

Results of Directional Survey

API number:	30-025-41879			
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO	
		Property:	CHAPARRAL 33 FEDERAL COM	# 5H

surface	ULSTR:	C	33	T 19S	R 34E
				330 FNL	1980 FWL

BH Loc	ULSTR:	N	33	T 19S	R 34E
15130	MD	10820.1	TVD	324 FSL	2047 FWL ✓
				4956 FNL	

Top Perf/OH	ULSTR:	C	33	T 19S	R 34E
10720	MD	10642.4	TVD	587 FNL	1950 FWL

Bot Perf/OH	ULSTR:	N	33	T 19S	R 34E
15100	MD	10820.0	TVD	354 FSL	2045 FWL
				4926 FNL	

	MD	N/S	E/W	VD
	10710.00	-249.22	-29.90	10636.26
TOP PERFS/OH	10720.00	-257.11	-29.83	10642.40
	10742.00	-274.46	-29.66	10655.92
	15058.00	-4554.18	63.02	10819.93
BOT PERFS/OH	15100.00	-4596.12	65.19	10820.00
	15129.00	-4625.08	66.68	10820.05

NEXT TO LAST	15058.00	-4554.18	63.02	10819.93
LAST READING	15129.00	-4625.08	66.68	10820.05
TD	15130.00	-4626.08	66.73	10820.05

Surface Location	330	FN	1980	FW
Projected BHL	4956	FN	2047	FW
Location of				
Top Perfs/OH	587	FN	1950	FW
Bottom Perfs/OH	4926	FN	2045	FW

SUMMARY of Subsurface Locations

Surface Location	C-33-19S-34E	330	FN	1980	FW	Vert. Depth
Top Perfs/OH	C-33-19S-34E	587	FN	1950	FW	10642.40
Bottom Perfs/OH	N-33-19S-34E	4926	FN	2045	FW	10820.00
Projected TD	N-33-19S-34E	4956	FN	2047	FW	10820.05

FER 0 3 2015'



Cactus 137

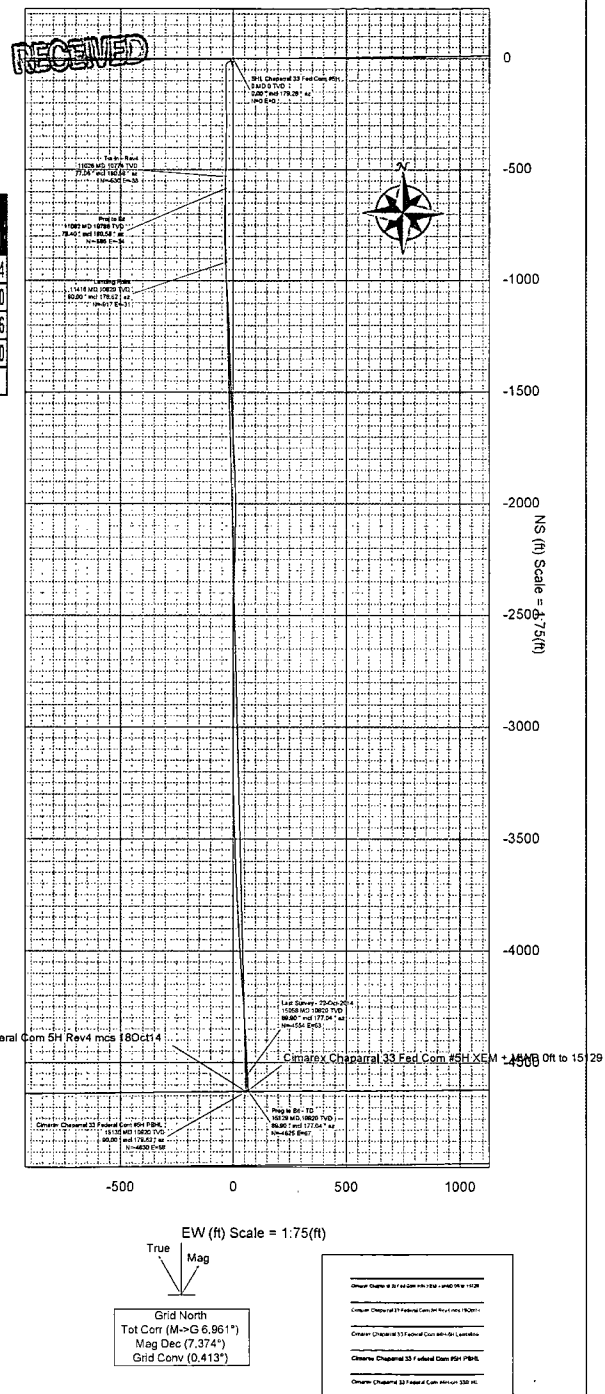
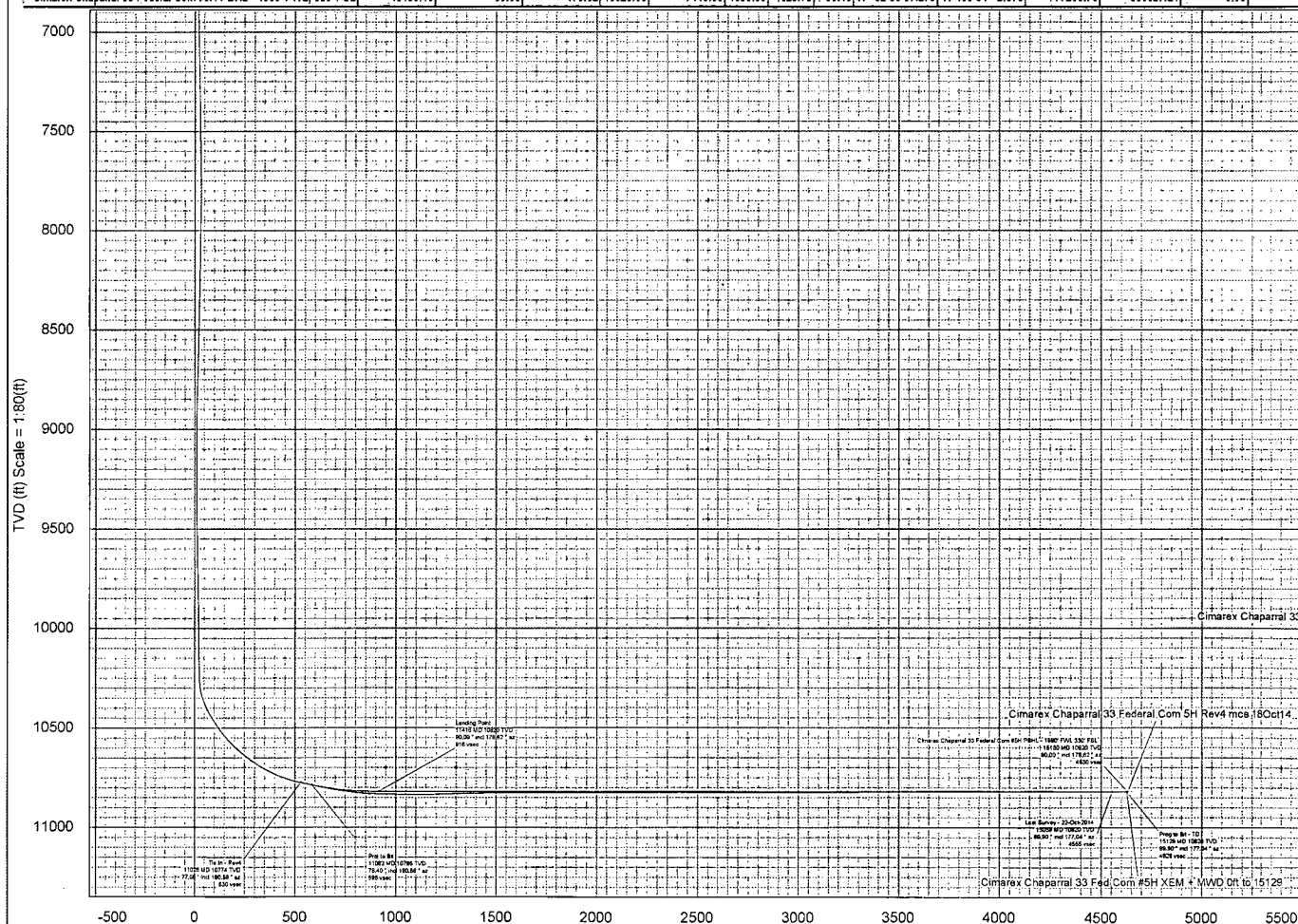
Cimarex

Rev4

PATHFINDER
A Schlumberger Company

Borehole:	Well:	Field:	Structure:
Original Borehole	Chaparral 33 Federal Com #5H	NM Lea County	Cactus 137
Gravity & Magnetic Parameters			
Model: BGGM 2014	Dip: 60.471°	Date: 28-Sep-2014	Surface Location
MagDec: 7.374°	FS: 48486.496nT	Gravity FS: 998.508mgm (9.80665 Based)	NAD83 New Mexico State Plane, Eastern Zone, US Feet
		Lat: N 32 37 23.09	Northing: 591256.81US
		Lon: W 103 34 2.87	Eastings: 777148.01US
		Grid Conv: 0.4129°	Scale Fact: 0.99997277
		Miscellaneous	
		Slot: Chaparral 33	TVD Ref: RKB(3710ft above MSL)
		Federal Com #5H	Plan: Rev4 MCS 18-Oct-14

Comments	Survey MD(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Sub-Sea TVD	VS(ft)	NS(ft)	EW(ft)	Latitude(deg)	Longitude(deg)	Eastings(ftUS)	Northings(ftUS)	DLSP/100ft	Tool Face(deg)
SHL Chaparral 33 Fed Com #5H - 1980' FWL - 330' FNL	0.00	-0.00	179.28	0.00	-3710.00	0.00	0.00	0.00	N 32 37 23.09°	W 103 34 2.87°	777148.01	591256.81		257.24
Tie In - Rev4	11026.00	77.06	180.58	10774.36	7064.36	-629.83	-530.29	-33.25	N 32 37 17.841°	W 103 34 3.102°	777115.35	590726.52	-7.02	0.00
Proj to Bit	11082.00	78.40	180.58	10786.28	7076.28	-584.54	-585.01	-33.80	N 32 37 17.299°	W 103 34 3.113°	777114.80	590671.81	2.39	-9.66
Landing Point - 1935' FWL (actual)	11416.21	-90.00	178.62	10820.00	7110.00	-916.45	-916.92	-31.43	N 32 37 14.015°	W 103 34 3.113°	777117.17	590339.91	-3.52	-90.00
Cimarex Chaparral 33 Federal Com #5H PBHL - 1980' FWL, 330' FSL	15130.10	-90.00	178.62	10820.00	7110.00	-4630.09	-4629.73	-58.16	N 32 36 37.273°	W 103 34 2.378°	777206.76	586627.21	0.00	





Cimarex Chaparral 33 Fed Com #5H XEM + MWD 0ft to 15129 Survey Report

(Non-Def Survey)

Report Date: October 29, 2014 - 09:53 AM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex Chaparral 33 Federal Com #5H / Cimarex Chaparral 33 Federal Com #5H
 Well: Cimarex Chaparral 33 Federal Com #5H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Chaparral 33 Fed Com #5H XEM + MWD 0ft to 15129
 Survey Date: September 29, 2014
 Tort / AHD / DDI / ERD Ratio: 141.129 ° / 4709.834 ft / 5.968 / 0.435
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 37' 23.08530", W 103° 34' 2.66813"
 Location Grid N/E Y/X: N 591256.800 ftUS, E 777148.600 ftUS
 CRS Grid Convergence Angle: 0.4129 °
 Grid Scale Factor: 0.99997277
 Version / Patch: 2.7.1043.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 179.280 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3710.000 ft above MSL
 Seabed / Ground Elevation: 3686.000 ft above MSL
 Magnetic Declination: 7.374 °
 Total Gravity Field Strength: 998.5084mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48486.496 nT
 Magnetic Dip Angle: 60.471 °
 Declination Date: September 29, 2014
 Magnetic Declination Model: BGGM 2014
 North Reference: Grid North
 Grid Convergence Used: 0.4129 °
 Total Corr Mag North->Grid North: 6.9607 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
SHL Chaparral 33 Fed Com #5H	0.00	0.00	179.28	0.00	0.00	0.00	0.00	0.00	0.00	N/A	257.24M
	127.82	0.31	257.24	127.82	0.07	-0.08	-0.34	0.35	257.24	0.24	220.22M
	143.80	0.22	220.22	143.80	0.10	-0.11	-0.40	0.41	254.68	1.18	252.92M
	178.88	0.22	252.92	178.88	0.17	-0.18	-0.51	0.54	250.40	0.35	240.4M
	262.84	0.31	240.40	262.84	0.33	-0.34	-0.86	0.92	248.39	0.13	290.91M
	347.57	0.22	290.91	347.57	0.38	-0.40	-1.21	1.27	251.91	0.28	272.66M
	376.27	0.40	272.66	376.27	0.35	-0.37	-1.36	1.41	254.76	0.71	263.85M
	437.46	0.40	263.85	437.46	0.36	-0.38	-1.79	1.83	257.88	0.10	255.21M
	718.19	0.40	255.21	718.18	0.69	-0.74	-3.71	3.78	258.73	0.02	272.57M
	806.02	0.31	272.57	806.01	0.75	-0.81	-4.24	4.32	259.24	0.16	261.86M
	900.30	0.31	261.86	900.29	0.77	-0.83	-4.75	4.82	260.07	0.06	255.34M
	993.32	0.31	255.34	993.30	0.86	-0.93	-5.24	5.32	259.93	0.04	263.05M
	1087.22	0.49	263.05	1087.20	0.97	-1.04	-5.89	5.98	259.95	0.20	238.6M
	1177.29	0.40	238.60	1177.27	1.17	-1.25	-6.54	6.66	259.14	0.23	232.87M
	1274.47	0.49	232.87	1274.45	1.59	-1.68	-7.16	7.35	256.78	0.10	222.64M
	1370.85	0.80	222.64	1370.82	2.33	-2.43	-7.94	8.30	253.02	0.34	223.66M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	1466.91	0.88	223.66	1466.87	3.34	-3.45	-8.91	9.55	248.81	0.08	222.56M
	1556.39	1.02	222.56	1556.34	4.41	-4.54	-9.92	10.91	245.43	0.16	215.42M
	1613.16	1.02	215.42	1613.10	5.19	-5.32	-10.55	11.82	243.25	0.22	6.64M
	1745.04	0.22	6.64	1744.97	5.88	-6.02	-11.20	12.72	241.73	0.92	0.71M
	1843.24	0.09	0.71	1843.17	5.62	-5.76	-11.18	12.58	242.74	0.13	36.33M
	1940.23	0.09	36.33	1940.16	5.48	-5.62	-11.14	12.48	243.21	0.06	159.06M
	2037.42	0.09	159.06	2037.35	5.49	-5.63	-11.06	12.42	243.02	0.16	139.8M
	2126.06	0.09	139.80	2125.99	5.61	-5.75	-10.99	12.41	242.39	0.03	302.14M
	2221.95	0.00	302.14	2221.88	5.67	-5.81	-10.95	12.39	242.05	0.09	166.46M
	2319.91	0.09	166.46	2319.84	5.75	-5.88	-10.93	12.41	241.70	0.09	260.63M
	2416.56	0.09	260.63	2416.49	5.83	-5.97	-10.98	12.50	241.48	0.14	261.42M
	2508.07	0.09	261.42	2508.00	5.85	-5.99	-11.13	12.64	241.70	0.00	96.7M
	2602.33	0.22	96.70	2602.26	5.89	-6.02	-11.02	12.56	241.32	0.33	299.94M
	2700.09	0.09	299.94	2700.02	5.87	-6.01	-10.90	12.45	241.14	0.31	62.59M
	2790.79	0.00	62.59	2790.72	5.83	-5.97	-10.96	12.48	241.42	0.10	299.76M
	2883.28	0.22	299.76	2883.21	5.74	-5.88	-11.12	12.58	242.11	0.24	114.15M
	2982.00	0.09	114.15	2981.93	5.68	-5.82	-11.21	12.63	242.56	0.31	283.02M
	3076.50	0.22	283.02	3076.43	5.67	-5.81	-11.32	12.72	242.82	0.33	59.77M
	3171.61	0.22	59.77	3171.54	5.54	-5.68	-11.34	12.68	243.40	0.43	164.17M
	3268.43	0.09	164.17	3268.36	5.52	-5.66	-11.16	12.51	243.11	0.27	112.04M
	3362.07	0.22	112.04	3362.00	5.66	-5.80	-10.97	12.41	242.15	0.19	257.94M
	3458.26	0.31	257.94	3458.19	5.78	-5.92	-11.05	12.54	241.83	0.53	121.86M
	3551.75	0.22	121.86	3551.68	5.93	-6.07	-11.15	12.69	241.45	0.53	336.03M
	3646.34	0.22	336.03	3646.27	5.86	-6.00	-11.07	12.59	241.55	0.44	248.42M
	3741.86	0.09	248.42	3741.79	5.72	-5.86	-11.21	12.65	242.42	0.25	281.3M
	3835.78	0.09	281.30	3835.71	5.73	-5.87	-11.35	12.78	242.66	0.05	273.37M
	3931.48	0.09	273.37	3931.41	5.71	-5.85	-11.50	12.90	243.04	0.01	92.95M
	4027.37	0.00	92.95	4027.30	5.70	-5.85	-11.58	12.97	243.21	0.09	269.97M
	4120.77	0.09	269.97	4120.70	5.70	-5.85	-11.65	13.04	243.35	0.10	236.57M
	4217.65	0.09	236.57	4217.58	5.74	-5.89	-11.79	13.18	243.46	0.05	85.15M
	4314.64	0.09	85.15	4314.57	5.78	-5.92	-11.78	13.18	243.30	0.18	123.85M
	4411.85	0.09	123.85	4411.78	5.81	-5.96	-11.64	13.08	242.88	0.06	76.12M
	4505.00	0.09	76.12	4504.93	5.84	-5.98	-11.51	12.97	242.53	0.08	8.74M
	4598.13	0.09	8.74	4598.06	5.75	-5.89	-11.42	12.86	242.71	0.11	9.84M
	4695.00	0.09	9.84	4694.93	5.60	-5.74	-11.40	12.77	243.26	0.00	129.27M
	4787.06	0.09	129.27	4786.99	5.57	-5.72	-11.33	12.69	243.23	0.17	111.95M
	4879.71	0.09	111.95	4879.64	5.65	-5.79	-11.21	12.62	242.68	0.03	325.72M
	4982.29	0.22	325.72	4982.22	5.52	-5.66	-11.24	12.59	243.29	0.29	174.21M
	5075.48	0.09	174.21	5075.41	5.44	-5.58	-11.34	12.64	243.78	0.32	250.32M
	5170.70	0.09	250.32	5170.63	5.54	-5.68	-11.40	12.74	243.51	0.12	317.48M
	5263.57	0.22	317.48	5263.50	5.43	-5.58	-11.59	12.86	244.31	0.22	72.02M
	5360.89	0.22	72.02	5360.82	5.23	-5.38	-11.54	12.73	245.00	0.38	40.34M
	5453.32	0.22	40.34	5453.25	5.05	-5.19	-11.25	12.39	245.24	0.13	274.16M
	5534.89	0.22	274.16	5534.82	4.92	-5.06	-11.31	12.39	245.90	0.48	21.26M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	5577.60	0.22	21.26	5577.52	4.83	-4.98	-11.36	12.40	246.34	0.83	186.42M
	5672.00	0.22	186.42	5671.92	4.85	-4.99	-11.32	12.37	246.21	0.46	219.65M
	5765.01	0.40	219.65	5764.93	5.27	-5.42	-11.54	12.75	244.86	0.27	192.24M
	5857.51	0.31	192.24	5857.43	5.76	-5.91	-11.80	13.20	243.40	0.20	196.65M
	5950.02	0.40	196.65	5949.94	6.31	-6.46	-11.95	13.58	241.59	0.10	179.72M
	6046.60	0.62	179.72	6046.52	7.16	-7.31	-12.04	14.09	238.75	0.27	162.36M
	6143.90	0.71	162.36	6143.81	8.26	-8.41	-11.86	14.54	234.65	0.23	148.21M
	6240.97	0.62	148.21	6240.87	9.29	-9.43	-11.40	14.79	230.40	0.19	143.41M
	6337.91	0.80	143.41	6337.81	10.28	-10.42	-10.72	14.95	225.81	0.20	147.95M
	6427.73	0.88	147.95	6427.62	11.38	-11.51	-9.98	15.23	220.93	0.12	139.49M
	6523.14	0.88	139.49	6523.01	12.57	-12.68	-9.11	15.62	215.70	0.14	146.23M
	6617.92	1.19	146.23	6617.78	13.95	-14.06	-8.09	16.22	209.93	0.35	155.65M
	6713.88	1.19	155.65	6713.72	15.70	-15.79	-7.13	17.33	204.30	0.20	159.98M
	6813.08	1.19	159.98	6812.90	17.62	-17.70	-6.35	18.80	199.74	0.09	163.68M
	6910.10	1.10	163.68	6909.90	19.46	-19.54	-5.74	20.37	196.38	0.12	165.58M
	7003.14	1.19	165.58	7002.92	21.26	-21.33	-5.25	21.97	193.84	0.10	174.61M
	7098.74	1.02	174.61	7098.50	23.08	-23.14	-4.93	23.66	192.02	0.25	173.99M
	7193.02	1.19	173.99	7192.76	24.89	-24.95	-4.74	25.40	190.77	0.18	175.8M
	7287.02	0.88	175.80	7286.75	26.58	-26.64	-4.59	27.03	189.78	0.33	183.12M
	7377.59	0.80	183.12	7377.31	27.90	-27.96	-4.57	28.34	189.29	0.15	188.54M
	7475.22	1.02	188.54	7474.93	29.44	-29.50	-4.74	29.88	189.13	0.24	183.34M
	7564.77	1.02	183.34	7564.46	31.02	-31.09	-4.90	31.47	188.96	0.10	183.34M
	7657.18	1.02	183.34	7656.86	32.67	-32.73	-5.00	33.11	188.69	0.00	196.07M
	7752.27	0.71	196.07	7751.94	34.07	-34.14	-5.21	34.54	188.68	0.38	357.93M
	7848.21	0.71	357.93	7847.87	34.05	-34.12	-5.40	34.54	188.99	1.46	354.89M
	7939.90	0.71	354.89	7939.56	32.91	-32.99	-5.47	33.44	189.42	0.04	0.4M
	8037.53	0.80	0.40	8037.18	31.63	-31.70	-5.52	32.18	189.88	0.12	5.11M
	8134.82	1.02	5.11	8134.46	30.09	-30.16	-5.44	30.65	190.22	0.24	3.44M
	8226.48	1.19	3.44	8226.10	28.33	-28.40	-5.31	28.89	190.59	0.19	11.74M
	8320.93	1.41	11.74	8320.52	26.22	-26.28	-5.01	26.75	190.80	0.31	8.35M
	8415.30	1.19	8.35	8414.87	24.11	-24.17	-4.63	24.61	190.85	0.25	7.73M
	8512.50	1.19	7.73	8512.05	22.12	-22.18	-4.35	22.60	191.10	0.01	23.37M
	8603.91	1.41	23.37	8603.44	20.15	-20.20	-3.78	20.55	190.59	0.45	9.05M
	8700.60	1.81	9.05	8700.09	17.56	-17.60	-3.07	17.87	189.88	0.58	347.4M
	8798.20	1.59	347.40	8797.65	14.72	-14.76	-3.12	15.08	191.93	0.69	314.08M
	8885.84	1.33	314.08	8885.26	12.81	-12.86	-4.11	13.51	197.73	1.00	283.72M
	8983.11	1.19	283.72	8982.51	11.76	-11.84	-5.91	13.23	206.51	0.69	278.61M
	9079.46	1.50	278.61	9078.83	11.31	-11.41	-8.12	14.01	215.45	0.34	269.36M
	9172.31	1.41	269.36	9171.65	11.11	-11.24	-10.47	15.36	222.95	0.27	257.85M
	9269.00	1.33	257.85	9268.31	11.33	-11.49	-12.76	17.17	227.98	0.30	249.61M
	9367.00	1.33	249.61	9366.29	11.94	-12.13	-14.93	19.24	230.92	0.19	240.27M
	9457.00	1.50	240.27	9456.26	12.86	-13.08	-16.94	21.40	232.32	0.32	237.19M
	9554.00	1.59	237.19	9553.22	14.19	-14.44	-19.17	24.00	233.02	0.13	234.15M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	9647.38	1.59	234.15	9646.57	15.63	-15.90	-21.31	26.58	233.27	0.09	221.63M
	9741.17	1.72	221.63	9740.32	17.42	-17.71	-23.30	29.27	232.76	0.41	228.24M
	9833.90	1.59	228.24	9833.01	19.29	-19.61	-25.18	31.92	232.09	0.25	236.09M
	9894.00	1.41	236.09	9893.09	20.24	-20.58	-26.42	33.48	232.09	0.45	238.07M
	9929.00	1.33	238.07	9928.08	20.69	-21.03	-27.12	34.32	232.21	0.27	222.56M
	10025.00	1.33	222.56	10024.05	22.08	-22.44	-28.82	36.53	232.09	0.37	233.49M
	10118.00	1.33	233.49	10117.03	23.49	-23.88	-30.42	38.67	231.87	0.27	215.42M
	10202.00	1.10	215.42	10201.01	24.71	-25.12	-31.67	40.42	231.58	0.53	194.45M
	10270.00	3.36	194.45	10268.96	27.17	-27.58	-32.54	42.66	229.72	3.48	182.99M
	10301.00	8.53	182.99	10299.78	30.34	-30.75	-32.89	45.03	226.92	17.03	9.88L
	10333.00	14.44	178.89	10331.13	36.70	-37.12	-32.94	49.62	221.58	18.63	4.51L
	10364.00	20.07	177.60	10360.72	45.89	-46.31	-32.64	56.65	215.18	18.20	1.36R
	10395.00	24.02	177.83	10389.45	57.52	-57.93	-32.18	66.27	209.05	12.74	5.41R
	10426.00	27.43	178.53	10417.37	70.97	-71.38	-31.75	78.12	203.98	11.04	15.9R
	10458.00	30.43	180.21	10445.37	86.45	-86.85	-31.59	92.42	199.99	9.71	21.1R
	10490.00	33.23	182.17	10472.56	103.31	-103.72	-31.96	108.53	197.12	9.33	13.91L
	10521.00	35.09	181.37	10498.21	120.70	-121.12	-32.49	125.40	195.02	6.17	32.33L
	10553.00	37.06	179.32	10524.07	139.54	-139.96	-32.60	143.70	193.11	7.22	12.55L
	10585.00	39.92	178.33	10549.12	159.45	-159.87	-32.18	163.07	191.38	9.14	2.66L
	10616.00	43.48	178.09	10572.26	180.07	-180.48	-31.54	183.21	189.91	11.50	8.27R
	10648.00	45.85	178.57	10595.02	202.56	-202.96	-30.88	205.30	188.65	7.48	4.43R
	10679.00	48.26	178.82	10616.14	225.24	-225.64	-30.37	227.68	187.66	7.80	1.57R
	10710.00	50.80	178.91	10636.26	248.83	-249.22	-29.90	251.01	186.84	8.20	18.48R
	10742.00	53.35	179.97	10655.92	274.06	-274.46	-29.66	276.06	186.17	8.39	7.99R
	10773.00	56.44	180.49	10673.75	299.42	-299.82	-29.76	301.29	185.67	10.06	13.41R
	10805.00	58.59	181.09	10690.93	326.40	-326.81	-30.14	328.19	185.27	6.90	6.7R
	10837.00	60.82	181.39	10707.08	354.01	-354.43	-30.73	355.76	184.96	7.02	3.71L
	10868.00	63.30	181.21	10721.60	381.38	-381.80	-31.36	383.09	184.69	8.02	10.23L
	10899.00	66.40	180.60	10734.77	409.43	-409.86	-31.80	411.09	184.44	10.16	20.06L
	10931.00	68.70	179.70	10746.99	439.00	-439.43	-31.87	440.59	184.15	7.64	20.74R
	10962.00	71.74	180.91	10757.48	468.16	-468.60	-32.03	469.69	183.91	10.47	8.84R
	10994.00	74.97	181.43	10766.65	498.80	-499.25	-32.66	500.31	183.74	10.21	21.64L
	11026.00	77.06	180.58	10774.38	529.83	-530.29	-33.20	531.33	183.58	7.02	51.11R
	11042.00	77.66	181.34	10777.88	545.44	-545.90	-33.46	546.93	183.51	5.96	3.8R
	11074.00	78.25	181.38	10784.56	576.71	-577.19	-34.21	578.20	183.39	1.85	13.77L
	11105.00	78.53	181.31	10790.80	607.06	-607.54	-34.92	608.55	183.29	0.93	83.89L
	11135.00	78.55	181.12	10796.76	636.44	-636.94	-35.54	637.93	183.19	0.62	29.98L
	11167.00	78.72	181.02	10803.06	667.80	-668.31	-36.13	669.28	183.09	0.61	54.71L
	11200.00	79.04	180.56	10809.43	700.17	-700.68	-36.57	701.64	182.99	1.68	11.05L
	11230.00	80.15	180.34	10814.85	729.67	-730.19	-36.81	731.12	182.89	3.77	15.89L
	11262.00	81.75	179.88	10819.88	761.27	-761.79	-36.87	762.68	182.79	5.20	15.55L
	11293.00	83.07	179.51	10823.97	791.99	-792.52	-36.70	793.37	182.65	4.42	14.79L
	11325.00	84.73	179.07	10827.37	823.81	-824.33	-36.31	825.13	182.52	5.36	18.64L

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	11356.00	86.18	178.58	10829.83	854.71	-855.23	-35.67	855.97	182.39	4.94	17.76L
	11388.00	87.49	178.16	10831.60	886.66	-887.16	-34.77	887.85	182.24	4.30	18.58L
	11420.00	88.62	177.78	10832.68	918.63	-919.13	-33.63	919.74	182.10	3.73	58.5L
	11451.00	89.00	177.16	10833.33	949.61	-950.09	-32.26	950.64	181.94	2.35	114.84L
	11515.00	88.69	176.49	10834.62	1013.54	-1013.98	-28.72	1014.38	181.62	1.15	1.01R
	11610.00	89.83	176.51	10835.84	1108.41	-1108.79	-22.92	1109.03	181.18	1.20	38.31R
	11705.00	92.17	178.36	10834.19	1203.34	-1203.67	-18.67	1203.81	180.89	3.14	179.03L
	11800.00	91.58	178.35	10831.08	1298.28	-1298.58	-15.94	1298.68	180.70	0.62	167.47L
	11894.00	91.31	178.29	10828.71	1392.23	-1392.51	-13.19	1392.57	180.54	0.29	90L
	11989.00	91.31	177.94	10826.54	1487.19	-1487.43	-10.07	1487.47	180.39	0.37	152.75L
	12084.00	89.97	177.25	10825.47	1582.14	-1582.34	-6.08	1582.35	180.22	1.59	147.26L
	12178.00	89.83	177.16	10825.64	1676.08	-1676.23	-1.50	1676.23	180.05	0.18	123.69L
	12272.00	89.79	177.10	10825.95	1770.01	-1770.11	3.21	1770.11	179.90	0.08	53.9R
	12368.00	90.14	177.58	10826.01	1865.96	-1866.01	7.67	1866.02	179.76	0.62	94.94R
	12463.00	90.00	179.20	10825.89	1960.94	-1960.97	10.33	1960.99	179.70	1.71	83.27R
	12558.00	90.17	180.64	10825.75	2055.93	-2055.96	10.47	2055.99	179.71	1.53	131.05R
	12652.00	89.90	180.95	10825.69	2149.90	-2149.95	9.16	2149.97	179.76	0.44	64.16R
	12748.00	90.21	181.59	10825.60	2245.84	-2245.93	7.04	2245.94	179.82	0.74	146.31L
	12842.00	90.00	181.45	10825.43	2339.77	-2339.90	4.54	2339.90	179.89	0.27	45L
	12936.00	90.34	181.11	10825.15	2433.71	-2433.87	2.44	2433.87	179.94	0.51	113.01L
	13031.00	90.03	180.38	10824.84	2528.68	-2528.86	1.21	2528.86	179.97	0.83	108L
	13126.00	89.90	179.98	10824.90	2623.67	-2623.86	0.91	2623.86	179.98	0.44	56.31L
	13221.00	90.14	179.62	10824.87	2718.66	-2718.86	1.24	2718.86	179.97	0.46	45R
	13315.00	90.21	179.69	10824.58	2812.66	-2812.86	1.81	2812.86	179.96	0.11	117.85R
	13409.00	89.93	180.22	10824.47	2906.65	-2906.86	1.88	2906.86	179.96	0.64	47.66R
	13504.00	90.34	180.67	10824.24	3001.63	-3001.85	1.14	3001.85	179.98	0.64	131.63L
	13599.00	90.10	180.40	10823.88	3096.61	-3096.85	0.26	3096.85	180.00	0.38	80.25L
	13694.00	90.21	179.76	10823.62	3191.60	-3191.85	0.12	3191.85	180.00	0.68	72.38L
	13789.00	90.48	178.91	10823.05	3286.60	-3286.84	1.23	3286.84	179.98	0.94	98.74L
	13884.00	90.34	178.00	10822.37	3381.58	-3381.80	3.79	3381.80	179.94	0.97	27.25R
	13979.00	91.00	178.34	10821.26	3476.56	-3476.75	6.82	3476.75	179.89	0.78	15.94R
	14074.00	91.14	178.38	10819.49	3571.53	-3571.69	9.54	3571.70	179.85	0.15	123.11L
	14169.00	90.69	177.69	10817.97	3666.49	-3666.62	12.80	3666.64	179.80	0.87	137.65L
	14262.00	89.90	176.97	10817.49	3759.44	-3759.52	17.13	3759.56	179.74	1.15	LS
	14359.00	89.86	176.97	10817.69	3856.36	-3856.38	22.25	3856.45	179.67	0.04	90L
	14454.00	89.86	176.47	10817.92	3951.26	-3951.23	27.69	3951.32	179.60	0.53	146.31R
	14548.00	89.83	176.49	10818.18	4045.15	-4045.05	33.46	4045.19	179.53	0.04	103.57L
	14643.00	89.76	176.20	10818.52	4140.02	-4139.85	39.52	4140.04	179.45	0.31	123.69R
	14739.00	89.66	176.35	10819.00	4235.89	-4235.65	45.75	4235.90	179.38	0.19	53.33R
	14834.00	90.01	176.82	10819.28	4330.79	-4330.48	51.41	4330.79	179.32	0.62	147.99R
	14929.00	89.69	177.02	10819.53	4425.70	-4425.34	56.52	4425.70	179.27	0.40	40.6R
	15025.00	89.90	177.20	10819.87	4521.63	-4521.22	61.36	4521.64	179.22	0.29	90L
Last Survey - 22- Oct-2014	15058.00	89.90	177.04	10819.93	4554.61	-4554.18	63.02	4554.61	179.21	0.48	HS

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
Prog to Bit - TD	15129.00	89.90	177.04	10820.05	4625.56	-4625.08	66.68	4625.56	179.17	0.00	

Survey Type: Non-Def Survey

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	24.000	Act Stns	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / Cimarex Chaparral 33 Fed Com #5H XEM +
	1	24.000	15058.000	Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Chaparral 33 Fed Com #5H XEM +
	1	15058.000	15129.000	Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Chaparral 33 Fed Com #5H XEM +