OCD Hobbs HOBBS OCD

MAR 26 2013

RECEIVED

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. NMNM94622

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator CIMAREX ENERGY COMPANY OF CO Contact: TERRI STATHEM Mail: tstathem@cimarex.com

8. Lease Name and Well No. CHAPARRAL 33 FEDERAL COM 3

3. Address 600 NORTH MARIENFELD STREET, SUITE 600 MIDLAND, TX 79701

3a. Phone No. (include area code) Ph: 918-295-1763

9. API Well No. 30-025-40253-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At surface NENE 220FNL 880FEL 32.623383 N Lat, 103.559263 W Lon

At top prod interval reported below NENE 220FNL 880FEL 32.623383 N Lat, 103.559263 W Lon

At total depth SESE 330FSL 649FEL

10. Field and Pool, or Exploratory QUAIL RIDGE

11. Sec., T., R., M., or Block and Survey or Area Sec 33 T19S R34E Mer NMP

12. County or Parish LEA

13. State NM

14. Date Spudded 10/05/2012

15. Date T.D. Reached 11/08/2012

16. Date Completed ☐ D & A ☒ Ready to Prod. 12/18/2012

17. Elevations (DF, KB, RT, GL)* 3696 GL

18. Total Depth: MD 15302 TVD 10851

19. Plug Back T.D.: MD 15243 TVD

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
NONE

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record *(Report all strings set in well)*

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 J-55	54.5	0	1775		1575		0	
12.250	9.625 J-55	40.0	0	5480		1820		0	
8.750	5.500 P-110	17.0	0	15256		2640		3460	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	10270	10270						

25. Producing Intervals / 26. Perforation Record

	Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A)	BONE SPRING	11100	15225	11100 TO 15225	0.000	280	OPEN
B)							
C)							
D)							

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
11100 TO 15225	1639944 GALS FLUID; 2426969# SAND

RECLAMATION
DUE 6-18-13

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/18/2012	12/30/2012	24	→	874.0	568.0	438.0	40.1		ELECTRIC PUMP-SUB-SURFACE

Choke Size	Tbg. Press. Flwg. SI 250	Csg. Press. 0.0	24 Hr. Rate →	Oil BBL 874	Gas MCF 568	Water BBL 438	Gas:Oil Ratio	Well Status POW

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status

ACCEPTED FOR RECORD
MAR 24 2013
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

(See Instructions and spaces for additional data on reverse side)
ELECTRONIC SUBMISSION #201152 VERIFIED BY THE BLM WELL INFORMATION SYSTEM
** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

MAR 28 2013

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status
			→					

29. Disposition of Gas *(Sold, used for fuel, vented, etc.)*
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				Bone Spring	8198
				1st Bone Sprg	9448
				2nd Bone Sprg	9983
				3rd Bone Sprg	10564
				Wolfcamp	10886
				Strawn	12234

32. Additional remarks (include plugging procedure):
no logs.
Do not drill pilot hole

33. Circle enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7 Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #201152 Verified by the BLM Well Information System.
For CIMAREX ENERGY COMPANY, sent to the Hobbs

Name *(please print)* TERRI STATHEM Title COORDINATOR REGULATORY COMPLIA

Signature (Electronic Submission) Date 03/11/2013

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fradulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

PATHFINDER
A Schlumberger Company

Cimarex

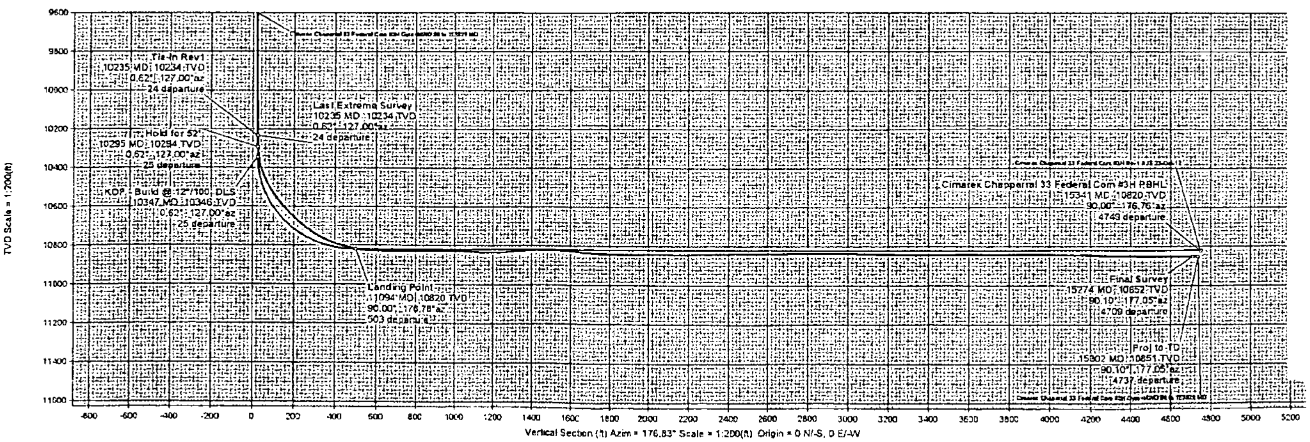
CIMAREX

WELL	FIELD	STRUCTURE
Chaparral 33 Federal Com #3H	NM Lea County	Scandrill Eagle

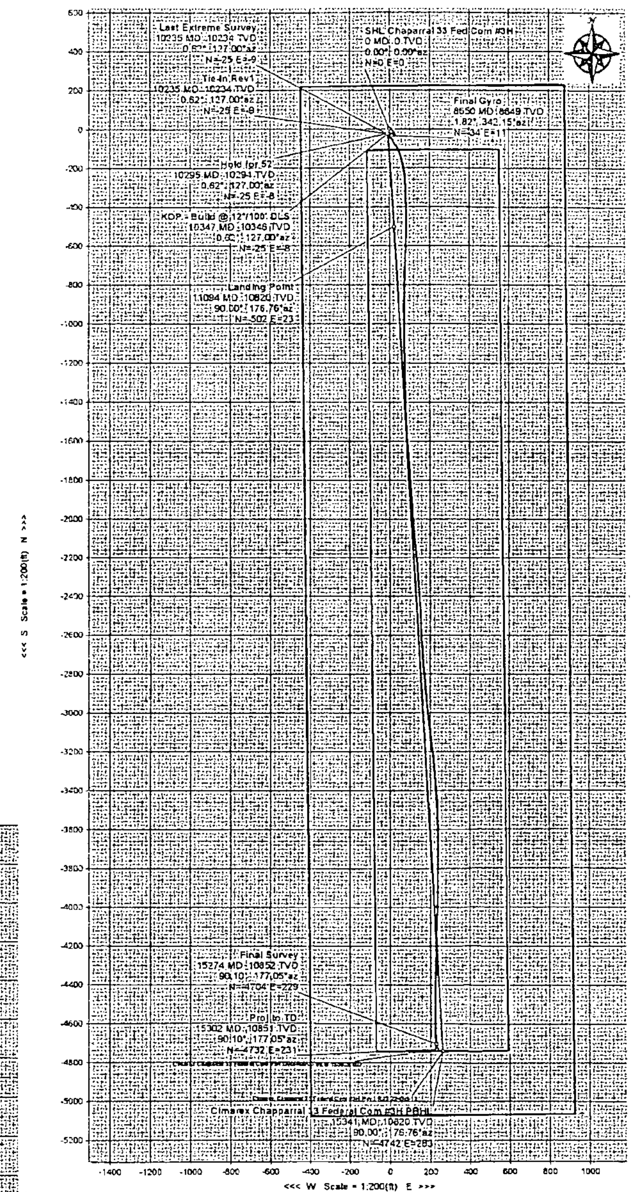
Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2012 Dip: [illegible] Date: October 09, 2012 Mag Dec: [illegible] FS: [illegible]	NAD83 New Mexico State Plane, Eastern Zone, US Feet Lat: N 32 37 24.276 Lon: W 103 33 14.168 Northing: [illegible] Easting: [illegible] Grid Conv: 0.417° Scale Fact: 0.99997410	Slot: Chaparral 33 Fed Com #3H TVD Ref: [illegible] Plan: Rev1 RJS 22-Oct-12 Srvy Date: October 09, 2012

Grid North
Tot Corr (M->G 7.1331°)
Mag Dec (7.550°)
Grid Conv (0.417°)

Legend



Tie-In Rev1
10235 MD, 10234 TVD
0.62°, 127.00°az
24 departure
Last Extreme Survey
10235 MD, 10234 TVD
0.62°, 127.00°az
24 departure
Hold for 52'
10295 MD, 10294 TVD
0.62°, 127.00°az
25 departure
KOP - Build @ 12°/100' DLS
10347 MD, 10346 TVD
0.62°, 127.00°az
25 departure
Landing Point
11094 MD, 10820 TVD
90.00°, 176.76°az
503 departure
Cimarex Chapparral 33 Federal Com #3H PBHL
15341 MD, 10820 TVD
90.00°, 176.76°az
4749 departure
Final Survey
15274 MD, 10852 TVD
90.10°, 177.05°az
4709 departure
Proj to TD
15302 MD, 10851 TVD
90.10°, 177.05°az
4737 departure
TVD Scale = 1:200(ft)
Vertical Section (ft) Azim = 176.83° Scale = 1:200(ft) Origin = 0 N/-S, 0 E/-W



Last Extreme Survey
10235 MD, 10234 TVD
0.62°, 127.00°az
N=-25 E=9
SHL Chaparral 33 Fed Com #3H
0 MD, 0 TVD
0.00°, 0.00°az
N=0 E=0
Tie-In Rev1
10235 MD, 10234 TVD
0.62°, 127.00°az
N=-25 E=9
Final Gyro
8650 MD, 8649 TVD
1.82°, 342.15°az
N=34 E=11
Hold for 52'
10295 MD, 10294 TVD
0.62°, 127.00°az
N=-25 E=8
KOP - Build @ 12°/100' DLS
10347 MD, 10346 TVD
0.62°, 127.00°az
N=-25 E=8
Landing Point
11094 MD, 10820 TVD
90.00°, 176.76°az
N=-502 E=23
Final Survey
15274 MD, 10852 TVD
90.10°, 177.05°az
N=-4704 E=229
Proj to TD
15302 MD, 10851 TVD
90.10°, 177.05°az
N=-4732 E=231
Cimarex Chapparral 33 Federal Com #3H PBHL
15341 MD, 10820 TVD
90.00°, 176.76°az
N=-4742 E=283
<<< S Scale = 1:200(ft) N >>>
<<< W Scale = 1:200(ft) E >>>

Drawn By: R. Schneider
Date Created: October 22, 2012 08:54:32 PM
Checked By:
Checked Date:
Approved By:
Approved Date:

Cimarex Chaparral 33 Federal Com #3H Gyro+MWD 0ft to 15302ft MD

(Def Survey)

Report Date:	November 09, 2012 - 08:30 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	176.829 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Scandrill Eagle / Cimarex Chaparral 33 Federal Com #3H	**TVD Reference Datum:**	RKB
Well:	Cimarex Chaparral 33 Federal Com #3H	**TVD Reference Elevation:**	3724.000 ft above MSL
Borehole:	Original Borehole	**Seabed / Ground Elevation:**	3699.000 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.547 °
Survey Name:	Cimarex Chaparral 33 Federal Com #3H Gyro+MWD 0ft to 15302ft MD	**Total Gravity Field Strength:**	999.1691 mgn (9.8 based)
Survey Date:	October 20, 2012	**Total Magnetic Field Strength:**	48712.082 nT
Tort / AHD / DDI / ERD Ratio:	174.903 ° / 4869.468 ft / 6.080 / 0.449	**Magnetic Dip Angle:**	60.492 °
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Declination Date:**	October 20, 2012
Location Lat / Long:	N 32° 37' 24.27609", W 103° 33' 34.16752"	**Magnetic Declination Model:**	BGGM 2012
Location Grid N/E Y/X:	N 591394.800 ftUS, E 779585.200 ftUS	**North Reference:**	Grid North
CRS Grid Convergence Angle:	0.4172 °	**Grid Convergence Used:**	0.4172 °
Grid Scale Factor:	0.9999741	**Total Corr Mag North->Grid North:**	7.1297 °
		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 #3H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	102.5M
	92.50	0.52	102.50	92.50	0.11	-0.09	0.41	0.42	102.50	0.56	102.57M
	185.60	1.17	102.57	185.59	0.49	-0.39	1.75	1.79	102.54	0.70	107.45M
	278.60	1.36	107.45	278.57	1.13	-0.93	3.73	3.84	103.95	0.23	120.84M
	371.60	1.47	120.84	371.54	2.19	-1.87	5.81	6.10	107.84	0.37	126.97M
	464.60	1.59	126.97	464.50	3.69	-3.26	7.86	8.51	112.50	0.22	129.9M
	557.50	1.55	129.90	557.37	5.38	-4.84	9.86	10.98	116.15	0.10	133.98M
	650.50	1.75	133.98	650.33	7.28	-6.63	11.84	13.57	119.25	0.25	138.67M
	745.40	2.14	138.67	745.18	9.73	-8.97	14.05	16.67	122.54	0.44	137.65M
	840.30	2.39	137.65	840.00	12.66	-11.76	16.56	20.31	125.38	0.27	147.89M
	935.10	2.34	147.89	934.72	15.88	-14.86	18.92	24.06	128.15	0.45	153.45M
	1030.00	2.19	153.45	1029.55	19.24	-18.12	20.76	27.56	131.12	0.28	154.22M
	1124.80	2.13	154.22	1124.28	22.53	-21.33	22.33	30.88	133.68	0.07	154.05M
	1219.70	1.84	154.05	1219.12	25.57	-24.29	23.77	33.98	135.62	0.31	153.38M
	1314.50	1.72	153.38	1313.88	28.27	-26.93	25.07	36.79	137.05	0.13	156.16M
	1409.30	1.55	156.16	1408.64	30.78	-29.37	26.23	39.38	138.24	0.20	174.06M
	1504.20	1.09	174.06	1503.51	32.88	-31.44	26.84	41.34	139.52	0.65	184.98M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	1599.10	1.00	184.98	1598.40	34.60	-33.17	26.86	42.68	141.00	0.23	184.88M
	1693.90	0.91	184.88	1693.18	36.17	-34.74	26.73	43.83	142.43	0.09	180.57M
	1788.80	0.80	180.57	1788.07	37.57	-36.16	26.65	44.92	143.60	0.13	128.18M
	1883.60	0.46	128.18	1882.87	38.49	-37.05	26.95	45.81	143.97	0.67	117.6M
	1978.50	0.15	117.60	1977.77	38.80	-37.35	27.36	46.29	143.78	0.33	94.79M
	2073.30	0.18	94.79	2072.57	38.89	-37.42	27.61	46.50	143.57	0.08	89.48M
	2168.20	0.24	89.48	2167.47	38.92	-37.43	27.96	46.72	143.24	0.07	79.95M
	2263.00	0.31	79.95	2262.27	38.89	-37.38	28.41	46.95	142.76	0.09	29.01M
	2357.80	0.36	29.01	2357.06	38.61	-37.07	28.81	46.95	142.15	0.31	358.63M
	2452.70	0.40	358.63	2451.96	38.03	-36.48	28.95	46.57	141.57	0.21	334.62M
	2547.60	0.36	334.62	2546.86	37.42	-35.88	28.81	46.02	141.24	0.17	328.27M
	2642.40	0.34	328.27	2641.66	36.90	-35.37	28.54	45.45	141.11	0.05	338.84M
	2737.30	0.38	338.84	2736.56	36.35	-34.84	28.27	44.87	140.94	0.08	6.19M
	2832.10	0.53	6.19	2831.35	35.62	-34.11	28.21	44.26	140.41	0.27	2.49M
	2926.90	0.84	2.49	2926.15	34.50	-32.98	28.29	43.45	139.38	0.33	4.15M
	3021.80	0.84	4.15	3021.04	33.11	-31.59	28.37	42.46	138.08	0.03	358.09M
	3116.70	0.83	358.09	3115.93	31.74	-30.21	28.39	41.46	136.78	0.09	346.32M
	3211.50	0.77	346.32	3210.72	30.42	-28.91	28.22	40.40	135.69	0.18	344.86M
	3306.30	0.83	344.86	3305.51	29.13	-27.62	27.89	39.26	134.73	0.07	328.41M
	3401.20	0.58	328.41	3400.40	28.03	-26.55	27.46	38.20	134.04	0.34	292M
	3496.10	0.32	292.00	3495.30	27.50	-26.04	26.96	37.49	134.01	0.39	261.38M
	3590.90	0.22	261.38	3590.10	27.40	-25.97	26.54	37.13	134.38	0.18	256.57M
	3685.80	0.22	256.57	3685.00	27.45	-26.04	26.18	36.93	134.85	0.02	259.55M
	3780.60	0.23	259.55	3779.80	27.51	-26.12	25.81	36.72	135.34	0.02	238.02M
	3875.40	0.16	238.02	3874.59	27.59	-26.22	25.51	36.59	135.78	0.11	236.82M
	3970.30	0.15	236.82	3969.49	27.72	-26.36	25.30	36.54	136.18	0.01	182.33M
	4065.20	0.17	182.33	4064.39	27.92	-26.57	25.19	36.61	136.53	0.16	139.43M
	4160.00	0.14	139.43	4159.19	28.15	-26.80	25.26	36.83	136.69	0.12	115.59M
	4254.90	0.14	115.59	4254.09	28.30	-26.94	25.44	37.05	136.64	0.06	76.51M
	4349.70	0.14	76.51	4348.89	28.34	-26.96	25.66	37.22	136.42	0.10	16.44M
	4444.60	0.17	16.44	4443.79	28.18	-26.80	25.81	37.20	136.08	0.17	351.51M
	4539.40	0.20	351.51	4538.59	27.89	-26.50	25.82	37.00	135.74	0.09	354.66M
	4634.30	0.23	354.66	4633.49	27.53	-26.15	25.78	36.72	135.40	0.03	353.49M
	4729.10	0.21	353.49	4728.29	27.17	-25.78	25.74	36.44	135.04	0.02	335.98M
	4823.90	0.09	335.98	4823.09	26.92	-25.54	25.69	36.23	134.83	0.13	224.99M
	4918.80	0.15	224.99	4917.99	26.94	-25.56	25.58	36.16	134.98	0.21	232.12M
	5013.60	0.17	232.12	5012.79	27.10	-25.74	25.38	36.14	135.40	0.03	230.46M
	5108.50	0.06	230.46	5107.69	27.21	-25.85	25.23	36.12	135.70	0.12	215.08M
	5203.40	0.05	215.08	5202.59	27.27	-25.92	25.17	36.13	135.85	0.02	260.42M
	5298.20	0.02	260.42	5297.39	27.31	-25.96	25.13	36.13	135.93	0.04	348.6M
	5393.10	0.09	348.60	5392.29	27.23	-25.89	25.09	36.05	135.89	0.10	337.28M
	5487.90	0.22	337.28	5487.09	26.99	-25.65	25.01	35.82	135.72	0.14	322.06M
	5582.80	0.26	322.06	5581.99	26.64	-25.31	24.81	35.44	135.57	0.08	305.5M
	5677.60	0.25	305.50	5676.79	26.34	-25.02	24.51	35.02	135.59	0.08	302.46M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	5772.40	0.40	302.46	5771.59	26.01	-24.72	24.06	34.49	135.78	0.16	317.38M
	5867.30	0.28	317.38	5866.48	25.64	-24.37	23.62	33.94	135.90	0.16	316.63M
	5962.10	0.19	316.63	5961.28	25.34	-24.09	23.36	33.55	135.88	0.09	47.07M
	6057.00	0.16	47.07	6056.18	25.14	-23.88	23.35	33.40	135.65	0.26	87.78M
	6151.90	0.43	87.78	6151.08	25.06	-23.78	23.80	33.64	134.98	0.34	46.42M
	6246.70	0.52	46.42	6245.88	24.79	-23.47	24.47	33.90	133.81	0.36	42.17M
	6341.60	0.60	42.17	6340.77	24.16	-22.80	25.11	33.92	132.24	0.09	41.12M
	6436.40	0.48	41.12	6435.57	23.52	-22.14	25.71	33.92	130.73	0.13	22.9M
	6531.30	0.30	22.90	6530.47	23.02	-21.61	26.06	33.86	129.66	0.23	353.86M
	6626.10	0.17	353.86	6625.27	22.65	-21.24	26.15	33.69	129.09	0.18	350.31M
	6720.90	0.18	350.31	6720.07	22.36	-20.95	26.11	33.47	128.75	0.02	332.17M
	6815.80	0.20	332.17	6814.97	22.07	-20.66	26.00	33.21	128.47	0.07	358.1M
	6910.60	0.37	358.10	6909.77	21.61	-20.21	25.92	32.86	127.94	0.22	324.7M
	7005.50	0.40	324.70	7004.66	21.02	-19.63	25.71	32.35	127.36	0.24	238.01M
	7195.20	0.68	238.01	7194.36	21.00	-19.69	24.38	31.33	128.92	0.41	261.87M
	7290.10	0.65	261.87	7289.25	21.32	-20.06	23.37	30.80	130.65	0.29	261.3M
	7384.90	0.67	261.30	7384.04	21.42	-20.22	22.29	30.09	132.22	0.02	241.61M
	7479.80	0.78	241.61	7478.94	21.75	-20.61	21.17	29.55	134.24	0.29	232.37M
	7574.60	0.78	232.37	7573.73	22.39	-21.31	20.09	29.29	136.69	0.13	210.74M
	7669.40	0.93	210.74	7668.52	23.39	-22.37	19.19	29.47	139.38	0.37	193.73M
	7764.30	1.22	193.73	7763.40	25.00	-24.01	18.55	30.34	142.31	0.45	183.74M
	7859.10	1.16	183.74	7858.18	26.92	-25.95	18.25	31.72	144.88	0.23	180.16M
	7954.00	1.51	180.16	7953.06	29.12	-28.16	18.18	33.52	147.15	0.38	186.38M
	8048.90	1.29	186.38	8047.93	31.42	-30.47	18.06	35.42	149.34	0.28	190.63M
	8143.70	1.13	190.63	8142.71	33.38	-32.45	17.77	37.00	151.29	0.19	193.82M
	8238.50	0.97	193.82	8237.49	35.06	-34.15	17.41	38.33	152.99	0.18	196.88M
	8333.40	0.83	196.88	8332.38	36.47	-35.58	17.02	39.44	154.44	0.16	246.43M
	8428.30	1.24	246.43	8427.26	37.47	-36.65	15.87	39.94	156.58	0.99	291.83M
	8523.10	1.62	291.83	8522.04	37.27	-36.56	13.69	39.04	159.47	1.22	326.49M
	8618.00	1.67	326.49	8616.90	35.51	-34.91	11.68	36.82	161.50	1.03	342.15M
Final Gyro	8650.00	1.82	342.15	8648.89	34.61	-34.04	11.27	35.86	161.68	1.56	352.29M
	8720.00	1.89	352.29	8718.85	32.39	-31.84	10.77	33.61	161.31	0.48	344.18M
	8815.00	1.71	344.18	8813.80	29.44	-28.92	10.18	30.66	160.62	0.33	332.67M
	8909.00	1.41	332.67	8907.77	27.02	-26.55	9.26	28.12	160.76	0.46	313M
	9004.00	1.32	313.00	9002.74	25.16	-24.76	7.93	26.00	162.25	0.50	305.69M
	9099.00	1.49	305.69	9097.71	23.60	-23.29	6.12	24.09	165.27	0.26	296.06M
	9194.00	1.49	296.06	9192.68	22.22	-22.03	4.01	22.39	169.68	0.26	293.69M
	9288.00	1.49	293.69	9286.65	21.07	-21.00	1.79	21.08	175.12	0.07	288.06M
	9383.00	1.10	288.06	9381.62	20.18	-20.22	-0.20	20.23	180.58	0.43	278.18M
	9478.00	1.01	278.18	9476.61	19.69	-19.82	-1.90	19.91	185.48	0.21	247.37M
	9572.00	1.41	247.37	9570.59	19.91	-20.15	-3.79	20.50	190.65	0.80	233.18M
	9667.00	1.10	233.18	9665.57	20.80	-21.15	-5.60	21.87	194.83	0.46	241.48M
	9761.00	0.62	241.48	9759.56	21.52	-21.93	-6.77	22.95	197.15	0.53	255.28M
	9856.00	0.79	255.28	9854.55	21.87	-22.34	-7.85	23.68	199.36	0.25	226.76M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	9951.00	0.48	226.76	9949.54	22.26	-22.78	-8.77	24.41	201.07	0.46	213.49M
	10046.00	0.48	213.49	10044.54	22.84	-23.38	-9.28	25.16	201.65	0.12	166.56M
	10140.00	0.40	166.56	10138.54	23.47	-24.03	-9.42	25.81	201.41	0.38	127M
Last Extreme Survey	10235.00	0.62	127.00	10233.53	24.13	-24.66	-8.94	26.23	199.92	0.42	135.08M
	10297.00	3.38	135.08	10295.49	25.71	-26.16	-7.38	27.18	195.75	4.46	132.15M
	10329.00	7.88	132.15	10327.33	27.98	-28.30	-5.08	28.75	190.19	14.09	141.66M
	10360.00	12.88	141.66	10357.81	32.32	-32.44	-1.36	32.47	182.41	17.00	12.36R
	10391.00	17.53	145.02	10387.72	39.11	-38.98	3.46	39.13	174.93	15.26	0.67R
	10423.00	21.61	145.15	10417.86	48.22	-47.77	9.59	48.72	168.65	12.75	8.95R
	10455.00	25.50	146.57	10447.19	59.19	-58.36	16.76	60.71	163.98	12.28	21.06R
	10487.00	28.82	149.20	10475.66	71.98	-70.73	24.50	74.86	160.89	11.03	21.83R
	10518.00	32.05	151.62	10502.39	86.05	-84.39	32.24	90.34	159.09	11.14	36.75R
	10549.00	34.23	154.47	10528.34	101.55	-99.50	39.91	107.21	158.14	8.64	41.49R
	10580.00	36.05	157.16	10553.69	118.21	-115.78	47.21	125.03	157.82	7.71	54.5R
Survey 2-Nov-12	10611.00	38.33	162.08	10578.39	136.10	-133.34	53.71	143.75	158.06	12.08	35.38R
	10642.00	41.07	165.00	10602.25	155.37	-152.32	59.30	163.46	158.73	10.69	23.11R
	10676.00	43.62	166.57	10627.37	177.85	-174.52	64.92	186.21	159.60	8.12	50.39R
	10707.00	45.12	169.08	10649.54	199.25	-195.71	69.49	207.68	160.45	7.45	71.29R
	10739.00	46.08	172.77	10671.93	221.99	-218.28	73.08	230.19	161.49	8.77	41.47R
	10771.00	48.37	175.44	10693.66	245.45	-241.64	75.49	253.16	162.65	9.42	28.32R
	10802.00	51.50	177.58	10713.61	269.17	-265.32	76.92	276.24	163.83	11.39	12.18R
Survey 3-Nov-12	10833.00	54.80	178.45	10732.20	293.96	-290.10	77.77	300.35	164.99	10.88	3.85R
	10864.00	58.08	178.71	10749.34	319.78	-315.93	78.41	325.51	166.06	10.60	4.73L
	10895.00	62.82	178.27	10764.62	346.73	-342.88	79.13	351.89	167.01	15.34	4.21L
	10928.00	66.18	178.00	10778.83	376.50	-372.64	80.10	381.15	167.87	10.21	0.69L
	10960.00	68.49	177.97	10791.16	406.02	-402.15	81.14	410.25	168.59	7.22	5.93R
	10991.00	71.60	178.31	10801.73	435.15	-431.27	82.08	439.01	169.22	10.09	12.05R
	11022.00	75.55	179.18	10810.50	464.86	-460.99	82.73	468.36	169.83	13.02	15.35R
	11054.00	79.35	180.24	10817.45	496.05	-492.22	82.88	499.15	170.44	12.31	13.88R
Survey 4-Nov-12	11085.00	82.28	180.97	10822.40	526.58	-522.82	82.56	529.30	171.03	9.73	12.12R
	11116.00	84.32	181.41	10826.02	557.28	-553.60	81.92	559.63	171.58	6.73	15.92R
	11147.00	86.49	182.03	10828.50	588.07	-584.48	80.99	590.07	172.11	7.28	12.72R
	11180.00	88.35	182.45	10829.98	620.88	-617.42	79.70	622.54	172.64	5.78	24.16L
Survey 5-Nov-12	11199.00	89.42	181.97	10830.35	639.80	-636.40	78.97	641.28	172.93	6.17	5.71L
	11244.00	89.62	181.95	10830.73	684.62	-681.38	77.43	685.76	173.52	0.45	33.35L
	11338.00	90.41	181.43	10830.71	778.28	-775.33	74.66	778.92	174.50	1.01	31.42L
	11432.00	91.13	180.99	10829.44	871.99	-869.30	72.68	872.34	175.22	0.90	148.55L
	11526.00	90.10	180.36	10828.43	965.77	-963.29	71.57	965.94	175.75	1.28	161.72L
	11620.00	87.80	179.60	10830.16	1059.61	-1057.27	71.60	1059.69	176.13	2.58	72.21L
	11715.00	87.97	179.07	10833.66	1154.45	-1152.20	72.70	1154.49	176.39	0.59	8.81L
	11809.00	91.65	178.50	10833.97	1248.38	-1246.16	74.70	1248.39	176.57	3.96	9.72L
	11904.00	93.34	178.21	10829.84	1343.25	-1341.02	77.42	1343.26	176.70	1.80	145.35L
	11999.00	92.27	177.47	10825.19	1438.12	-1435.84	81.00	1438.12	176.77	1.37	169.19L
	12094.00	88.76	176.80	10824.34	1533.10	-1530.70	85.74	1533.10	176.79	3.76	171.98L

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	12188.00	85.15	176.29	10829.33	1626.95	-1624.38	91.40	1626.95	176.78	3.88	19.22L
	12283.00	85.98	176.00	10836.67	1721.66	-1718.88	97.77	1721.66	176.74	0.93	2.08R
	12378.00	88.18	176.08	10841.51	1816.52	-1813.53	104.32	1816.53	176.71	2.32	9.14L
	12473.00	90.17	175.76	10842.88	1911.50	-1908.27	111.08	1911.50	176.67	2.12	5.57R
Survey 7-Nov-12	12568.00	90.58	175.80	10842.26	2006.48	-2003.01	118.07	2006.49	176.63	0.43	153.67L
	12663.00	89.59	175.31	10842.12	2101.45	-2097.73	125.43	2101.47	176.58	1.16	18.85R
	12758.00	90.00	175.45	10842.46	2196.42	-2192.42	133.08	2196.45	176.53	0.46	34.33R
	12853.00	90.82	176.01	10841.78	2291.40	-2287.15	140.16	2291.44	176.49	1.05	2.04L
	12948.00	91.38	175.99	10839.95	2386.37	-2381.90	146.78	2386.42	176.47	0.59	144.17R
	13040.00	89.69	177.21	10839.10	2478.36	-2473.73	152.24	2478.41	176.48	2.27	8.28R
	13134.00	90.79	177.37	10838.70	2572.36	-2567.62	156.68	2572.40	176.51	1.18	65.69L
	13229.00	91.07	176.75	10837.16	2667.34	-2662.48	161.55	2667.38	176.53	0.72	119.47L
	13324.00	90.55	175.83	10835.82	2762.33	-2757.27	167.70	2762.37	176.52	1.11	129.8L
	13418.00	89.90	175.05	10835.45	2856.30	-2850.97	175.17	2856.35	176.48	1.08	117.56L
	13513.00	89.42	174.13	10836.01	2951.22	-2945.55	184.13	2951.30	176.42	1.09	128.3L
	13608.00	88.97	173.56	10837.35	3046.08	-3039.99	194.31	3046.19	176.34	0.76	164.06L
	13702.00	88.83	173.52	10839.15	3139.91	-3133.38	204.89	3140.07	176.26	0.15	63.44R
	13797.00	89.11	174.08	10840.86	3234.76	-3227.80	215.15	3234.97	176.19	0.66	79.42R
	13892.00	89.31	175.15	10842.17	3329.68	-3322.37	224.06	3329.92	176.14	1.15	68.67R
	13987.00	89.97	176.84	10842.77	3424.67	-3417.14	230.70	3424.92	176.14	1.91	73.79R
Survey 8-Nov-12	14082.00	90.38	178.25	10842.48	3519.66	-3512.05	234.76	3519.88	176.18	1.55	96.05R
	14177.00	90.31	178.91	10841.90	3614.61	-3607.02	237.12	3614.80	176.24	0.70	95.6R
	14272.00	90.21	179.93	10841.47	3709.51	-3702.01	238.08	3709.66	176.32	1.08	90R
	14367.00	90.21	180.39	10841.12	3804.35	-3797.01	237.82	3804.45	176.42	0.48	130.6R
	14462.00	89.97	180.67	10840.97	3899.15	-3892.00	236.94	3899.21	176.52	0.39	150.07R
	14555.00	89.31	181.05	10841.56	3991.92	-3984.99	235.54	3991.94	176.62	0.82	150.43R
	14650.00	88.94	181.26	10843.01	4086.64	-4079.96	233.63	4086.64	176.72	0.45	139.41L
	14745.00	88.66	181.02	10845.00	4181.35	-4174.92	231.74	4181.35	176.82	0.39	78.91R
	14839.00	88.76	181.53	10847.12	4275.04	-4268.87	229.65	4275.04	176.92	0.55	29.74L
	14934.00	88.90	181.45	10849.06	4369.71	-4363.82	227.18	4369.73	177.02	0.17	79.31L
	15029.00	89.07	180.55	10850.74	4464.44	-4458.79	225.52	4464.49	177.10	0.96	57.27L
	15124.00	89.79	179.43	10851.68	4559.29	-4553.78	225.53	4559.36	177.16	1.40	59.74L
	15218.00	90.21	178.71	10851.68	4653.21	-4647.77	227.06	4653.31	177.20	0.89	93.79L
Final Survey	15274.00	90.10	177.05	10851.53	4709.20	-4703.73	229.13	4709.31	177.21	2.97	HS
Proj to TD	15302.00	90.10	177.05	10851.48	4737.20	-4731.69	230.57	4737.31	177.21	0.00	

Survey Type: Def Survey

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

Survey Program:

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)

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 Chaparral 33 Federal Com #3H Gyro+MWD 0ft to 15302ft MD
	25.000	8650.000		Act Stns	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Chaparral 33 Federal Com #3H
	8650.000	10235.000		Act Stns	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Chaparral 33 Federal Com #3H
	10235.000	15274.000		Act Stns	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Chaparral 33 Federal Com #3H
	15274.000	15302.000		Act Stns	30.000	30.000	SLB_BLIND+TREND	Original Borehole / Cimarex Chaparral 33 Federal Com #3H