3610

Surveyor: Jason Wilson

Salada Vista 36 State No 003H / API 30-015-41157



VES Survey Date: 07/13/2013

COG Salada Vista 36 State 3H Gyro + MWD Tie In - 13619ft Survey **Geodetic Report** (Non-Def Survey)



Report Date:	July 19, 2013 - 09:41 AM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	COG	Vertical Section Azimuth:	269.725 ° (Grid North)
Field:	NM Eddy County (NAD 27)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	COG Salada Vista 36 State #3H / COG Salada Vista 36 State #3H	TVD Reference Datum:	Unknown
Well:	COG Salada Vista 36 State #3H	TVD Reference Elevation:	3409.200 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3391.200 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.630 °
Survey Name:	COG Salada Vista 36 State 3H Gyro + MWD Tie In - 13619ft	Total Gravity Field Strength:	998.5208mgn (9.80665 Based)
Survey Date:	July 13, 2013	Total Magnetic Field Strength:	48574.959 nT
Tort / AHD / DDI / ERD Ratio:	168.071 ° / 5226.694 ft / 6.134 / 0.595	Magnetic Dip Angle:	60.399 °
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	Declination Date:	July 13, 2013
Location Lat / Long:	N 32° 37' 6.64118", W 103° 54' 57.18782"	Magnetic Declination Model:	BGGM 2012
Location Grid N/E Y/X:	N 588978.300 ftUS, E 628530.900 ftUS	North Reference:	Grid North
CRS Grid Convergence Angle:	0.2250 °	Grid Convergence Used:	0.2250 °
Grid Scale Factor:	0.99992801	Total Corr Mag North->Grid North:	7.4047 °
		Local Coord Referenced To:	Structure Reference Point

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 ° ' ")
SHL	0.00	0.00		0.00	0.00	0.00	0.00	N/A	588978.30	628530.90	N 32 37 6.64	W 103 54 57.19
	100.00	0.90	171.27	100.00	-0.12	-0.78	0.12	0.90	588977.52	628531.02	N 32 37 6.63	W 103 54 57.19
	200.00	1.52	185.77	199.97	-0.09	-2.87	0.11	0.69	588975.43	628531.01	N 32 37 6.61	W 103 54 57.19
	300.00	1.81	214.09	299.93	0.94	-5.50	-0.91	0.86	588972.80	628529.99	N 32 37 6.59	W 103 54 57.20
	400.00	1.57	206.40	399.89	2.45	-8.03	-2.41	0.33	588970.27	628528.49	N 32 37 6.56	W 103 54 57.22
	500.00	1.45	202.17	499.85	3.54	-10.43	-3.49	0.16	588967.87	628527.41	N 32 37 6.54	W 103 54 57.23
	600.00	1.27	200.12	599.83	4.41	-12.65	-4.35	0.19	588965.66	628526.55	N 32 37 6.52	W 103 54 57.24
	700.00	0.96	205.03	699.81	5.16	-14.45	-5.09	0.32	588963.86	628525.81	N 32 37 6.50	W 103 54 57.25
	800.00	0.47	210.37	799.80	5.72	-15.56	-5.65	0.49	588962.74	628525.25	N 32 37 6.49	W 103 54 57.25
	900.00	0.22	211.72	899.80	6.04	-16.08	-5.96	0.25	588962.23	628524.94	N 32 37 6.48	W 103 54 57.26
	1000.00	0.13	218.88	999.80	6.21	-16.33	-6.13	0.09	588961.97	628524.77	N 32 37 6.48	W 103 54 57.26
	1100.00	0.52	97.62	1099.80	5.83	-16.48	-5.75	0.60	588961.83	628525.15	N 32 37 6.48	W 103 54 57.26
	1200.00	0.68	85.25	1199.79	4.79	-16.49	-4.71	0.20	588961.81	628526.19	N 32 37 6.48	W 103 54 57.24
	1300.00	1.38	81.45	1299.77	3.01	-16.26	-2.93	0.70	588962.04	628527.97	N 32 37 6.48	W 103 54 57.22
	1400.00	2.16	71.78	1399.73	0.02	-15.49	0.05	0.83	588962.81	628530.95	N 32 37 6.49	W 103 54 57.19
	1500.00	2.24	73.83	1499.65	-3.65	-14.36	3.72	0.11	588963.94	628534.62	N 32 37 6.50	W 103 54 57.15
	1600.00	2.13	71.07	1599.58	-7.29	-13.21	7.35	0.15	588965.09	628538.25	N 32 37 6.51	W 103 54 57.10
	1700.00	1.85	64.40	1699.52	-10.51	-11.91	10.57	0.36	588966.39	628541.47	N 32 37 6.52	W 103 54 57.06
	1800.00	1.44	68.75	1799.48	-13.14	-10.76	13.19	0.43	588967.54	628544.09	N 32 37 6.53	W 103 54 57.03
	1900.00	0.77	73.07	1899.46	-14.96	-10.11	15.01	0.67	588968.20	628545.91	N 32 37 6.54	W 103 54 57.01
	2000.00	0.26	72.25	1999.45	-15.82	-9.84	15.87	0.51	588968.46	628546.77	N 32 37 6.54	W 103 54 57.00
	2100.00	0.14	227.67	2099.45	-15.95	-9.85	15.99	0.39	588968.45	628546.89	N 32 37 6.54	W 103 54 57.00
	2200.00	0.09	214.28	2199.45	-15.81	-10.00	15.86	0.06	588968.30	628546.76	N 32 37 6.54	W 103 54 57.00
	2300.00	0.20	301.49	2299.45	-15.62	-9.97	15.66	0.22	588968.33	628546.56	N 32 37 6.54	W 103 54 57.01
	2400.00	0.54	317.00	2399.45	-15.15	-9.54	15.19	0.35	588968.76	628546.09	N 32 37 6.55	W 103 54 57.01
	2500.00	0.68	317.51	2499.44	-14.43	-8.76	14.47	0.14	588969.54	628545.37	N 32 37 6.55	W 103 54 57.02
	2600.00	0.55	333.88	2599.44	-13.82	-7.89	13.86	0.22	588970.41	628544.76	N 32 37 6.56	W 103 54 57.03
	2700.00	0.64	334.76	2699.43	-13.38	-6.95	13.41	0.09	588971.35	628544.31	N 32 37 6.57	W 103 54 57.03
	2800.00	0.48	348.93	2799.43	-13.06	-6.04	13.09	0.21	588972.27	628543.99	N 32 37 6.58	W 103 54 57.04
	2900.00	0.56	342.68	2899.42	-12.84	-5.16	12.87	0.10	588973.14	628543.77	N 32 37 6.59	W 103 54 57.04
	3000.00	0.48	346.73	2999.42	-12.60	-4.28	12.62	0.09	588974.02	628543.52	N 32 37 6.60	W 103 54 57.04
	3100.00	0.53	349.37	3099.42	-12.43	-3.42	12.44	0.06	588974.88	628543.34	N 32 37 6.61	W 103 54 57.04
	3200.00	0.37	347.97	3199.41	-12.28	-2.65	12.29	0.16	588975.65	628543.19	N 32 37 6.61	W 103 54 57.04
	3300.00	0.45	349.37	3299.41	-12.14	-1.95	12.15	0.08	588976.35	628543.05	N 32 37 6.62	W 103 54 57.05
	3400.00	0.50	350.75	3399.41	-12.00	-1.13	12.01	0.05	588977.17	628542.91	N 32 37 6.63	W 103 54 57.05
	3500.00	0.58	358.55	3499.40	-11.92	-0.20	11.93	0.11	588978.10	628542.82	N 32 37 6.64	W 103 54 57.05
	3600.00	0.67	345.53	3599.40	-11.77	0.88	11.77	0.17	588979.18	628542.67	N 32 37 6.65	W 103 54 57.05
	3700.00	0.96	338.31	3699.39	-11.32	2.22	11.31	0.31	588980.52	628542.21	N 32 37 6.66	W 103 54 57.06
	3800.00	1.24	332.05	3799.37	-10.51	3.95	10.49	0.30	588982.25	628541.39	N 32 37 6.68	W 103 54 57.06
	3900.00	1.22	337.34	3899.35	-9.61	5.89	9.58	0.12	588984.19	628540.48	N 32 37 6.70	W 103 54 57.08
	4000.00	1.27	318.97	3999.32	-8.48	7.71	8.44	0.40	588986.01	628539.34	N 32 37 6.72	W 103 54 57.09
	4100.00	1.50	316.81	4099.29	-6.86	9.50	6.82	0.24	588987.80	628537.72	N 32 37 6.73	W 103 54 57.11
	4200.00	1.04	318.87	4198.27	-5.38	11.14	5.32	0.46	588989.44	628536.22	N 32 37 6.75	W 103 54 57.13
	4300.00	1.01	323.08	4298.25	-4.26	12.53	4.20	0.08	588990.83	628535.10	N 32 37 6.76	W 103 54 57.14
	4400.00	1.01	327.03	4399.24	-3.25	13.97	3.19	0.07	588992.27	628534.09	N 32 37 6.78	W 103 54 57.15
	4500.00	1.22	318.87	4499.22	-2.08	15.51	2.01	0.26	588993.81	628532.91	N 32 37 6.79	W 103 54 57.16
	4600.00	1.05	323.89	4599.20	-0.85	17.06	0.77	0.20	588995.35	628531.67	N 32 37 6.81	W 103 54 57.18
	4700.00	0.98	328.89	4699.18	0.13	18.53	-0.21	0.11	588996.83	628530.69	N 32 37 6.82	W 103 54 57.19
	4800.00	1.08	328.45	4799.17	1.05	20.06	-1.15	0.10	588998.36	628529.75	N 32 37 6.84	W 103 54 57.20
	4900.00	1.22	323.52	4899.15	2.17	21.72	-2.28	0.17	589000.02	628528.63	N 32 37 6.86	W 103 54 57.21
	5000.00	1.17	308.74	4999.12	3.59	23.22	-3.70	0.31	589001.52	628527.20	N 32 37 6.87	W 103 54 57.23
	5100.00	1.07	300.30	5099.11	5.19	24.33	-5.31	0.19	589002.62	628525.59	N 32 37 6.88	W 103 54 57.25
	5200.00	1.12	304.65	5199.09	6.80	25.35	-6.92	0.10	589003.65	628523.98	N 32 37 6.89	W 103 54 57.27
	5300.00	1.16	312.46	5299.07	8.34	26.59	-8.47	0.16	589004.89	628522.43	N 32 37 6.90	W 103 54 57.29
	5400.00	1.11	326.37	5399.05	9.62	28.08	-9.75	0.28	589006.38	628521.15	N 32 37 6.92	W 103 54 57.30
	5500.00	1.02	326.38	5499.03	10.64	29.63	-10.78	0.09	589007.93	628520.12	N 32 37 6.93	W 103 54 57.31
	5600.00	1.18	325.22	5599.01	11.71	31.22	-11.86	0.16	589009.51	628519.04	N 32 37 6.95	W 103 54 57.33
	5700.00	1.12	331.21	5698.99	12.76	32.92	-12.92	0.13	589011.22	628517.98	N 32 37 6.97	W 103 54 57.34
	5800.00	1.04	338.21	5798.97	13.56	34.62	-13.73	0.15	589012.92	628517.18	N 32 37 6.98	W 103 54 57.35
	5900.00	0.99	340.87	5898.96	14.17	36.28	-14.35	0.07	589014.57	628516.56	N 32 37 7.00	W 103 54 57.35
	6000.00	0.83	339.63	5998.95	14.70	37.77	-14.88	0.16	589016.07	628516.02	N 32 37 7.02	W 103 54 57.36
	6100.00	1.08	347.69	6098.93	15.15	39.37	-15.33	0.28	589017.67	628515.57	N 32 37 7.03	W 103 54 57.37
	6200.00	1.05	342.28	6198.92	15.62	41.17	-15.81	0.10	589019.46	628515.09	N 32 37 7.05	W 103 54 57.37
	6300.00	1.07	336.24	6298.90	16.26	42.89	-16.47	0.11	589021.19	628514.43	N 32 37 7.07	W 103 54 57.38
	6400.00	1.10	342.99	6398.88	16.91	44.67	-17.13	0.13	589022.96	628513.78	N 32 37 7.08	W 103 54 57.39

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 ° ' ")
	6500.00	1.04	343.62	6498.86	17.44	46.45	-17.86	0.06	589024.75	628513.24	N 32 37 7.10	W 103 54 57.39
	6600.00	1.20	333.72	6598.84	-18.15	48.26	-18.38	0.25	589026.56	628512.52	N 32 37 7.12	W 103 54 57.40
	6700.00	1.39	336.77	6698.82	19.08	50.32	-19.32	0.20	589028.61	628511.58	N 32 37 7.14	W 103 54 57.41
	6800.00	1.65	319.17	6798.78	20.49	52.52	-20.74	0.53	589030.82	628510.16	N 32 37 7.16	W 103 54 57.43
	6900.00	1.65	329.32	6898.74	22.16	54.85	-22.42	0.29	589033.14	628508.48	N 32 37 7.18	W 103 54 57.45
	7000.00	1.35	326.71	6998.71	23.53	57.07	-23.80	0.31	589035.37	628507.10	N 32 37 7.21	W 103 54 57.46
	7100.00	0.92	326.63	7098.69	24.61	58.73	-24.89	0.43	589037.02	628506.01	N 32 37 7.22	W 103 54 57.48
	7200.00	1.12	307.95	7198.67	25.81	60.00	-26.10	0.39	589038.29	628504.80	N 32 37 7.24	W 103 54 57.49
	7300.00	1.19	290.68	7298.65	27.55	60.97	-27.84	0.35	589039.26	628503.06	N 32 37 7.25	W 103 54 57.51
	7400.00	1.16	275.07	7398.63	29.53	61.42	-29.82	0.32	589039.72	628501.08	N 32 37 7.25	W 103 54 57.53
	7500.00	1.33	276.10	7498.61	31.69	61.63	-31.99	0.17	589039.93	628498.92	N 32 37 7.25	W 103 54 57.56
	7600.00	1.26	274.98	7598.58	33.94	61.85	-34.23	0.07	589040.15	628496.67	N 32 37 7.25	W 103 54 57.59
	7700.00	1.06	288.23	7698.56	35.91	62.24	-36.21	0.33	589040.53	628494.69	N 32 37 7.26	W 103 54 57.61
	7800.00	1.25	291.09	7798.54	37.80	62.92	-38.11	0.20	589041.22	628492.80	N 32 37 7.27	W 103 54 57.63
	7900.00	1.23	290.78	7898.52	39.82	63.69	-40.13	0.02	589041.99	628490.78	N 32 37 7.27	W 103 54 57.65
	8000.00	1.00	281.21	7998.50	41.68	64.24	-41.99	0.30	589042.54	628488.92	N 32 37 7.28	W 103 54 57.68
	8100.00	0.64	285.54	8098.49	43.07	64.56	-43.38	0.37	589042.86	628487.52	N 32 37 7.28	W 103 54 57.69
	8145.00	0.47	280.81	8143.49	43.49	64.67	-43.80	0.39	589042.96	628487.10	N 32 37 7.28	W 103 54 57.70
	8186.00	-0.44	273.61	8184.49	43.81	64.71	-44.13	0.16	589043.00	628486.78	N 32 37 7.28	W 103 54 57.70
	8217.00	0.53	240.74	8215.48	44.06	64.64	-44.37	0.93	589042.94	628486.53	N 32 37 7.28	W 103 54 57.70
	8249.00	1.76	261.13	8247.48	44.67	64.50	-44.98	3.99	589042.79	628485.92	N 32 37 7.28	W 103 54 57.71
	8280.00	5.19	287.41	8278.42	46.48	64.84	-46.79	11.92	589043.14	628484.11	N 32 37 7.28	W 103 54 57.73
	8312.00	8.71	283.45	8310.18	50.22	65.84	-50.53	11.09	589044.13	628480.37	N 32 37 7.29	W 103 54 57.78
	8344.00	11.96	277.21	8341.66	55.86	66.82	-56.18	10.73	589045.11	628474.72	N 32 37 7.30	W 103 54 57.84
	8376.00	15.56	269.21	8372.73	63.44	67.18	-63.76	12.70	589045.47	628467.14	N 32 37 7.31	W 103 54 57.93
	8407.00	20.05	270.88	8402.24	72.92	67.20	-73.24	14.58	589045.50	628457.67	N 32 37 7.31	W 103 54 58.04
	8439.00	24.09	271.15	8431.89	84.93	67.42	-85.26	12.63	589045.71	628446.65	N 32 37 7.31	W 103 54 58.18
	8470.00	27.70	271.24	8459.77	98.47	67.70	-98.79	11.65	589045.99	628432.12	N 32 37 7.31	W 103 54 58.34
	8502.00	30.51	271.68	8487.73	114.02	68.10	-114.35	8.81	589046.39	628416.56	N 32 37 7.32	W 103 54 58.52
	8534.00	32.62	270.36	8514.99	130.77	68.39	-131.10	6.94	589046.69	628398.81	N 32 37 7.32	W 103 54 58.72
	8565.00	34.56	269.57	8540.82	147.92	68.38	-148.25	6.41	589046.67	628382.67	N 32 37 7.32	W 103 54 58.92
	8597.00	37.90	268.42	8566.63	166.82	68.04	-167.15	10.65	589046.33	628363.76	N 32 37 7.32	W 103 54 59.14
	8629.00	42.47	267.37	8591.07	187.46	67.27	-187.78	14.44	589045.57	628343.13	N 32 37 7.31	W 103 54 59.38
	8660.00	46.34	268.69	8613.21	209.13	66.53	-209.45	12.83	589044.83	628321.46	N 32 37 7.31	W 103 54 59.63
	8692.00	50.12	270.18	8634.52	232.99	66.31	-233.31	12.31	589044.60	628297.60	N 32 37 7.31	W 103 54 59.91
	8724.00	53.02	270.97	8654.41	258.05	66.56	-258.38	9.27	589044.86	628272.54	N 32 37 7.31	W 103 55 0.21
	8755.00	56.98	271.06	8672.19	283.44	67.01	-283.76	12.78	589045.31	628247.16	N 32 37 7.32	W 103 55 0.50
	8787.00	61.29	270.36	8688.60	310.89	67.35	-311.22	13.60	589045.64	628219.70	N 32 37 7.32	W 103 55 0.82
	8818.00	65.07	269.39	8702.59	338.55	67.28	-338.88	12.51	589045.58	628192.04	N 32 37 7.32	W 103 55 1.15
	8850.00	68.41	269.30	8715.22	367.95	66.95	-368.27	10.44	589045.24	628162.65	N 32 37 7.32	W 103 55 1.49
	8882.00	70.87	269.48	8726.35	397.95	66.63	-398.27	7.71	589044.92	628132.66	N 32 37 7.32	W 103 55 1.84
	8913.00	72.81	270.36	8736.02	427.40	66.59	-427.72	6.81	589044.88	628103.21	N 32 37 7.32	W 103 55 2.19
	8945.00	74.66	269.92	8744.98	458.12	66.66	-458.44	5.93	589044.96	628072.49	N 32 37 7.32	W 103 55 2.54
	8977.00	75.18	270.27	8753.30	489.01	66.72	-489.34	1.94	589045.01	628041.60	N 32 37 7.32	W 103 55 2.91
	9008.00	77.47	269.30	8760.63	519.13	66.60	-519.46	7.99	589044.90	628011.48	N 32 37 7.32	W 103 55 3.26
	9040.00	78.00	269.21	8767.43	550.40	66.19	-550.73	1.68	589044.49	627980.21	N 32 37 7.32	W 103 55 3.62
	9071.00	80.11	269.39	8773.32	580.84	65.82	-581.16	6.83	589044.12	627949.78	N 32 37 7.32	W 103 55 3.98
	9103.00	82.39	269.39	8778.18	612.46	65.49	-612.78	7.13	589043.78	627918.16	N 32 37 7.31	W 103 55 4.35
	9135.00	83.01	269.39	8782.25	644.20	65.15	-644.52	1.94	589043.44	627886.43	N 32 37 7.31	W 103 55 4.72
	9166.00	86.35	268.86	8785.12	675.06	64.68	-675.38	10.91	589042.97	627855.57	N 32 37 7.31	W 103 55 5.08
	9198.00	89.43	268.07	8786.30	707.03	63.82	-707.34	9.94	589042.12	627823.61	N 32 37 7.30	W 103 55 5.45
	9230.00	92.07	268.42	8785.06	801.98	60.91	-802.28	2.80	589039.21	627728.68	N 32 37 7.27	W 103 55 6.56
	9388.00	92.33	267.90	8781.41	896.87	57.86	-897.16	0.61	589036.16	627633.81	N 32 37 7.25	W 103 55 7.67
	9483.00	90.92	269.30	8778.72	991.81	55.54	-992.09	2.09	589033.84	627538.88	N 32 37 7.23	W 103 55 8.78
	9578.00	91.19	268.33	8776.97	1086.78	53.58	-1087.05	1.06	589031.88	627443.93	N 32 37 7.21	W 103 55 9.89
	9673.00	90.13	269.39	8775.87	1181.76	51.69	-1182.02	1.58	589029.99	627348.96	N 32 37 7.20	W 103 55 11.00
	9767.00	90.75	268.25	8775.15	1275.75	49.75	-1276.00	1.38	589028.05	627254.99	N 32 37 7.18	W 103 55 12.10
	9862.00	89.78	270.71	8774.71	1370.74	48.89	-1370.99	2.78	589027.19	627160.02	N 32 37 7.18	W 103 55 13.21
	9957.00	90.04	269.92	8774.86	1465.73	49.41	-1465.98	0.88	589027.71	627065.02	N 32 37 7.19	W 103 55 14.32
	10052.00	90.66	269.30	8774.28	1560.73	48.77	-1560.98	0.92	589027.06	626970.04	N 32 37 7.18	W 103 55 15.44
	10147.00	91.54	268.42	8772.46	1655.70	46.88	-1655.94	1.31	589025.17	626875.08	N 32 37 7.17	W 103 55 16.55
	10242.00	90.66	267.98	8770.63	1750.64	43.89	-1750.88	1.04	589022.19	626780.15	N 32 37 7.14	W 103 55 17.66
	10336.00	90.48	268.69	8769.70	1844.61	41.16	-1844.83	0.78	589019.46	626686.21	N 32 37 7.12	W 103 55 18.75
	10431.00	91.28	268.25	8768.24	1939.58	38.63	-1939.78	0.96	589016.92	626591.26	N 32 37 7.10	W 103 55 19.86
	10526.00	90.22	268.25	8767.00	2034.54	35.73	-2034.73	1.12	589014.02	626496.32	N 32 37 7.07	W 103 55 20.97
	10621.00	90.48	270.27	8766.42	2129.53	34.50	-2129.72	2.14	589012.80	626401.34	N 32 37 7.06	W 103 55 22.08
	10716.00	88.81	270.80	8767.00	2224.51	35.39	-2224.71	1.84	589013.68	626306.36	N 32 37 7.08	W 103 55 23.20
	10811.00	89.25	270.97	8768.61	2319.48	36.85	-2319.68	0.50	589015.15	626211.39	N 32 37 7.10	W 103 55 24.31
	10906.00	89.78	270.80	8769.42	2414.45	38.32	-2414.67	0.59	589016.62	626116.41	N 32 37 7.11	W 103 55 25.42
	11001.00	90.48	269.92	8769.20	2509.45	38.92	-2509.66	1.18	589017.21	626021.42	N 32 37 7.12	W 103 55 26.53
	11096.00	91.19	269.74	8767.82	2604.44	38.64	-2604.65	0.77	589016.93	625926.44	N 32 37 7.12	W 103 55 27.64
	11190.00	92.95	270.09	8764.42	2698.37	38.50	-2698.59	1.91	589016.79	625832.51	N 32 37 7.13	W 103 55 28.74
	11285.00	91.45	270.45	8760.77	2793.29	38.94	-2793.51	1.62	589017.24	625737.60	N 32 37 7.13	W 103 55 29.85
	11380.00	92.07	270.53	8757.86	2888.24	39.76	-2888.46	0.66	589018.05	625642.65	N 32 37 7.15	W 103 55 30.96
	11476.00	92.51	269.92	8754.02	2984.16	40.13	-2984.38	0.78	589018.43	625546.74	N 32 37 7.15	W 103 55 32.08
	11571.00	90.66	269.83	8751.39	3079.12	39.93	-3079.34	1.95	589018.22	625451.78	N 32 37 7.15	W 103 55 33.19
	11665.00	91.01	268.42	8750.02	3173.10	38.49	-3173.32	1.55	589016.79	625357.81	N 32 37 7.14	W 103 55 34.29
	11760.00	91.63	267.54	8747.83	3268.0							

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 ° ' ")
	12995.00	90.57	268.42	8716.83	4501.88	-10.21	-4501.88	1.54	588968.09	624029.35	N 32 37 6.71	W 103 55 49.82
	13090.00	91.54	268.33	8715.08	4596.84	-12.90	-4596.83	1.03	588965.40	623934.41	N 32 37 6.69	W 103 55 50.93
	13185.00	90.22	268.33	8713.63	4691.80	-15.67	-4691.78	1.39	588962.63	623839.47	N 32 37 6.67	W 103 55 52.04
	13280.00	91.19	268.33	8712.46	4786.76	-18.44	-4786.73	1.02	588959.86	623744.53	N 32 37 6.64	W 103 55 53.15
	13375.00	92.24	267.54	8709.61	4881.67	-21.86	-4881.62	1.38	588956.44	623649.64	N 32 37 6.61	W 103 55 54.26
Final Survey	13470.00	93.65	266.84	8704.73	4976.45	-26.51	-4976.38	1.66	588951.79	623554.89	N 32 37 6.57	W 103 55 55.37
Projection to Bit	13619.00	93.65	266.84	8695.25	5124.96	-34.71	-5124.85	0.00	588943.59	623406.43	N 32 37 6.49	W 103 55 57.10

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)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	18.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / COG Salada Vista 36 State 3H Gyro + MWD Tie In - 13619ft
	18.000	8145.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / COG Salada Vista 36 State 3H Gyro + MWD
	8145.000	13470.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / COG Salada Vista 36 State 3H Gyro + MWD
	13470.000	13619.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / COG Salada Vista 36 State 3H Gyro + MWD