Results of Directional Survey

API number:	30-025-40841				
OGRID:		Operator:	CIMAREX ENERGY CO.		
		Property:	QUAIL 11 STATE		# 1H

surface	ULSTR:	P	11	T	19S	R	34E
				210	FSL	660	FEL

BH Loc	ULSTR:	A	11	T	19S	R	34E
15281	MD	10762.3	TVD	340	FNL	703	FEL
				4940	FSL		

Top Perf/OH	ULSTR:	P	11	T	19S	R	34E
10800	MD	10732.5	TVD	491	FSL	635	FEL

Bot Perf/OH	ULSTR:	A	11	T	19S	R	34E
15253	MD	10762.9	TVD	368	FNL	701	FEL
				4912	FSL		

	MD	N/S	E/W	VD
	10788	270.95	25.10	10726.62
TOP PERFS/OH	**10800**	281.42	24.94	10732.47
	10820	298.88	24.67	10742.23
	15198	4647.27	-39.22	10763.91
BOT PERFS/OH	**15253**	4702.22	-41.47	10762.86
	15281	4730.19	-42.61	10762.32

NEXT TO LAST	15198	4647.27	-39.22	10763.91
LAST READING	15281	4730.19	-42.61	10762.32
TD	**15281**	4730.19	-42.61	10762.32

Surface Location	210	FS	660	FE
Projected BHL	4940	FS	703	FE
Location of				
Top Perfs/OH	491	FS	635	FE
Bottom Perfs/OH	4912	FS	701	FE

SUMMARY of Subsurface Locations

Surface Location	P-11-19S-34E	210	FS	660	FE	Vert. Depth
Top Perfs/OH	P-11-19S-34E	491	FS	635	FE	10732.47
Bottom Perfs/OH	A-11-19S-34E	4912	FS	701	FE	10762.86
Projected TD	A-11-19S-34E	4940	FS	703	FE	10762.32

PATHFINDER
A Schlumberger Company

Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to 11200ft MD

(Def Survey)

Report Date:	May 13, 2013 - 04:34 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	359.500 ° (Grid North)
Field:	NM Lea County (NAD 83)	***Vertical Section Origin:***	*0.000 ft, 0.000 ft*
Structure / Slot:	Scandrill Eagle / Cimarex Quail 11 State #1H	**TVD Reference Datum:**	RKB
Well:	Cimarex Quail 11 State #1H	**TVD Reference Elevation:**	3986.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3961.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.492 °
Survey Name:	Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to 11200ft MD	**Total Gravity Field Strength:**	998.4701mgn (9.80665 Based)
Survey Date:	March 01, 2013	**Total Magnetic Field Strength:**	48695.209 nT
Tort / AHD / DDI / ERD Ratio:	19.551 ° / 149.264 ft / 3.465 / 0.013	**Magnetic Dip Angle:**	60.528 °
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Declination Date:**	March 01, 2013
Location Lat / Long:	N 32° 40' 5.42829", W 103° 31' 28.30828"	**Magnetic Declination Model:**	BGGM 2012
Location Grid N/E Y/X:	N 607761.200 ftUS, E 790225.100 ftUS	**North Reference:**	Grid North
CRS Grid Convergence Angle:	0.4366 °	**Grid Convergence Used:**	0.4366 °
Grid Scale Factor:	0.99998003	**Total Corr Mag North->Grid North:**	7.0553 °
		Local Coord Referenced To:	Structure Reference Point

HOBBS OCD

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure *Azimuth* (°)	DLS (°/100ft)	TF (°)
SHL Quail 11 State #1H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	119.73M
	100.00	0.30	119.73	100.00	-0.13	-0.13	0.23	0.26	119.73	0.30	121.14M
	200.00	0.41	121.14	200.00	-0.45	-0.44	0.76	0.88	120.30	0.11	123.54M
	300.00	0.48	123.54	299.99	-0.87	-0.86	1.42	1.66	121.30	0.07	121.15M
	400.00	0.57	121.15	399.99	-1.37	-1.35	2.19	2.57	121.64	0.09	66.87M
	500.00	0.46	66.87	499.99	-1.48	-1.45	2.99	3.32	115.89	0.48	69.27M
	600.00	0.66	69.27	599.98	-1.12	-1.09	3.89	4.04	105.61	0.20	70.87M
	700.00	0.65	70.87	699.98	-0.74	-0.70	4.97	5.02	98.00	0.02	104.59M
	875.40	0.66	104.59	875.36	-0.69	-0.63	6.89	6.91	95.20	0.22	103.61M
	969.90	0.68	103.61	969.86	-0.97	-0.90	7.96	8.01	96.42	0.02	108.98M
	1064.50	0.56	108.98	1064.45	-1.26	-1.18	8.94	9.02	97.51	0.14	121.6M
	1159.20	0.49	121.60	1159.15	-1.63	-1.54	9.72	9.84	99.00	0.14	139.44M
	1254.90	0.46	139.44	1254.85	-2.14	-2.05	10.32	10.52	101.22	0.16	158.35M
	1348.80	0.34	158.35	1348.74	-2.69	-2.59	10.67	10.98	103.66	0.19	203.15M
	1443.60	0.34	203.15	1443.54	-3.21	-3.11	10.66	11.11	106.27	0.27	220.98M
	1538.30	0.48	220.98	1538.24	-3.76	-3.67	10.29	10.93	109.63	0.20	228.27M
	1633.20	0.49	228.27	1633.14	-4.33	-4.24	9.73	10.61	113.55	0.07	239.32M
	1727.70	0.25	239.32	1727.63	-4.70	-4.61	9.25	10.34	116.52	0.26	272.76M
	1822.50	0.09	272.76	1822.43	-4.79	-4.72	9.00	10.16	117.67	0.19	33.69M
	1917.00	0.03	33.69	1916.93	-4.77	-4.69	8.94	10.09	117.70	0.11	80.45M
	2011.90	0.14	80.45	2011.83	-4.73	-4.65	9.06	10.19	117.17	0.13	76.89M
	2106.60	0.07	76.89	2106.53	-4.70	-4.62	9.24	10.33	116.58	0.07	74.93M
	2201.40	0.21	74.93	2201.33	-4.64	-4.56	9.46	10.50	115.75	0.15	88.19M
	2296.20	0.11	88.19	2296.13	-4.60	-4.51	9.72	10.72	114.91	0.11	57.38M
	2391.10	0.23	57.38	2391.03	-4.50	-4.41	9.97	10.90	113.85	0.15	84.87M
	2486.10	0.26	84.87	2486.03	-4.38	-4.29	10.34	11.20	112.51	0.13	85.65M
	2580.80	0.11	85.65	2580.73	-4.35	-4.26	10.65	11.47	111.80	0.16	336.34M
	2675.90	0.06	336.34	2675.83	-4.30	-4.21	10.72	11.52	111.43	0.15	23.63M
	2770.50	0.15	23.63	2770.43	-4.14	-4.05	10.75	11.49	110.64	0.12	16.92M
	2864.30	0.54	16.92	2864.23	-3.61	-3.51	10.93	11.48	107.82	0.42	8.92M
	2959.70	0.66	8.92	2959.62	-2.64	-2.54	11.14	11.43	102.84	0.15	1.8M
	3054.50	0.71	1.80	3054.42	-1.51	-1.41	11.25	11.34	97.17	0.10	332.32M
	3149.50	0.64	332.32	3149.41	-0.45	-0.36	11.02	11.03	91.85	0.37	324.85M
	3244.20	0.81	324.85	3244.10	0.57	0.66	10.39	10.41	86.37	0.21	329.75M
	3338.90	0.69	329.75	3338.79	1.61	1.70	9.72	9.86	80.08	0.14	312.41M
	3433.30	0.30	312.41	3433.19	2.28	2.36	9.25	9.54	75.70	0.44	277.27M
	3464.90	0.31	277.27	3464.79	2.34	2.42	9.10	9.42	75.09	0.58	290.73M
Final Gyro Survey	3528.00	0.32	290.73	3527.89	2.43	2.51	8.77	9.12	74.04	0.12	348.1M
	3604.00	0.31	348.10	3603.89	2.71	2.78	8.53	8.97	71.92	0.40	201.59M
	3794.00	0.22	201.59	3793.89	2.88	2.95	8.29	8.79	70.41	0.27	216.7M
	3983.00	0.40	216.70	3982.88	2.01	2.08	7.76	8.03	74.98	0.10	205.89M
	4173.00	0.40	205.89	4172.88	0.89	0.95	7.07	7.14	82.32	0.04	234.99M
	4362.00	0.40	234.99	4361.88	-0.07	-0.02	6.24	6.24	90.17	0.11	283.98M
	4552.00	0.31	283.98	4551.87	-0.32	-0.28	5.20	5.21	93.03	0.16	324.68M
	4741.00	0.31	324.68	4740.87	0.23	0.27	4.41	4.42	86.55	0.11	330.79M
	4931.00	0.40	330.79	4930.87	1.23	1.26	3.79	3.99	71.55	0.05	349.38M
	5121.00	0.48	349.38	5120.86	2.60	2.62	3.32	4.23	51.66	0.09	9.28M
	5310.00	0.62	9.28	5309.85	4.38	4.41	3.34	5.53	37.11	0.12	12.18M
	5499.00	0.79	12.18	5498.84	6.66	6.70	3.78	7.69	29.43	0.09	16.18M
	5689.00	1.01	16.18	5688.81	9.54	9.58	4.52	10.60	25.25	0.12	15.87M
	5877.00	1.10	15.87	5876.78	12.86	12.91	5.48	14.02	22.98	0.05	24.88M
	6066.00	1.19	24.88	6065.74	16.38	16.44	6.80	17.79	22.47	0.11	26.9M
	6256.00	1.10	26.90	6255.71	19.78	19.85	8.45	21.58	23.06	0.05	30.38M
	6443.00	1.32	30.38	6442.67	23.22	23.31	10.35	25.51	23.95	0.12	31.87M
	6633.00	1.19	31.87	6632.62	26.76	26.87	12.50	29.64	24.95	0.07	22.6M
	6822.00	1.19	22.60	6821.58	30.23	30.35	14.29	33.55	25.22	0.10	8.8M
	7011.00	1.19	8.80	7010.54	33.97	34.10	15.35	37.40	24.23	0.15	7.7M
	7201.00	1.10	7.70	7200.50	37.72	37.86	15.89	41.06	22.77	0.05	357.29M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	7390.00	1.19	357.29	7389.46	41.48	41.62	16.04	44.61	21.08	0.12	356.01M
	7580.00	1.10	356.01	7579.43	45.27	45.41	15.82	48.09	19.21	0.05	341.9M
	7770.00	1.19	341.90	7769.39	48.97	49.10	15.08	51.37	17.08	0.16	336.9M
	7959.00	1.32	336.90	7958.34	52.85	52.97	13.62	54.70	14.42	0.09	302.66M
	8148.00	1.32	302.66	8147.30	56.05	56.15	10.93	57.20	11:02	0.41	344.81M
	8337.00	1.10	344.81	8336.26	59.00	59.08	8.63	59.70	8.31	0.47	347.31M
	8527.00	1.10	347.31	8526.22	62.54	62.61	7.75	63.09	7.05	0.03	321.07M
	8716.00	0.79	321.07	8715.20	65.34	65.40	6.53	65.72	5.70	0.28	45.01M
	8905.00	0.70	45.01	8904.19	67.17	67.23	6.53	67.54	5.55	0.53	45.01M
	9094.00	0.70	45.01	9093.17	68.79	68.86	8.16	69.34	6.76	0.00	74.28M
	9379.00	1.01	74.28	9378.14	70.67	70.77	11.81	71.75	9.47	0.18	69.09M
	9568.00	1.32	69.09	9567.10	71.86	72.00	15.45	73.64	12.11	0.17	61.58M
	9757.00	1.58	61.58	9756.04	73.84	74.02	19.77	76.61	14.96	0.17	35.08M
	9851.00	1.71	35.08	9850.00	75.59	75.78	21.72	78.83	15.99	0.81	14.2M
	10041.00	1.01	14.20	10039.95	79.51	79.72	23.76	83.19	16.59	0.45	320M
	10230.00	0.88	320.00	10228.93	82.25	82.45	23.23	85.66	15.74	0.46	341.2M
	10420.00	1.41	341.20	10418.89	85.59	85.78	21.54	88.45	14.10	0.35	340.5M
	10514.00	1.41	340.50	10512.86	87.78	87.97	20.78	90.39	13.29	0.02	331.49M
	10609.00	1.32	331.49	10607.83	89.85	90.03	19.87	92.20	12.45	0.24	352.67M
Final Extreme Survey	10988.00	1.10	352.67	10986.75	97.32	97.47	17.32	99.00	10.08	0.13	352.67M
Proj to TD	11200.00	1.10	352.67	11198.71	101.36	101.51	16.80	102.89	9.40	0.00	

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)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	25.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to 11200ft MD
	25.000	3528.000	Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	3528.000	10609.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	10609.000	10988.000	1/98.425	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	10988.000	10988.000	Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	10988.000	11200.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to

Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to 15281ft MD

(Def Survey)

Report Date:	March 28, 2013 - 09:37 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	359.500 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	ScanDrill Eagle / Cimarex Quail 11 State #1H	**TVD Reference Datum:**	RKB
Well:	Cimarex Quail 11 State #1H	**TVD Reference Elevation:**	3986.000 ft above MSL
Borehole:	ST01	**Seabed / Ground Elevation:**	3961.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.488 °
Survey Name:	Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to 15281ft MD	**Total Gravity Field Strength:**	998.4701mgn (9.80665 Based)
Survey Date:	March 13, 2013	**Total Magnetic Field Strength:**	48690.970 nT
Tort / AHD / DDI / ERD Ratio:	154.419 ° / 4784.597 ft / 6.017 / 0.441	**Magnetic Dip Angle:**	60.527 °
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Declination Date:**	March 13, 2013
Location Lat / Long:	N 32° 40' 5.42829", W 103° 31' 28.30828"	**Magnetic Declination Model:**	BGGM 2012
Location Grid N/E Y/X:	N 607761.200 ftUS, E 790225.100 ftUS	**North Reference:**	Grid North
CRS Grid Convergence Angle:	0.4366 °	**Grid Convergence Used:**	0.4366 °
Grid Scale Factor:	0.99998003	**Total Corr Mag North->Grid North:**	7.0515 °
		Local Coord Referenced To:	Structure Reference Point

HOBBS OCD
AUG 0 0 2013
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
SHL Quail 11 State #1H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	119.73M
	100.00	0.30	119.73	100.00	-0.13	-0.13	0.23	0.26	119.73	0.30	121.14M
	200.00	0.41	121.14	200.00	-0.45	-0.44	0.76	0.88	120.30	0.11	123.54M
	300.00	0.48	123.54	299.99	-0.87	-0.86	1.42	1.66	121.30	0.07	121.15M
	400.00	0.57	121.15	399.99	-1.37	-1.35	2.19	2.57	121.64	0.09	66.87M
	500.00	0.46	66.87	499.99	-1.48	-1.45	2.99	3.32	115.89	0.48	69.27M
	600.00	0.66	69.27	599.98	-1.12	-1.09	3.89	4.04	105.61	0.20	70.87M
	700.00	0.65	70.87	699.98	-0.74	-0.70	4.97	5.02	98.00	0.02	104.59M
	875.40	0.66	104.59	875.36	-0.69	-0.63	6.89	6.91	95.20	0.22	103.61M
	969.90	0.68	103.61	969.86	-0.97	-0.90	7.96	8.01	96.42	0.02	108.98M
	1064.50	0.56	108.98	1064.45	-1.26	-1.18	8.94	9.02	97.51	0.14	121.6M
	1159.20	0.49	121.60	1159.15	-1.63	-1.54	9.72	9.84	99.00	0.14	139.44M
	1254.90	0.46	139.44	1254.85	-2.14	-2.05	10.32	10.52	101.22	0.16	158.35M
	1348.80	0.34	158.35	1348.74	-2.69	-2.59	10.67	10.98	103.66	0.19	203.15M
	1443.60	0.34	203.15	1443.54	-3.21	-3.11	10.66	11.11	106.27	0.27	220.98M
	1538.30	0.48	220.98	1538.24	-3.76	-3.67	10.29	10.93	109.63	0.20	228.27M
	1633.20	0.49	228.27	1633.14	-4.33	-4.24	9.73	10.61	113.55	0.07	239.32M
	1727.70	0.25	239.32	1727.63	-4.70	-4.61	9.25	10.34	116.52	0.26	272.76M
	1822.50	0.09	272.76	1822.43	-4.79	-4.72	9.00	10.16	117.67	0.19	33.69M
	1917.00	0.03	33.69	1916.93	-4.77	-4.69	8.94	10.09	117.70	0.11	80.45M
	2011.90	0.14	80.45	2011.83	-4.73	-4.65	9.06	10.19	117.17	0.13	76.89M
	2106.60	0.07	76.89	2106.53	-4.70	-4.62	9.24	10.33	116.58	0.07	74.93M
	2201.40	0.21	74.93	2201.33	-4.64	-4.56	9.46	10.50	115.75	0.15	88.19M
	2296.20	0.11	88.19	2296.13	-4.60	-4.51	9.72	10.72	114.91	0.11	57.38M
	2391.10	0.23	57.38	2391.03	-4.50	-4.41	9.97	10.90	113.85	0.15	84.87M
	2486.10	0.26	84.87	2486.03	-4.38	-4.29	10.34	11.20	112.51	0.13	85.65M
	2580.80	0.11	85.65	2580.73	-4.35	-4.26	10.65	11.47	111.80	0.16	336.34M
	2675.90	0.06	336.34	2675.83	-4.30	-4.21	10.72	11.52	111.43	0.15	23.63M
	2770.50	0.15	23.63	2770.43	-4.14	-4.05	10.75	11.49	110.64	0.12	16.92M
	2864.30	0.54	16.92	2864.23	-3.61	-3.51	10.93	11.48	107.82	0.42	8.92M
	2959.70	0.66	8.92	2959.62	-2.64	-2.54	11.14	11.43	102.84	0.15	1.8M
	3054.50	0.71	1.80	3054.42	-1.51	-1.41	11.25	11.34	97.17	0.10	332.32M
	3149.50	0.64	332.32	3149.41	-0.45	-0.36	11.02	11.03	91.85	0.37	324.85M
	3244.20	0.81	324.85	3244.10	0.57	0.66	10.39	10.41	86.37	0.21	329.75M
	3338.90	0.69	329.75	3338.79	1.61	1.70	9.72	9.86	80.08	0.14	312.41M
	3433.30	0.30	312.41	3433.19	2.28	2.36	9.25	9.54	75.70	0.44	277.27M
	3464.90	0.31	277.27	3464.79	2.34	2.42	9.10	9.42	75.09	0.58	290.73M
Final Gyro Survey	3528.00	0.32	290.73	3527.89	2.43	2.51	8.77	9.12	74.04	0.12	348.1M
	3604.00	0.31	348.10	3603.89	2.71	2.78	8.53	8.97	71.92	0.40	201.59M
	3794.00	0.22	201.59	3793.89	2.88	2.95	8.29	8.79	70.41	0.27	216.7M
	3983.00	0.40	216.70	3982.88	2.01	2.08	7.76	8.03	74.98	0.10	205.89M
	4173.00	0.40	205.89	4172.88	0.89	0.95	7.07	7.14	82.32	0.04	234.99M
	4362.00	0.40	234.99	4361.88	-0.07	-0.02	6.24	6.24	90.17	0.11	283.98M
	4552.00	0.31	283.98	4551.87	-0.32	-0.28	5.20	5.21	93.03	0.16	324.68M
	4741.00	0.31	324.68	4740.87	0.23	0.27	4.41	4.42	86.55	0.11	330.79M
	4931.00	0.40	330.79	4930.87	1.23	1.26	3.79	3.99	71.55	0.05	349.38M
	5121.00	0.48	349.38	5120.86	2.60	2.62	3.32	4.23	51.66	0.09	9.28M
	5310.00	0.62	9.28	5309.85	4.38	4.41	3.34	5.53	37.11	0.12	12.18M
	5499.00	0.79	12.18	5498.84	6.66	6.70	3.78	7.69	29.43	0.09	16.18M
	5689.00	1.01	16.18	5688.81	9.54	9.58	4.52	10.60	25.25	0.12	15.87M
	5877.00	1.10	15.87	5876.78	12.86	12.91	5.48	14.02	22.98	0.05	24.88M
	6066.00	1.19	24.88	6065.74	16.38	16.44	6.80	17.79	22.47	0.11	26.9M
	6256.00	1.10	26.90	6255.71	19.78	19.85	8.45	21.58	23.06	0.05	30.38M
	6443.00	1.32	30.38	6442.67	23.22	23.31	10.35	25.51	23.95	0.12	31.87M
	6633.00	1.19	31.87	6632.62	26.76	26.87	12.50	29.64	24.95	0.07	22.6M
	6822.00	1.19	22.60	6821.58	30.23	30.35	14.29	33.55	25.22	0.10	8.8M
	7011.00	1.19	8.80	7010.54	33.97	34.10	15.35	37.40	24.23	0.15	7.7M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	7201.00	1.10	7.70	7200.50	37.72	37.86	15.89	41.06	22.77	0.05	357.29M
	7390.00	1.19	357.29	7389.46	41.48	41.62	16.04	44.61	21.08	0.12	356.01M
	7580.00	1.10	356.01	7579.43	45.27	45.41	15.82	48.09	19.21	0.05	341.9M
	7770.00	1.19	341.90	7769.39	48.97	49.10	15.08	51.37	17.08	0.16	336.9M
	7959.00	1.32	336.90	7958.34	52.85	52.97	13.62	54.70	14.42	0.09	302.66M
	8148.00	1.32	302.66	8147.30	56.05	56.15	10.93	57.20	11.02	0.41	344.81M
	8337.00	1.10	344.81	8336.26	59.00	59.08	8.63	59.70	8.31	0.47	347.31M
	8527.00	1.10	347.31	8526.22	62.54	62.61	7.75	63.09	7.05	0.03	321.07M
	8716.00	0.79	321.07	8715.20	65.34	65.40	6.53	65.72	5.70	0.28	45.01M
	8905.00	0.70	45.01	8904.19	67.17	67.23	6.53	67.54	5.55	0.53	45.01M
	9094.00	0.70	45.01	9093.17	68.79	68.86	8.16	69.34	6.76	0.00	74.28M
	9379.00	1.01	74.28	9378.14	70.67	70.77	11.81	71.75	9.47	0.18	69.09M
	9568.00	1.32	69.09	9567.10	71.86	72.00	15.45	73.64	12.11	0.17	61.58M
	9757.00	1.58	61.58	9756.04	73.84	74.02	19.77	76.61	14.96	0.17	35.08M
	9851.00	1.71	35.08	9850.00	75.59	75.78	21.72	78.83	15.99	0.81	14.2M
	10041.00	1.01	14.20	10039.95	79.51	79.72	23.76	83.19	16.59	0.45	320M
Tie-In ST01	10230.00	0.88	320.00	10228.93	82.25	82.45	23.23	85.66	15.74	0.46	337.93M
	10346.00	1.34	337.93	10344.91	84.19	84.39	22.15	87.25	14.71	0.49	3.15M
	10377.00	5.06	3.15	10375.85	85.90	86.09	22.09	88.88	14.39	12.55	3.84M
	10409.00	8.82	3.84	10407.61	89.75	89.95	22.33	92.68	13.94	11.75	2.86R
Survey 17-Mar-13	10441.00	10.90	4.39	10439.14	95.21	95.42	22.73	98.09	13.40	6.51	6.64L
	10472.00	14.19	2.83	10469.39	101.93	102.14	23.14	104.72	12.77	10.67	11.19R
	10504.00	16.99	4.72	10500.21	110.50	110.71	23.72	113.23	12.09	8.89	10.76L
	10535.00	19.41	3.34	10529.66	120.15	120.37	24.39	122.82	11.45	7.93	15.83L
	10567.00	23.42	0.50	10559.45	131.82	132.04	24.76	134.34	10.62	12.94	11.55L
	10599.00	27.61	358.66	10588.32	145.60	145.82	24.64	147.89	9.59	13.32	3.57L
Survey 18-Mar-13	10630.00	31.46	358.20	10615.29	160.88	161.10	24.22	162.91	8.55	12.44	9.59R
	10662.00	36.71	359.68	10641.78	178.80	179.02	23.90	180.61	7.60	16.61	13.57R
	10693.00	40.96	1.24	10665.92	198.23	198.45	24.07	199.91	6.92	14.07	3.38R
	10725.00	46.63	1.70	10689.01	220.36	220.58	24.64	221.95	6.37	17.75	7.31L
	10756.00	53.34	0.63	10708.93	244.08	244.30	25.11	245.59	5.87	21.81	10.17L
	10788.00	59.51	359.35	10726.62	270.72	270.95	25.10	272.11	5.29	19.57	8.8L
Survey 20-Mar-13	10820.00	62.08	358.90	10742.23	298.65	298.88	24.67	299.90	4.72	8.12	16.99R
	10851.00	63.25	359.30	10756.47	326.19	326.41	24.24	327.31	4.25	3.94	27.6L
	10883.00	64.53	358.56	10770.55	354.92	355.14	23.70	355.93	3.82	4.51	13.65L
	10914.00	65.58	358.28	10783.63	383.02	383.24	22.92	383.92	3.42	3.48	3.6L
	10946.00	66.60	358.21	10796.60	412.27	412.48	22.03	413.07	3.06	3.19	1.12L
	10977.00	68.51	358.17	10808.43	440.91	441.11	21.12	441.62	2.74	6.16	23.18L
	11009.00	70.92	357.08	10819.52	470.91	471.10	19.88	471.52	2.42	8.18	34.97L
	11040.00	73.62	355.12	10828.96	500.38	500.56	17.87	500.87	2.04	10.59	13.57L
	11072.00	77.26	354.22	10837.01	531.24	531.39	14.99	531.60	1.62	11.70	16.25L
	11103.00	79.76	353.48	10843.18	561.47	561.59	11.73	561.71	1.20	8.40	3.78L
	11135.00	84.13	353.19	10847.67	592.96	593.05	8.06	593.11	0.78	13.69	1.88R
	11167.00	88.40	353.33	10849.75	624.69	624.76	4.31	624.77	0.40	13.35	9.69R
Survey 22-Mar-13	11198.00	92.03	353.95	10849.63	655.53	655.56	0.87	655.56	0.08	11.88	25.14R
	11225.00	93.03	354.42	10848.44	682.38	682.39	-1.86	682.40	359.84	4.09	156.41R
	11320.00	92.00	354.87	10844.27	776.95	776.89	-10.72	776.96	359.21	1.18	172.74R
	11414.00	89.41	355.20	10843.12	870.65	870.52	-18.85	870.72	358.76	2.78	175.22R
	11509.00	87.14	355.39	10845.98	965.35	965.15	-26.64	965.52	358.42	2.40	139.39R
	11604.00	86.07	356.31	10851.60	1059.98	1059.73	-33.50	1060.26	358.19	1.48	33.38R
	11698.00	88.56	357.95	10856.01	1153.79	1153.50	-38.20	1154.13	358.10	3.17	45.99R
	11793.00	91.44	0.93	10856.01	1248.77	1248.48	-39.13	1249.09	358.20	4.36	36.05R
	11888.00	92.99	2.06	10852.33	1343.64	1343.37	-36.65	1343.87	358.44	2.02	83R
	11982.00	93.10	2.96	10847.34	1437.37	1437.14	-32.54	1437.51	358.70	0.96	110.73R
	12077.00	92.82	3.70	10842.43	1532.03	1531.86	-27.03	1532.09	358.99	0.83	107.48R
	12172.00	92.65	4.24	10837.90	1626.64	1626.52	-20.46	1626.65	359.28	0.60	105.2R
	12266.00	92.34	5.38	10833.81	1720.14	1720.10	-12.59	1720.14	359.58	1.26	176.19L
	12361.00	91.89	5.35	10830.30	1814.58	1814.62	-3.71	1814.62	359.88	0.47	64.42L
	12455.00	92.00	5.12	10827.11	1908.06	1908.17	4.86	1908.18	0.15	0.27	121.61L
	12550.00	91.68	4.60	10824.06	2002.59	2002.78	12.91	2002.82	0.37	0.64	14.03L
Survey 25-Mar-13	12645.00	91.92	4.54	10821.08	2097.17	2097.43	20.47	2097.53	0.56	0.26	92.38L
	12739.00	91.89	3.82	10817.95	2190.81	2191.13	27.32	2191.30	0.71	0.77	91.21L
	12834.00	91.86	2.43	10814.85	2285.56	2285.93	32.50	2286.17	0.81	1.46	92.21L
	12929.00	91.79	0.64	10811.82	2380.45	2380.85	35.04	2381.11	0.84	1.88	82.64L
	13023.00	91.96	359.32	10808.74	2474.40	2474.80	35.01	2475.04	0.81	1.42	91.81L
	13118.00	91.92	358.07	10805.53	2569.33	2569.72	32.84	2569.93	0.73	1.32	83.82L
	13213.00	92.03	357.05	10802.25	2664.22	2664.57	28.80	2664.73	0.62	1.08	126.39R
	13307.00	91.75	357.43	10799.15	2758.09	2758.41	24.28	2758.52	0.50	0.50	72.74L
	13402.00	91.93	356.85	10796.10	2852.96	2853.24	19.54	2853.31	0.39	0.64	102.21L
	13497.00	91.72	355.88	10793.08	2947.77	2948.00	13.52	2948.03	0.26	1.04	141.25L
	13591.00	90.96	355.27	10790.88	3041.53	3041.70	6.27	3041.70	0.12	1.04	30.82R
	13685.00	91.58	355.64	10788.80	3135.27	3135.38	-1.18	3135.38	359.98	0.77	179.01R
	13780.00	91.00	355.65	10786.66	3230.03	3230.08	-8.39	3230.09	359.85	0.61	86.03R
	13874.00	91.07	356.66	10784.96	3323.85	3323.85	-14.69	3323.88	359.75	1.08	95.71R
Survey 26-Mar-13	13969.00	91.00	357.36	10783.24	3418.75	3418.70	-19.65	3418.76	359.67	0.74	94.44R
	14063.00	90.83	359.54	10781.74	3512.71	3512.65	-22.19	3512.72	359.64	2.33	113.96L
	14158.00	90.79	359.45	10780.40	3607.70	3607.64	-23.03	3607.71	359.63	0.10	148.24L
	14253.00	90.58	359.32	10779.26	3702.70	3702.63	-24.05	3702.71	359.63	0.26	63.75R
	14347.00	90.93	0.03	10778.02	3796.69	3796.62	-24.58	3796.70	359.63	0.84	168.69L
Survey 27-Mar-13	14442.00	90.58	359.96	10776.77	3891.67	3891.61	-24.59	3891.69	359.64	0.38	2.73L
	14537.00	91.00	359.94	10775.46	3986.66	3986.60	-24.67	3986.68	359.65	0.44	90L
	14632.00	91.00	359.73	10773.81	4081.65	4081.58	-24.94	4081.66	359.65	0.22	70.7L

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	14726.00	91.14	359.33	10772.05	4175.63	4175.56	-25.71	4175.64	359.65	0.45	103.57L
	14821.00	91.07	359.04	10770.22	4270.61	4270.54	-27.06	4270.62	359.64	0.31	90L
	14916.00	91.07	358.67	10768.44	4365.59	4365.50	-28.96	4365.60	359.62	0.39	115.31L
	15010.00	90.72	357.93	10766.98	4459.55	4459.45	-31.75	4459.56	359.59	0.87	49.39L
	15105.00	90.96	357.65	10765.58	4554.50	4554.37	-35.41	4554.50	359.55	0.39	4.08R
Final Survey	15198.00	91.10	357.66	10763.91	4647.44	4647.27	-39.22	4647.44	359.52	0.15	HS
Proj to TD	15281.00	91.10	357.66	10762.32	4730.38	4730.19	-42.61	4730.38	359.48	0.00	

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)		Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	25.000		Act Stns	30.000	30.000	SLB_NSG+MSHOT-Depth Only	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to 11200ft MD
	25.000	3528.000		Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	3528.000	10230.000		Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Quail 11 Sate #1H Gyro+MWD 0ft to
	10230.000	10346.000		Act Stns	30.000	30.000	SLB_MWD-STD	ST01 / Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to
	10346.000	10409.000		Act Stns	30.000	30.000	SLB_MWD-INC_ONLY	ST01 / Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to
	10409.000	15198.000		Act Stns	30.000	30.000	SLB_MWD-STD	ST01 / Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to
	15198.000	15281.000		Act Stns	30.000	30.000	SLB_BLIND+TREND	ST01 / Cimarex Quail 11 State #1H ST01 Gyro+MWD 10230ft to