

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
OCD-ARTESIA



SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB No. 1004-0135
Expires July 31, 1996

5. Lease Serial No.

NM-95630

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

Pending

8. Well Name and No.

Cave Lake 13 Federal Com No. 1

9. API Well No

30-015-35879

10. Field and Pool, or Exploratory Area

Wolfcamp Wildcat

11. County or Parish, State

Eddy County, NM

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

FEB 07 2008

2. Name of Operator

Cimarex Energy Co. of Colorado

OCD-ARTESIA

3a. Address

PO Box 140907; Irving, TX 75014-0907

3b. Phone No. (include area code)

972-401-3111

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

SHL 990' FSL & 330' FWL, BHL 660' FSL & 330' FEL
13-16S-28E

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☒ Notice of Intent

☐ Acidize

☐ Deepen

☐ Production (Start/Resume)

☐ Water Shut-Off

☐ Subsequent Report

☒ Alter Casing

☐ Fracture Treat

☐ Reclamation

☐ Well Integrity

☐ Casing Repair

☐ New Construction

☐ Recomplete

☐ Other

☐ Final Abandonment Notice

☒ Change Plans

☐ Plug and Abandon

☐ Temporarily Abandon

☐ Convert to Injection

☐ Plug Back

☐ Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, included estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Cimarex has changed its casing and cementing plans for the Cave Lake 13 Federal Com No. 1 as follows:

Surface: Same as permitted

Intermediate: in 12-1/4" hole, run 2500' 9-5/8" 40# J/K55 LTC. Drill with 10.0 ppg brine water.

Lead: 415 sks Interfill C + 0.125 lb/sk Poly-E-Flake (wt 11.9, yld 2.45)

Tail: 215 sks Premium Plus + 1% CaCl (wt 14.8, yld 1.33)

TOC @ surface

Production (Pilot Hole): In 8-3/4" hole, run 7350' 7" 26# P-110 LTC. Drill with 8.4-9.5 ppg FW/Brine.

580 sks Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1lbm/sk salt + 5 lb/sk Gilsonite + 0.125 lb/sk Poly-E-Flake + 0.35% HR-7
(wt 13.0, yld 1.67)

TOC @ 2300'

Set Whipstock @ 6648.' Top of window @ 6650.' Bottom of window @ 6660.' KOP @ 6665.' CIBP @ 6670.'

Liner: In 6-1/8" hole, run 4-1/2" 11.6# P-110 LTC (500' BTC) Peak Systems Liner to approximately 11398.' Drill with 2% KCL. Liner runs from surface to TD w/ 5-1/2" packer *above* horizontal leg and iso-pak packers spaced *along* horizontal leg.

No cement required.

Please see attached revised preliminary directional survey.

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Natalie Krueger

Signature

Title

Regulatory Analyst

Date

January 18, 2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Office

Conditions of Approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

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

(Instructions on reverse)

APPROVED

FEB 5 2008

WESLEY W. INGRAM
PETROLEUM ENGINEER

**Cave Lake 13 Federal Com #1
Cimarex Energy Co. of Colorado
February 5, 2008
Casing Alteration
Conditions of Approval**

- 1. Casing and cement changes are approved. Other wells in the area have used 12.5 ppg for the lead cement on the intermediate. WOC times for all slurries used when cementing are to be provided to the inspector.**
- 2. Pilot hole will require a 170' plug at the bottom of hole and must be tagged.**
- 3. CIBP set at 6670' needs to be moved deeper as cement is required on top of the CIBP; 35' if bailed, 25 sacks if pumped.**
- 4. Seal on Peak Systems Iso-Pack liner is to be tested per Onshore Oil and Gas Order 2.III.B.1.b. Please call BLM for witness of seal test.**

WWI 020508

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt
 Cimarex Energy Co., Inc.
 Cave Lake '13' Federal Com #1 - Plan #1

Eddy Co., New Mexico
 Cave Lake '13' Federal Com #1

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
6600.00 0.00	0.000	0.000	6600.00	0.00 N	0.00 E	0.00
6650.00 0.00	0.000	0.000	6650.00	0.00 N	0.00 E	0.00
6660.00 30.00	3.000	94.990	6660.00	0.02 S	0.26 E	0.26
6670.00 9.62	3.962	94.989	6669.98	0.07 S	0.82 E	0.83
6680.00 19.31	5.893	94.988	6679.94	0.15 S	1.68 E	1.69
6690.00 19.31	7.824	94.987	6689.87	0.25 S	2.87 E	2.88
6700.00 19.31	9.755	94.987	6699.75	0.38 S	4.39 E	4.41
6710.00 19.31	11.686	94.987	6709.58	0.54 S	6.24 E	6.27
6720.00 19.31	13.617	94.987	6719.33	0.74 S	8.43 E	8.46
6730.00 19.31	15.548	94.987	6729.01	0.95 S	10.93 E	10.98
6740.00 19.31	17.479	94.986	6738.60	1.20 S	13.77 E	13.82
6750.00 19.31	19.410	94.986	6748.08	1.48 S	16.92 E	16.98
6760.00 19.31	21.341	94.986	6757.46	1.78 S	20.39 E	20.46
6770.00 19.31	23.272	94.986	6766.71	2.11 S	24.17 E	24.26
6780.00 19.31	25.203	94.986	6775.83	2.47 S	28.26 E	28.36
6790.00 19.31	27.134	94.986	6784.80	2.85 S	32.65 E	32.77
6800.00 19.31	29.065	94.986	6793.62	3.26 S	37.34 E	37.48
6810.00 19.31	30.996	94.986	6802.28	3.69 S	42.33 E	42.49
6820.00 19.31	32.927	94.986	6810.76	4.15 S	47.60 E	47.78
6830.00 19.31	34.858	94.986	6819.06	4.64 S	53.16 E	53.36
6840.00 19.31	36.789	94.986	6827.17	5.15 S	58.99 E	59.21
6850.00 19.31	38.720	94.986	6835.08	5.68 S	65.09 E	65.33
6860.00 19.31	40.651	94.986	6842.77	6.23 S	71.45 E	71.72
6870.00 19.31	42.582	94.986	6850.25	6.81 S	78.06 E	78.36
6880.00 19.31	44.513	94.986	6857.50	7.41 S	84.93 E	85.25

	Cave Lake	'13'	Federal Com #1	Lateral Plan #1	Report 1-18-08.txt	
6890.00	46.444	94.986	6864.51	8.03 S	92.03 E	92.38
19.31						
6900.00	48.375	94.986	6871.27	8.67 S	99.36 E	99.74
19.31						
6910.00	50.306	94.986	6877.79	9.33 S	106.92 E	107.33
19.31						
6920.00	52.237	94.986	6884.05	10.01 S	114.69 E	115.13
19.31						
6930.00	54.168	94.986	6890.04	10.70 S	122.67 E	123.13
19.31						
6940.00	56.099	94.986	6895.75	11.42 S	130.84 E	131.34
19.31						
6950.00	58.030	94.986	6901.19	12.14 S	139.20 E	139.73
19.31						
6960.00	59.961	94.986	6906.34	12.89 S	147.74 E	148.30
19.31						
6970.00	61.892	94.986	6911.20	13.65 S	156.45 E	157.04
19.31						
6980.00	63.823	94.986	6915.76	14.42 S	165.31 E	165.94
19.31						
6990.00	65.754	94.986	6920.02	15.21 S	174.32 E	174.99
19.31						
7000.00	67.685	94.986	6923.97	16.01 S	183.48 E	184.17
19.31						
7010.00	69.616	94.986	6927.61	16.82 S	192.75 E	193.49
19.31						
7020.00	71.547	94.986	6930.94	17.64 S	202.15 E	202.92
19.31						
7030.00	73.478	94.986	6933.94	18.46 S	211.65 E	212.45
19.31						
7040.00	75.409	94.986	6936.62	19.30 S	221.25 E	222.09
19.31						
7050.00	77.340	94.986	6938.98	20.15 S	230.93 E	231.80
19.31						
7060.00	79.271	94.986	6941.01	21.00 S	240.68 E	241.60
19.31						
7070.00	81.202	94.986	6942.70	21.85 S	250.50 E	251.45
19.31						
7080.00	83.133	94.986	6944.06	22.72 S	260.37 E	261.36
19.31						
7090.00	85.064	94.986	6945.09	23.58 S	270.28 E	271.30
19.31						
7100.00	86.995	94.986	6945.78	24.45 S	280.22 E	281.28
19.31						
7110.00	88.926	94.986	6946.14	25.32 S	290.17 E	291.27
19.31						
7120.00	90.857	94.986	6946.16	26.18 S	300.13 E	301.27
19.31						
7130.00	91.020	94.986	6945.98	27.05 S	310.09 E	311.27
1.63						
7140.00	91.020	94.986	6945.80	27.92 S	320.05 E	321.27
0.00						
7150.00	91.020	94.986	6945.63	28.79 S	330.01 E	331.27
0.00						
7160.00	91.020	94.986	6945.45	29.66 S	339.97 E	341.27
0.00						
7170.00	91.020	94.986	6945.27	30.53 S	349.94 E	351.26
0.00						
7180.00	91.020	94.986	6945.09	31.40 S	359.90 E	361.26
0.00						
7190.00	91.020	94.986	6944.91	32.27 S	369.86 E	371.26
0.00						
7200.00	91.020	94.986	6944.74	33.14 S	379.82 E	381.26

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00						
7210.00	91.020	94.986	6944.56	34.00 S	389.78 E	391.26
0.00						
7220.00	91.020	94.986	6944.38	34.87 S	399.74 E	401.26
0.00						
7230.00	91.020	94.986	6944.20	35.74 S	409.70 E	411.26
0.00						
7240.00	91.020	94.986	6944.02	36.61 S	419.66 E	421.25
0.00						
7250.00	91.020	94.986	6943.85	37.48 S	429.62 E	431.25
0.00						
7260.00	91.020	94.986	6943.67	38.35 S	439.58 E	441.25
0.00						
7270.00	91.020	94.986	6943.49	39.22 S	449.54 E	451.25
0.00						
7280.00	91.020	94.986	6943.31	40.09 S	459.50 E	461.25
0.00						
7290.00	91.020	94.986	6943.13	40.96 S	469.46 E	471.25
0.00						
7300.00	91.020	94.986	6942.96	41.83 S	479.42 E	481.24
0.00						
7310.00	91.020	94.986	6942.78	42.69 S	489.38 E	491.24
0.00						
7320.00	91.020	94.986	6942.60	43.56 S	499.34 E	501.24
0.00						
7330.00	91.020	94.986	6942.42	44.43 S	509.30 E	511.24
0.00						
7340.00	91.020	94.986	6942.24	45.30 S	519.27 E	521.24
0.00						
7350.00	91.020	94.986	6942.07	46.17 S	529.23 E	531.24
0.00						
7360.00	91.020	94.986	6941.89	47.04 S	539.19 E	541.23
0.00						
7370.00	91.020	94.986	6941.71	47.91 S	549.15 E	551.23
0.00						
7380.00	91.020	94.986	6941.53	48.78 S	559.11 E	561.23
0.00						
7390.00	91.020	94.986	6941.35	49.65 S	569.07 E	571.23
0.00						
7400.00	91.020	94.986	6941.18	50.51 S	579.03 E	581.23
0.00						
7410.00	91.020	94.986	6941.00	51.38 S	588.99 E	591.23
0.00						
7420.00	91.020	94.986	6940.82	52.25 S	598.95 E	601.22
0.00						
7430.00	91.020	94.986	6940.64	53.12 S	608.91 E	611.22
0.00						
7440.00	91.020	94.986	6940.46	53.99 S	618.87 E	621.22
0.00						
7450.00	91.020	94.986	6940.29	54.86 S	628.83 E	631.22
0.00						
7460.00	91.020	94.986	6940.11	55.73 S	638.79 E	641.22
0.00						
7470.00	91.020	94.986	6939.93	56.60 S	648.75 E	651.22
0.00						
7480.00	91.020	94.986	6939.75	57.47 S	658.71 E	661.22
0.00						
7490.00	91.020	94.986	6939.57	58.33 S	668.67 E	671.21
0.00						
7500.00	91.020	94.986	6939.40	59.20 S	678.63 E	681.21
0.00						
7510.00	91.020	94.986	6939.22	60.07 S	688.60 E	691.21
0.00						

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

7520.00	91.020	94.986	6939.04	60.94 S	698.56 E	701.21
0.00						
7530.00	91.020	94.986	6938.86	61.81 S	708.52 E	711.21
0.00						
7540.00	91.020	94.986	6938.68	62.68 S	718.48 E	721.21
0.00						
7550.00	91.020	94.986	6938.51	63.55 S	728.44 E	731.20
0.00						
7560.00	91.020	94.986	6938.33	64.42 S	738.40 E	741.20
0.00						
7570.00	91.020	94.986	6938.15	65.29 S	748.36 E	751.20
0.00						
7580.00	91.020	94.986	6937.97	66.16 S	758.32 E	761.20
0.00						
7590.00	91.020	94.986	6937.79	67.02 S	768.28 E	771.20
0.00						
7600.00	91.020	94.986	6937.62	67.89 S	778.24 E	781.20
0.00						
7610.00	91.020	94.986	6937.44	68.76 S	788.20 E	791.19
0.00						
7620.00	91.020	94.986	6937.26	69.63 S	798.16 E	801.19
0.00						
7630.00	91.020	94.986	6937.08	70.50 S	808.12 E	811.19
0.00						
7640.00	91.020	94.986	6936.90	71.37 S	818.08 E	821.19
0.00						
7650.00	91.020	94.986	6936.73	72.24 S	828.04 E	831.19
0.00						
7660.00	91.020	94.986	6936.55	73.11 S	838.00 E	841.19
0.00						
7670.00	91.020	94.986	6936.37	73.98 S	847.96 E	851.19
0.00						
7680.00	91.020	94.986	6936.19	74.84 S	857.93 E	861.18
0.00						
7690.00	91.020	94.986	6936.01	75.71 S	867.89 E	871.18
0.00						
7700.00	91.020	94.986	6935.84	76.58 S	877.85 E	881.18
0.00						
7710.00	91.020	94.986	6935.66	77.45 S	887.81 E	891.18
0.00						
7720.00	91.020	94.986	6935.48	78.32 S	897.77 E	901.18
0.00						
7730.00	91.020	94.986	6935.30	79.19 S	907.73 E	911.18
0.00						
7740.00	91.020	94.986	6935.12	80.06 S	917.69 E	921.17
0.00						
7750.00	91.020	94.986	6934.95	80.93 S	927.65 E	931.17
0.00						
7760.00	91.020	94.986	6934.77	81.80 S	937.61 E	941.17
0.00						
7770.00	91.020	94.986	6934.59	82.67 S	947.57 E	951.17
0.00						
7780.00	91.020	94.986	6934.41	83.53 S	957.53 E	961.17
0.00						
7790.00	91.020	94.986	6934.23	84.40 S	967.49 E	971.17
0.00						
7800.00	91.020	94.986	6934.06	85.27 S	977.45 E	981.16
0.00						
7810.00	91.020	94.986	6933.88	86.14 S	987.41 E	991.16
0.00						
7820.00	91.020	94.986	6933.70	87.01 S	997.37 E	1001.16
0.00						
7830.00	91.020	94.986	6933.52	87.88 S	1007.33 E	1011.16

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00						
7840.00	91.020	94.986	6933.34	88.75 S	1017.29 E	1021.16
0.00						
7850.00	91.020	94.986	6933.17	89.62 S	1027.26 E	1031.16
0.00						
7860.00	91.020	94.986	6932.99	90.49 S	1037.22 E	1041.16
0.00						
7870.00	91.020	94.986	6932.81	91.35 S	1047.18 E	1051.15
0.00						
7880.00	91.020	94.986	6932.63	92.22 S	1057.14 E	1061.15
0.00						
7890.00	91.020	94.986	6932.45	93.09 S	1067.10 E	1071.15
0.00						
7900.00	91.020	94.986	6932.28	93.96 S	1077.06 E	1081.15
0.00						
7910.00	91.020	94.986	6932.10	94.83 S	1087.02 E	1091.15
0.00						
7920.00	91.020	94.986	6931.92	95.70 S	1096.98 E	1101.15
0.00						
7930.00	91.020	94.986	6931.74	96.57 S	1106.94 E	1111.14
0.00						
7940.00	91.020	94.986	6931.56	97.44 S	1116.90 E	1121.14
0.00						
7950.00	91.020	94.986	6931.39	98.31 S	1126.86 E	1131.14
0.00						
7960.00	91.020	94.986	6931.21	99.18 S	1136.82 E	1141.14
0.00						
7970.00	91.020	94.986	6931.03	100.04 S	1146.78 E	1151.14
0.00						
7980.00	91.020	94.986	6930.85	100.91 S	1156.74 E	1161.14
0.00						
7990.00	91.020	94.986	6930.67	101.78 S	1166.70 E	1171.13
0.00						
8000.00	91.020	94.986	6930.50	102.65 S	1176.66 E	1181.13
0.00						
8010.00	91.020	94.986	6930.32	103.52 S	1186.62 E	1191.13
0.00						
8020.00	91.020	94.986	6930.14	104.39 S	1196.59 E	1201.13
0.00						
8030.00	91.020	94.986	6929.96	105.26 S	1206.55 E	1211.13
0.00						
8040.00	91.020	94.986	6929.78	106.13 S	1216.51 E	1221.13
0.00						
8050.00	91.020	94.986	6929.61	107.00 S	1226.47 E	1231.13
0.00						
8060.00	91.020	94.986	6929.43	107.86 S	1236.43 E	1241.12
0.00						
8070.00	91.020	94.986	6929.25	108.73 S	1246.39 E	1251.12
0.00						
8080.00	91.020	94.986	6929.07	109.60 S	1256.35 E	1261.12
0.00						
8090.00	91.020	94.986	6928.89	110.47 S	1266.31 E	1271.12
0.00						
8100.00	91.020	94.986	6928.71	111.34 S	1276.27 E	1281.12
0.00						
8110.00	91.020	94.986	6928.54	112.21 S	1286.23 E	1291.12
0.00						
8120.00	91.020	94.986	6928.36	113.08 S	1296.19 E	1301.11
0.00						
8130.00	91.020	94.986	6928.18	113.95 S	1306.15 E	1311.11
0.00						
8140.00	91.020	94.986	6928.00	114.82 S	1316.11 E	1321.11
0.00						

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

8150.00	91.020	94.986	6927.82	115.69 S	1326.07 E	1331.11
0.00						
8160.00	91.020	94.986	6927.65	116.55 S	1336.03 E	1341.11
0.00						
8170.00	91.020	94.986	6927.47	117.42 S	1345.99 E	1351.11
0.00						
8180.00	91.020	94.986	6927.29	118.29 S	1355.95 E	1361.10
0.00						
8190.00	91.020	94.986	6927.11	119.16 S	1365.92 E	1371.10
0.00						
8200.00	91.020	94.986	6926.93	120.03 S	1375.88 E	1381.10
0.00						
8210.00	91.020	94.986	6926.76	120.90 S	1385.84 E	1391.10
0.00						
8220.00	91.020	94.986	6926.58	121.77 S	1395.80 E	1401.10
0.00						
8230.00	91.020	94.986	6926.40	122.64 S	1405.76 E	1411.10
0.00						
8240.00	91.020	94.986	6926.22	123.51 S	1415.72 E	1421.10
0.00						
8250.00	91.020	94.986	6926.04	124.37 S	1425.68 E	1431.09
0.00						
8260.00	91.020	94.986	6925.87	125.24 S	1435.64 E	1441.09
0.00						
8270.00	91.020	94.986	6925.69	126.11 S	1445.60 E	1451.09
0.00						
8280.00	91.020	94.986	6925.51	126.98 S	1455.56 E	1461.09
0.00						
8290.00	91.020	94.986	6925.33	127.85 S	1465.52 E	1471.09
0.00						
8300.00	91.020	94.986	6925.15	128.72 S	1475.48 E	1481.09
0.00						
8310.00	91.020	94.986	6924.98	129.59 S	1485.44 E	1491.08
0.00						
8320.00	91.020	94.986	6924.80	130.46 S	1495.40 E	1501.08
0.00						
8330.00	91.020	94.986	6924.62	131.33 S	1505.36 E	1511.08
0.00						
8340.00	91.020	94.986	6924.44	132.19 S	1515.32 E	1521.08
0.00						
8350.00	91.020	94.986	6924.26	133.06 S	1525.28 E	1531.08
0.00						
8360.00	91.020	94.986	6924.09	133.93 S	1535.24 E	1541.08
0.00						
8370.00	91.020	94.986	6923.91	134.80 S	1545.21 E	1551.07
0.00						
8380.00	91.020	94.986	6923.73	135.67 S	1555.17 E	1561.07
0.00						
8390.00	91.020	94.986	6923.55	136.54 S	1565.13 E	1571.07
0.00						
8400.00	91.020	94.986	6923.37	137.41 S	1575.09 E	1581.07
0.00						
8410.00	91.020	94.986	6923.20	138.28 S	1585.05 E	1591.07
0.00						
8420.00	91.020	94.986	6923.02	139.15 S	1595.01 E	1601.07
0.00						
8430.00	91.020	94.986	6922.84	140.02 S	1604.97 E	1611.06
0.00						
8440.00	91.020	94.986	6922.66	140.88 S	1614.93 E	1621.06
0.00						
8450.00	91.020	94.986	6922.48	141.75 S	1624.89 E	1631.06
0.00						
8460.00	91.020	94.986	6922.31	142.62 S	1634.85 E	1641.06

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00						
8470.00	91.020	94.986	6922.13	143.49 S	1644.81 E	1651.06
0.00						
8480.00	91.020	94.986	6921.95	144.36 S	1654.77 E	1661.06
0.00						
8490.00	91.020	94.986	6921.77	145.23 S	1664.73 E	1671.06
0.00						
8500.00	91.020	94.986	6921.59	146.10 S	1674.69 E	1681.05
0.00						
8510.00	91.020	94.986	6921.42	146.97 S	1684.65 E	1691.05
0.00						
8520.00	91.020	94.986	6921.24	147.84 S	1694.61 E	1701.05
0.00						
8530.00	91.020	94.986	6921.06	148.70 S	1704.57 E	1711.05
0.00						
8540.00	91.020	94.986	6920.88	149.57 S	1714.54 E	1721.05
0.00						
8550.00	91.020	94.986	6920.70	150.44 S	1724.50 E	1731.05
0.00						
8560.00	91.020	94.986	6920.53	151.31 S	1734.46 E	1741.04
0.00						
8570.00	91.020	94.986	6920.35	152.18 S	1744.42 E	1751.04
0.00						
8580.00	91.020	94.986	6920.17	153.05 S	1754.38 E	1761.04
0.00						
8590.00	91.020	94.986	6919.99	153.92 S	1764.34 E	1771.04
0.00						
8600.00	91.020	94.986	6919.81	154.79 S	1774.30 E	1781.04
0.00						
8610.00	91.020	94.986	6919.64	155.66 S	1784.26 E	1791.04
0.00						
8620.00	91.020	94.986	6919.46	156.53 S	1794.22 E	1801.03
0.00						
8630.00	91.020	94.986	6919.28	157.39 S	1804.18 E	1811.03
0.00						
8640.00	91.020	94.986	6919.10	158.26 S	1814.14 E	1821.03
0.00						
8650.00	91.020	94.986	6918.92	159.13 S	1824.10 E	1831.03
0.00						
8660.00	91.020	94.986	6918.75	160.00 S	1834.06 E	1841.03
0.00						
8670.00	91.020	94.986	6918.57	160.87 S	1844.02 E	1851.03
0.00						
8680.00	91.020	94.986	6918.39	161.74 S	1853.98 E	1861.03
0.00						
8690.00	91.020	94.986	6918.21	162.61 S	1863.94 E	1871.02
0.00						
8700.00	91.020	94.986	6918.03	163.48 S	1873.90 E	1881.02
0.00						
8710.00	91.020	94.986	6917.86	164.35 S	1883.87 E	1891.02
0.00						
8720.00	91.020	94.986	6917.68	165.21 S	1893.83 E	1901.02
0.00						
8730.00	91.020	94.986	6917.50	166.08 S	1903.79 E	1911.02
0.00						
8740.00	91.020	94.986	6917.32	166.95 S	1913.75 E	1921.02
0.00						
8750.00	91.020	94.986	6917.14	167.82 S	1923.71 E	1931.01
0.00						
8760.00	91.020	94.986	6916.97	168.69 S	1933.67 E	1941.01
0.00						
8770.00	91.020	94.986	6916.79	169.56 S	1943.63 E	1951.01
0.00						

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

8780.00	91.020	94.986	6916.61	170.43 S	1953.59 E	1961.01
0.00						
8790.00	91.020	94.986	6916.43	171.30 S	1963.55 E	1971.01
0.00						
8800.00	91.020	94.986	6916.25	172.17 S	1973.51 E	1981.01
0.00						
8810.00	91.020	94.986	6916.08	173.04 S	1983.47 E	1991.00
0.00						
8820.00	91.020	94.986	6915.90	173.90 S	1993.43 E	2001.00
0.00						
8830.00	91.020	94.986	6915.72	174.77 S	2003.39 E	2011.00
0.00						
8840.00	91.020	94.986	6915.54	175.64 S	2013.35 E	2021.00
0.00						
8850.00	91.020	94.986	6915.36	176.51 S	2023.31 E	2031.00
0.00						
8860.00	91.020	94.986	6915.19	177.38 S	2033.27 E	2041.00
0.00						
8870.00	91.020	94.986	6915.01	178.25 S	2043.23 E	2051.00
0.00						
8880.00	91.020	94.986	6914.83	179.12 S	2053.20 E	2060.99
0.00						
8890.00	91.020	94.986	6914.65	179.99 S	2063.16 E	2070.99
0.00						
8900.00	91.020	94.986	6914.47	180.86 S	2073.12 E	2080.99
0.00						
8910.00	91.020	94.986	6914.30	181.72 S	2083.08 E	2090.99
0.00						
8920.00	91.020	94.986	6914.12	182.59 S	2093.04 E	2100.99
0.00						
8930.00	91.020	94.986	6913.94	183.46 S	2103.00 E	2110.99
0.00						
8940.00	91.020	94.986	6913.76	184.33 S	2112.96 E	2120.98
0.00						
8950.00	91.020	94.986	6913.58	185.20 S	2122.92 E	2130.98
0.00						
8960.00	91.020	94.986	6913.41	186.07 S	2132.88 E	2140.98
0.00						
8970.00	91.020	94.986	6913.23	186.94 S	2142.84 E	2150.98
0.00						
8980.00	91.020	94.986	6913.05	187.81 S	2152.80 E	2160.98
0.00						
8990.00	91.020	94.986	6912.87	188.68 S	2162.76 E	2170.98
0.00						
9000.00	91.020	94.986	6912.69	189.55 S	2172.72 E	2180.97
0.00						
9010.00	91.020	94.986	6912.52	190.41 S	2182.68 E	2190.97
0.00						
9020.00	91.020	94.986	6912.34	191.28 S	2192.64 E	2200.97
0.00						
9030.00	91.020	94.986	6912.16	192.15 S	2202.60 E	2210.97
0.00						
9040.00	91.020	94.986	6911.98	193.02 S	2212.56 E	2220.97
0.00						
9050.00	91.020	94.986	6911.80	193.89 S	2222.53 E	2230.97
0.00						
9060.00	91.020	94.986	6911.63	194.76 S	2232.49 E	2240.97
0.00						
9070.00	91.020	94.986	6911.45	195.63 S	2242.45 E	2250.96
0.00						
9080.00	91.020	94.986	6911.27	196.50 S	2252.41 E	2260.96
0.00						
9090.00	91.020	94.986	6911.09	197.37 S	2262.37 E	2270.96

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00							
9100.00	91.020	94.986	6910.91	198.23 S	2272.33 E	2280.96	
0.00							
9110.00	91.020	94.986	6910.74	199.10 S	2282.29 E	2290.96	
0.00							
9120.00	91.020	94.986	6910.56	199.97 S	2292.25 E	2300.96	
0.00							
9130.00	91.020	94.986	6910.38	200.84 S	2302.21 E	2310.95	
0.00							
9140.00	91.020	94.986	6910.20	201.71 S	2312.17 E	2320.95	
0.00							
9150.00	91.020	94.986	6910.02	202.58 S	2322.13 E	2330.95	
0.00							
9160.00	91.020	94.986	6909.85	203.45 S	2332.09 E	2340.95	
0.00							
9170.00	91.020	94.986	6909.67	204.32 S	2342.05 E	2350.95	
0.00							
9180.00	91.020	94.986	6909.49	205.19 S	2352.01 E	2360.95	
0.00							
9190.00	91.020	94.986	6909.31	206.05 S	2361.97 E	2370.94	
0.00							
9200.00	91.020	94.986	6909.13	206.92 S	2371.93 E	2380.94	
0.00							
9210.00	91.020	94.986	6908.96	207.79 S	2381.89 E	2390.94	
0.00							
9220.00	91.020	94.986	6908.78	208.66 S	2391.86 E	2400.94	
0.00							
9230.00	91.020	94.986	6908.60	209.53 S	2401.82 E	2410.94	
0.00							
9240.00	91.020	94.986	6908.42	210.40 S	2411.78 E	2420.94	
0.00							
9250.00	91.020	94.986	6908.24	211.27 S	2421.74 E	2430.93	
0.00							
9260.00	91.020	94.986	6908.07	212.14 S	2431.70 E	2440.93	
0.00							
9270.00	91.020	94.986	6907.89	213.01 S	2441.66 E	2450.93	
0.00							
9280.00	91.020	94.986	6907.71	213.88 S	2451.62 E	2460.93	
0.00							
9290.00	91.020	94.986	6907.53	214.74 S	2461.58 E	2470.93	
0.00							
9300.00	91.020	94.986	6907.35	215.61 S	2471.54 E	2480.93	
0.00							
9310.00	91.020	94.986	6907.18	216.48 S	2481.50 E	2490.93	
0.00							
9320.00	91.020	94.986	6907.00	217.35 S	2491.46 E	2500.92	
0.00							
9330.00	91.020	94.986	6906.82	218.22 S	2501.42 E	2510.92	
0.00							
9340.00	91.020	94.986	6906.64	219.09 S	2511.38 E	2520.92	
0.00							
9350.00	91.020	94.986	6906.46	219.96 S	2521.34 E	2530.92	
0.00							
9360.00	91.020	94.986	6906.29	220.83 S	2531.30 E	2540.92	
0.00							
9370.00	91.020	94.986	6906.11	221.70 S	2541.26 E	2550.92	
0.00							
9380.00	91.020	94.986	6905.93	222.56 S	2551.22 E	2560.91	
0.00							
9390.00	91.020	94.986	6905.75	223.43 S	2561.19 E	2570.91	
0.00							
9400.00	91.020	94.986	6905.57	224.30 S	2571.15 E	2580.91	
0.00							

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

9410.00	91.020	94.986	6905.40	225.17 S	2581.11 E	2590.91
0.00						
9420.00	91.020	94.986	6905.22	226.04 S	2591.07 E	2600.91
0.00						
9430.00	91.020	94.986	6905.04	226.91 S	2601.03 E	2610.91
0.00						
9440.00	91.020	94.986	6904.86	227.78 S	2610.99 E	2620.90
0.00						
9450.00	91.020	94.986	6904.68	228.65 S	2620.95 E	2630.90
0.00						
9460.00	91.020	94.986	6904.51	229.52 S	2630.91 E	2640.90
0.00						
9470.00	91.020	94.986	6904.33	230.39 S	2640.87 E	2650.90
0.00						
9480.00	91.020	94.986	6904.15	231.25 S	2650.83 E	2660.90
0.00						
9490.00	91.020	94.986	6903.97	232.12 S	2660.79 E	2670.90
0.00						
9500.00	91.020	94.986	6903.79	232.99 S	2670.75 E	2680.90
0.00						
9510.00	91.020	94.986	6903.61	233.86 S	2680.71 E	2690.89
0.00						
9520.00	91.020	94.986	6903.44	234.73 S	2690.67 E	2700.89
0.00						
9530.00	91.020	94.986	6903.26	235.60 S	2700.63 E	2710.89
0.00						
9540.00	91.020	94.986	6903.08	236.47 S	2710.59 E	2720.89
0.00						
9550.00	91.020	94.986	6902.90	237.34 S	2720.55 E	2730.89
0.00						
9560.00	91.020	94.986	6902.72	238.21 S	2730.52 E	2740.89
0.00						
9570.00	91.020	94.986	6902.55	239.07 S	2740.48 E	2750.88
0.00						
9580.00	91.020	94.986	6902.37	239.94 S	2750.44 E	2760.88
0.00						
9590.00	91.020	94.986	6902.19	240.81 S	2760.40 E	2770.88
0.00						
9600.00	91.020	94.986	6902.01	241.68 S	2770.36 E	2780.88
0.00						
9610.00	91.020	94.986	6901.83	242.55 S	2780.32 E	2790.88
0.00						
9620.00	91.020	94.986	6901.66	243.42 S	2790.28 E	2800.88
0.00						
9630.00	91.020	94.986	6901.48	244.29 S	2800.24 E	2810.87
0.00						
9640.00	91.020	94.986	6901.30	245.16 S	2810.20 E	2820.87
0.00						
9650.00	91.020	94.986	6901.12	246.03 S	2820.16 E	2830.87
0.00						
9660.00	91.020	94.986	6900.94	246.90 S	2830.12 E	2840.87
0.00						
9670.00	91.020	94.986	6900.77	247.76 S	2840.08 E	2850.87
0.00						
9680.00	91.020	94.986	6900.59	248.63 S	2850.04 E	2860.87
0.00						
9690.00	91.020	94.986	6900.41	249.50 S	2860.00 E	2870.87
0.00						
9700.00	91.020	94.986	6900.23	250.37 S	2869.96 E	2880.86
0.00						
9710.00	91.020	94.986	6900.05	251.24 S	2879.92 E	2890.86
0.00						
9720.00	91.020	94.986	6899.88	252.11 S	2889.88 E	2900.86

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00							
9730.00	91.020	94.986	6899.70	252.98 S	2899.85 E	2910.86	
0.00							
9740.00	91.020	94.986	6899.52	253.85 S	2909.81 E	2920.86	
0.00							
9750.00	91.020	94.986	6899.34	254.72 S	2919.77 E	2930.86	
0.00							
9760.00	91.020	94.986	6899.16	255.58 S	2929.73 E	2940.85	
0.00							
9770.00	91.020	94.986	6898.99	256.45 S	2939.69 E	2950.85	
0.00							
9780.00	91.020	94.986	6898.81	257.32 S	2949.65 E	2960.85	
0.00							
9790.00	91.020	94.986	6898.63	258.19 S	2959.61 E	2970.85	
0.00							
9800.00	91.020	94.986	6898.45	259.06 S	2969.57 E	2980.85	
0.00							
9810.00	91.020	94.986	6898.27	259.93 S	2979.53 E	2990.85	
0.00							
9820.00	91.020	94.986	6898.10	260.80 S	2989.49 E	3000.84	
0.00							
9830.00	91.020	94.986	6897.92	261.67 S	2999.45 E	3010.84	
0.00							
9840.00	91.020	94.986	6897.74	262.54 S	3009.41 E	3020.84	
0.00							
9850.00	91.020	94.986	6897.56	263.41 S	3019.37 E	3030.84	
0.00							
9860.00	91.020	94.986	6897.38	264.27 S	3029.33 E	3040.84	
0.00							
9870.00	91.020	94.986	6897.21	265.14 S	3039.29 E	3050.84	
0.00							
9880.00	91.020	94.986	6897.03	266.01 S	3049.25 E	3060.84	
0.00							
9890.00	91.020	94.986	6896.85	266.88 S	3059.21 E	3070.83	
0.00							
9900.00	91.020	94.986	6896.67	267.75 S	3069.18 E	3080.83	
0.00							
9910.00	91.020	94.986	6896.49	268.62 S	3079.14 E	3090.83	
0.00							
9920.00	91.020	94.986	6896.32	269.49 S	3089.10 E	3100.83	
0.00							
9930.00	91.020	94.986	6896.14	270.36 S	3099.06 E	3110.83	
0.00							
9940.00	91.020	94.986	6895.96	271.23 S	3109.02 E	3120.83	
0.00							
9950.00	91.020	94.986	6895.78	272.09 S	3118.98 E	3130.82	
0.00							
9960.00	91.020	94.986	6895.60	272.96 S	3128.94 E	3140.82	
0.00							
9970.00	91.020	94.986	6895.43	273.83 S	3138.90 E	3150.82	
0.00							
9980.00	91.020	94.986	6895.25	274.70 S	3148.86 E	3160.82	
0.00							
9990.00	91.020	94.986	6895.07	275.57 S	3158.82 E	3170.82	
0.00							
10000.00	91.020	94.986	6894.89	276.44 S	3168.78 E	3180.82	
0.00							
10010.00	91.020	94.986	6894.71	277.31 S	3178.74 E	3190.81	
0.00							
10020.00	91.020	94.986	6894.54	278.18 S	3188.70 E	3200.81	
0.00							
10030.00	91.020	94.986	6894.36	279.05 S	3198.66 E	3210.81	
0.00							

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

10040.00	91.020	94.986	6894.18	279.92 S	3208.62 E	3220.81
0.00						
10050.00	91.020	94.986	6894.00	280.78 S	3218.58 E	3230.81
0.00						
10060.00	91.020	94.986	6893.82	281.65 S	3228.54 E	3240.81
0.00						
10070.00	91.020	94.986	6893.65	282.52 S	3238.51 E	3250.81
0.00						
10080.00	91.020	94.986	6893.47	283.39 S	3248.47 E	3260.80
0.00						
10090.00	91.020	94.986	6893.29	284.26 S	3258.43 E	3270.80
0.00						
10100.00	91.020	94.986	6893.11	285.13 S	3268.39 E	3280.80
0.00						
10110.00	91.020	94.986	6892.93	286.00 S	3278.35 E	3290.80
0.00						
10120.00	91.020	94.986	6892.76	286.87 S	3288.31 E	3300.80
0.00						
10130.00	91.020	94.986	6892.58	287.74 S	3298.27 E	3310.80
0.00						
10140.00	91.020	94.986	6892.40	288.60 S	3308.23 E	3320.79
0.00						
10150.00	91.020	94.986	6892.22	289.47 S	3318.19 E	3330.79
0.00						
10160.00	91.020	94.986	6892.04	290.34 S	3328.15 E	3340.79
0.00						
10170.00	91.020	94.986	6891.87	291.21 S	3338.11 E	3350.79
0.00						
10180.00	91.020	94.986	6891.69	292.08 S	3348.07 E	3360.79
0.00						
10190.00	91.020	94.986	6891.51	292.95 S	3358.03 E	3370.79
0.00						
10200.00	91.020	94.986	6891.33	293.82 S	3367.99 E	3380.78
0.00						
10210.00	91.020	94.986	6891.15	294.69 S	3377.95 E	3390.78
0.00						
10220.00	91.020	94.986	6890.98	295.56 S	3387.91 E	3400.78
0.00						
10230.00	91.020	94.986	6890.80	296.42 S	3397.87 E	3410.78
0.00						
10240.00	91.020	94.986	6890.62	297.29 S	3407.83 E	3420.78
0.00						
10250.00	91.020	94.986	6890.44	298.16 S	3417.80 E	3430.78
0.00						
10260.00	91.020	94.986	6890.26	299.03 S	3427.76 E	3440.77
0.00						
10270.00	91.020	94.986	6890.09	299.90 S	3437.72 E	3450.77
0.00						
10280.00	91.020	94.986	6889.91	300.77 S	3447.68 E	3460.77
0.00						
10290.00	91.020	94.986	6889.73	301.64 S	3457.64 E	3470.77
0.00						
10300.00	91.020	94.986	6889.55	302.51 S	3467.60 E	3480.77
0.00						
10310.00	91.020	94.986	6889.37	303.38 S	3477.56 E	3490.77
0.00						
10320.00	91.020	94.986	6889.20	304.25 S	3487.52 E	3500.77
0.00						
10330.00	91.020	94.986	6889.02	305.11 S	3497.48 E	3510.76
0.00						
10340.00	91.020	94.986	6888.84	305.98 S	3507.44 E	3520.76
0.00						
10350.00	91.020	94.986	6888.66	306.85 S	3517.40 E	3530.76

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00						
10360.00	91.020	94.986	6888.48	307.72 S	3527.36 E	3540.76
0.00						
10370.00	91.020	94.986	6888.31	308.59 S	3537.32 E	3550.76
0.00						
10380.00	91.020	94.986	6888.13	309.46 S	3547.28 E	3560.76
0.00						
10390.00	91.020	94.986	6887.95	310.33 S	3557.24 E	3570.75
0.00						
10400.00	91.020	94.986	6887.77	311.20 S	3567.20 E	3580.75
0.00						
10410.00	91.020	94.986	6887.59	312.07 S	3577.16 E	3590.75
0.00						
10420.00	91.020	94.986	6887.42	312.93 S	3587.13 E	3600.75
0.00						
10430.00	91.020	94.986	6887.24	313.80 S	3597.09 E	3610.75
0.00						
10440.00	91.020	94.986	6887.06	314.67 S	3607.05 E	3620.75
0.00						
10450.00	91.020	94.986	6886.88	315.54 S	3617.01 E	3630.74
0.00						
10460.00	91.020	94.986	6886.70	316.41 S	3626.97 E	3640.74
0.00						
10470.00	91.020	94.986	6886.53	317.28 S	3636.93 E	3650.74
0.00						
10480.00	91.020	94.986	6886.35	318.15 S	3646.89 E	3660.74
0.00						
10490.00	91.020	94.986	6886.17	319.02 S	3656.85 E	3670.74
0.00						
10500.00	91.020	94.986	6885.99	319.89 S	3666.81 E	3680.74
0.00						
10510.00	91.020	94.986	6885.81	320.76 S	3676.77 E	3690.74
0.00						
10520.00	91.020	94.986	6885.64	321.62 S	3686.73 E	3700.73
0.00						
10530.00	91.020	94.986	6885.46	322.49 S	3696.69 E	3710.73
0.00						
10540.00	91.020	94.986	6885.28	323.36 S	3706.65 E	3720.73
0.00						
10550.00	91.020	94.986	6885.10	324.23 S	3716.61 E	3730.73
0.00						
10560.00	91.020	94.986	6884.92	325.10 S	3726.57 E	3740.73
0.00						
10570.00	91.020	94.986	6884.75	325.97 S	3736.53 E	3750.73
0.00						
10580.00	91.020	94.986	6884.57	326.84 S	3746.49 E	3760.72
0.00						
10590.00	91.020	94.986	6884.39	327.71 S	3756.46 E	3770.72
0.00						
10600.00	91.020	94.986	6884.21	328.58 S	3766.42 E	3780.72
0.00						
10610.00	91.020	94.986	6884.03	329.44 S	3776.38 E	3790.72
0.00						
10620.00	91.020	94.986	6883.86	330.31 S	3786.34 E	3800.72
0.00						
10630.00	91.020	94.986	6883.68	331.18 S	3796.30 E	3810.72
0.00						
10640.00	91.020	94.986	6883.50	332.05 S	3806.26 E	3820.71
0.00						
10650.00	91.020	94.986	6883.32	332.92 S	3816.22 E	3830.71
0.00						
10660.00	91.020	94.986	6883.14	333.79 S	3826.18 E	3840.71
0.00						

	Cave Lake	'13'	Federal	Com #1	Lateral	Plan #1	Report 1-18-08.txt
10670.00	91.020	94.986	6882.97	334.66	S	3836.14	E 3850.71
0.00							
10680.00	91.020	94.986	6882.79	335.53	S	3846.10	E 3860.71
0.00							
10690.00	91.020	94.986	6882.61	336.40	S	3856.06	E 3870.71
0.00							
10700.00	91.020	94.986	6882.43	337.27	S	3866.02	E 3880.71
0.00							
10710.00	91.020	94.986	6882.25	338.13	S	3875.98	E 3890.70
0.00							
10720.00	91.020	94.986	6882.08	339.00	S	3885.94	E 3900.70
0.00							
10730.00	91.020	94.986	6881.90	339.87	S	3895.90	E 3910.70
0.00							
10740.00	91.020	94.986	6881.72	340.74	S	3905.86	E 3920.70
0.00							
10750.00	91.020	94.986	6881.54	341.61	S	3915.82	E 3930.70
0.00							
10760.00	91.020	94.986	6881.36	342.48	S	3925.79	E 3940.70
0.00							
10770.00	91.020	94.986	6881.19	343.35	S	3935.75	E 3950.69
0.00							
10780.00	91.020	94.986	6881.01	344.22	S	3945.71	E 3960.69
0.00							
10790.00	91.020	94.986	6880.83	345.09	S	3955.67	E 3970.69
0.00							
10800.00	91.020	94.986	6880.65	345.95	S	3965.63	E 3980.69
0.00							
10810.00	91.020	94.986	6880.47	346.82	S	3975.59	E 3990.69
0.00							
10820.00	91.020	94.986	6880.30	347.69	S	3985.55	E 4000.69
0.00							
10830.00	91.020	94.986	6880.12	348.56	S	3995.51	E 4010.68
0.00							
10840.00	91.020	94.986	6879.94	349.43	S	4005.47	E 4020.68
0.00							
10850.00	91.020	94.986	6879.76	350.30	S	4015.43	E 4030.68
0.00							
10860.00	91.020	94.986	6879.58	351.17	S	4025.39	E 4040.68
0.00							
10870.00	91.020	94.986	6879.41	352.04	S	4035.35	E 4050.68
0.00							
10880.00	91.020	94.986	6879.23	352.91	S	4045.31	E 4060.68
0.00							
10890.00	91.020	94.986	6879.05	353.78	S	4055.27	E 4070.68
0.00							
10900.00	91.020	94.986	6878.87	354.64	S	4065.23	E 4080.67
0.00							
10910.00	91.020	94.986	6878.69	355.51	S	4075.19	E 4090.67
0.00							
10920.00	91.020	94.986	6878.51	356.38	S	4085.15	E 4100.67
0.00							
10930.00	91.020	94.986	6878.34	357.25	S	4095.12	E 4110.67
0.00							
10940.00	91.020	94.986	6878.16	358.12	S	4105.08	E 4120.67
0.00							
10950.00	91.020	94.986	6877.98	358.99	S	4115.04	E 4130.67
0.00							
10960.00	91.020	94.986	6877.80	359.86	S	4125.00	E 4140.66
0.00							
10970.00	91.020	94.986	6877.62	360.73	S	4134.96	E 4150.66
0.00							
10980.00	91.020	94.986	6877.45	361.60	S	4144.92	E 4160.66

Cave Lake '13' Federal Com #1 Lateral Plan #1 Report 1-18-08.txt

0.00						
10990.00	91.020	94.986	6877.27	362.46 S	4154.88 E	4170.66
0.00						
11000.00	91.020	94.986	6877.09	363.33 S	4164.84 E	4180.66
0.00						
11010.00	91.020	94.986	6876.91	364.20 S	4174.80 E	4190.66
0.00						
11020.00	91.020	94.986	6876.73	365.07 S	4184.76 E	4200.65
0.00						
11030.00	91.020	94.986	6876.56	365.94 S	4194.72 E	4210.65
0.00						
11040.00	91.020	94.986	6876.38	366.81 S	4204.68 E	4220.65
0.00						
11050.00	91.020	94.986	6876.20	367.68 S	4214.64 E	4230.65
0.00						
11060.00	91.020	94.986	6876.02	368.55 S	4224.60 E	4240.65
0.00						
11070.00	91.020	94.986	6875.84	369.42 S	4234.56 E	4250.65
0.00						
11080.00	91.020	94.986	6875.67	370.28 S	4244.52 E	4260.64
0.00						
11090.00	91.020	94.986	6875.49	371.15 S	4254.48 E	4270.64
0.00						
11100.00	91.020	94.986	6875.31	372.02 S	4264.45 E	4280.64
0.00						
11110.00	91.020	94.986	6875.13	372.89 S	4274.41 E	4290.64
0.00						
11120.00	91.020	94.986	6874.95	373.76 S	4284.37 E	4300.64
0.00						
11130.00	91.020	94.986	6874.78	374.63 S	4294.33 E	4310.64
0.00						
11140.00	91.020	94.986	6874.60	375.50 S	4304.29 E	4320.64
0.00						
11150.00	91.020	94.986	6874.42	376.37 S	4314.25 E	4330.63
0.00						
11160.00	91.020	94.986	6874.24	377.24 S	4324.21 E	4340.63
0.00						
11170.00	91.020	94.986	6874.06	378.11 S	4334.17 E	4350.63
0.00						
11180.00	91.020	94.986	6873.89	378.97 S	4344.13 E	4360.63
0.00						
11190.00	91.020	94.986	6873.71	379.84 S	4354.09 E	4370.63
0.00						
11200.00	91.020	94.986	6873.53	380.71 S	4364.05 E	4380.63
0.00						
11210.00	91.020	94.986	6873.35	381.58 S	4374.01 E	4390.62
0.00						
11220.00	91.020	94.986	6873.17	382.45 S	4383.97 E	4400.62
0.00						
11230.00	91.020	94.986	6873.00	383.32 S	4393.93 E	4410.62
0.00						
11240.00	91.020	94.986	6872.82	384.19 S	4403.89 E	4420.62
0.00						
11250.00	91.020	94.986	6872.64	385.06 S	4413.85 E	4430.62
0.00						
11260.00	91.020	94.986	6872.46	385.93 S	4423.81 E	4440.62
0.00						
11270.00	91.020	94.986	6872.28	386.79 S	4433.78 E	4450.61
0.00						
11280.00	91.020	94.986	6872.11	387.66 S	4443.74 E	4460.61
0.00						
11290.00	91.020	94.986	6871.93	388.53 S	4453.70 E	4470.61
0.00						

	Cave Lake	'13'	Federal Com #1	Lateral Plan #1	Report 1-18-08.txt	
11300.00	91.020	94.986	6871.75	389.40 S	4463.66 E	4480.61
0.00						
11310.00	91.020	94.986	6871.57	390.27 S	4473.62 E	4490.61
0.00						
11320.00	91.020	94.986	6871.39	391.14 S	4483.58 E	4500.61
0.00						
11330.00	91.020	94.986	6871.22	392.01 S	4493.54 E	4510.61
0.00						
11340.00	91.020	94.986	6871.04	392.88 S	4503.50 E	4520.60
0.00						
11350.00	91.020	94.986	6870.86	393.75 S	4513.46 E	4530.60
0.00						
11360.00	91.020	94.986	6870.68	394.62 S	4523.42 E	4540.60
0.00						
11370.00	91.020	94.986	6870.50	395.48 S	4533.38 E	4550.60
0.00						
11380.00	91.020	94.986	6870.33	396.35 S	4543.34 E	4560.60
0.00						
11390.00	91.020	94.986	6870.15	397.22 S	4553.30 E	4570.60
0.00						
11398.33	91.020	94.986	6870.00	397.95 S	4561.60 E	4578.93
0.00						

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to GL Elev. Northings and Eastings are relative to well.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Site and calculated along an Azimuth of 94.986° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.107°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 11398.33ft., the Bottom Hole Displacement is 4578.93ft., in the Direction of 94.986° (Grid).



Cimarex Energy Co., Inc.

Eddy Co., New Mexico

Cave Lake '13' Federal Com #1

Cave Lake '13' Federal Com #1

Lateral #1

Plan: Plan #1

Standard Survey Report

18 January, 2008





Black Viper Energy
Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Cave Lake '13' Federal Com #1
Project:	Eddy Co., New Mexico	TVD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Site:	Cave Lake '13' Federal Com #1	MD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Well:	Cave Lake '13' Federal Com #1	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.14.1.0 Server DB

Project:		Eddy Co. - New Mexico	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Cave Lake '13' Federal Com #1					
Site Position:		Northing:	698,081.50 ft	Latitude:	32° 55' 7.978 N
From:	Map	Easting:	601,521.80 ft	Longitude:	104° 8' 13.941 W
Position Uncertainty:	0 00 ft	Slot Radius:	"	Grid Convergence:	0.11 °

Well:	Cave Lake '13' Federal Com #1					
Well Position	+N/-S	0.00 ft	Northing:	698,081.50 ft	Latitude:	32° 55' 7.978 N
	+E/-W	0.00 ft	Easting:	601,521.80 ft	Longitude:	104° 8' 13.941 W
Position Uncertainty		0 00 ft	Wellhead Elevation:	ft	Ground Level:	3,613.00 ft

Wellbore		Lateral #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	09/06/2007	8.34	60.83	49,397

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	6,600.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	94.99

Survey Tool Program		Date	01/18/2008		
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
6,600.00	11,398.27	Plan #1 (Lateral #1)	MWD	MWD - Standard	

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie In									
6,650.00	0.00	0.00	6,650.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Window									
6,660.00	3.00	94.99	6,660.00	-0.02	0.26	0.26	30.00	30.00	0.00
Base of Window									
6,665.02	3.00	94.99	6,665.01	-0.05	0.52	0.52	0.00	0.00	0.00
KOP - Build 19.31° / 100									
6,675.00	4.93	94.99	6,674.96	-0.11	1.21	1.21	19.31	19.31	-0.02
6,700.00	9.76	94.99	6,699.75	-0.38	4.39	4.41	19.31	19.31	-0.01
6,725.00	14.58	94.99	6,724.18	-0.84	9.64	9.68	19.31	19.31	0.00
6,750.00	19.41	94.99	6,748.08	-1.48	16.92	16.98	19.31	19.31	0.00
6,775.00	24.24	94.99	6,771.29	-2.28	26.17	26.27	19.31	19.31	0.00



Black Viper Energy
Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Cave Lake '13' Federal Corn #1
Project:	Eddy Co., New Mexico	TVD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Site:	Cave Lake '13' Federal Corn #1	MD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Well:	Cave Lake '13' Federal Corn #1	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.14.1.0 Server DB

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,800.00	29.07	94.99	6,793.62	-3.26	37.34	37.48	19.31	19.31	0.00
6,825.00	33.89	94.99	6,814.94	-4.39	50.34	50.53	19.31	19.31	0.00
6,850.00	38.72	94.99	6,835.08	-5.68	65.09	65.33	19.31	19.31	0.00
6,875.00	43.55	94.99	6,853.90	-7.11	81.46	81.77	19.31	19.31	0.00
6,895.78	47.56	94.99	6,868.45	-8.40	96.24	96.61	19.31	19.31	0.00
Wolfcamp Dolomite									
6,900.00	48.38	94.99	6,871.27	-8.67	99.36	99.74	19.31	19.31	0.00
6,925.00	53.20	94.99	6,887.07	-10.35	118.65	119.11	19.31	19.31	0.00
6,950.00	58.03	94.99	6,901.19	-12.14	139.20	139.73	19.31	19.31	0.00
6,975.00	62.86	94.99	6,913.52	-14.03	160.86	161.47	19.31	19.31	0.00
7,000.00	67.69	94.99	6,923.97	-16.01	183.48	184.17	19.31	19.31	0.00
7,025.00	72.51	94.99	6,932.48	-18.05	206.89	207.67	19.31	19.31	0.00
7,050.00	77.34	94.99	6,938.98	-20.15	230.93	231.80	19.31	19.31	0.00
7,075.00	82.17	94.99	6,943.42	-22.28	255.43	256.40	19.31	19.31	0.00
7,100.00	87.00	94.99	6,945.78	-24.45	280.22	281.28	19.31	19.31	0.00
7,120.84	91.02	94.99	6,946.15	-26.26	300.97	302.12	19.31	19.31	0.00
EOC - Hold 91.02° Inc. :: 94.99° Azi.									
7,200.00	91.02	94.99	6,944.74	-33.14	379.82	381.26	0.00	0.00	0.00
7,300.00	91.02	94.99	6,942.96	-41.83	479.42	481.24	0.00	0.00	0.00
7,400.00	91.02	94.99	6,941.18	-50.51	579.03	581.23	0.00	0.00	0.00
7,500.00	91.02	94.99	6,939.40	-59.20	678.63	681.21	0.00	0.00	0.00
7,600.00	91.02	94.99	6,937.62	-67.89	778.24	781.20	0.00	0.00	0.00
7,700.00	91.02	94.99	6,935.84	-76.58	877.85	881.18	0.00	0.00	0.00
7,800.00	91.02	94.99	6,934.06	-85.27	977.45	981.16	0.00	0.00	0.00
7,900.00	91.02	94.99	6,932.28	-93.96	1,077.06	1,081.15	0.00	0.00	0.00
8,000.00	91.02	94.99	6,930.50	-102.65	1,176.66	1,181.13	0.00	0.00	0.00
8,100.00	91.02	94.99	6,928.71	-111.34	1,276.27	1,281.12	0.00	0.00	0.00
8,200.00	91.02	94.99	6,926.93	-120.03	1,375.88	1,381.10	0.00	0.00	0.00
8,300.00	91.02	94.99	6,925.15	-128.72	1,475.48	1,481.09	0.00	0.00	0.00
8,400.00	91.02	94.99	6,923.37	-137.41	1,575.09	1,581.07	0.00	0.00	0.00
8,500.00	91.02	94.99	6,921.59	-146.10	1,674.69	1,681.05	0.00	0.00	0.00
8,600.00	91.02	94.99	6,919.81	-154.79	1,774.30	1,781.04	0.00	0.00	0.00
8,700.00	91.02	94.99	6,918.03	-163.48	1,873.90	1,881.02	0.00	0.00	0.00
8,800.00	91.02	94.99	6,916.25	-172.17	1,973.51	1,981.01	0.00	0.00	0.00
8,900.00	91.02	94.99	6,914.47	-180.86	2,073.12	2,080.99	0.00	0.00	0.00
9,000.00	91.02	94.99	6,912.69	-189.55	2,172.72	2,180.97	0.00	0.00	0.00
9,100.00	91.02	94.99	6,910.91	-198.23	2,272.33	2,280.96	0.00	0.00	0.00
9,200.00	91.02	94.99	6,909.13	-206.92	2,371.93	2,380.94	0.00	0.00	0.00
9,300.00	91.02	94.99	6,907.35	-215.61	2,471.54	2,480.93	0.00	0.00	0.00
9,400.00	91.02	94.99	6,905.57	-224.30	2,571.15	2,580.91	0.00	0.00	0.00
9,500.00	91.02	94.99	6,903.79	-232.99	2,670.75	2,680.90	0.00	0.00	0.00
9,600.00	91.02	94.99	6,902.01	-241.68	2,770.36	2,780.88	0.00	0.00	0.00
9,700.00	91.02	94.99	6,900.23	-250.37	2,869.96	2,880.86	0.00	0.00	0.00
9,800.00	91.02	94.99	6,898.45	-259.06	2,969.57	2,980.85	0.00	0.00	0.00
9,900.00	91.02	94.99	6,896.67	-267.75	3,069.18	3,080.83	0.00	0.00	0.00
10,000.00	91.02	94.99	6,894.89	-276.44	3,168.78	3,180.82	0.00	0.00	0.00
10,100.00	91.02	94.99	6,893.11	-285.13	3,268.39	3,280.80	0.00	0.00	0.00
10,200.00	91.02	94.99	6,891.33	-293.82	3,367.99	3,380.78	0.00	0.00	0.00
10,300.00	91.02	94.99	6,889.55	-302.51	3,467.60	3,480.77	0.00	0.00	0.00
10,400.00	91.02	94.99	6,887.77	-311.20	3,567.20	3,580.75	0.00	0.00	0.00
10,500.00	91.02	94.99	6,885.99	-319.89	3,666.81	3,680.74	0.00	0.00	0.00
10,600.00	91.02	94.99	6,884.21	-328.58	3,766.42	3,780.72	0.00	0.00	0.00
10,700.00	91.02	94.99	6,882.43	-337.27	3,866.02	3,880.71	0.00	0.00	0.00
10,800.00	91.02	94.99	6,880.65	-345.95	3,965.63	3,980.69	0.00	0.00	0.00



Black Viper Energy
Survey Report



Company:	Cimarex Energy Co., Inc.	Local Co-ordinate Reference:	Well Cave Lake '13' Federal Com #1
Project:	Eddy Co., New Mexico	TVD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Site:	Cave Lake '13' Federal Com #1	MD Reference:	GL Elev @ 3613.00ft (Orig. Well Elev.)
Well:	Cave Lake '13' Federal Com #1	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 2003.14.1.0 Server DB

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,900.00	91.02	94.99	6,878.87	-354.64	4,065.23	4,080.67	0.00	0.00	0.00
11,000.00	91.02	94.99	6,877.09	-363.33	4,164.84	4,180.66	0.00	0.00	0.00
11,100.00	91.02	94.99	6,875.31	-372.02	4,264.45	4,280.64	0.00	0.00	0.00
11,200.00	91.02	94.99	6,873.53	-380.71	4,364.05	4,380.63	0.00	0.00	0.00
11,300.00	91.02	94.99	6,871.75	-389.40	4,463.66	4,480.61	0.00	0.00	0.00
11,398.33	91.02	94.99	6,870.00	-397.95	4,561.60	4,578.93	0.00	0.00	0.00

PBHL#1[CL13FCom#1]

Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL#1[CL13FCom#1]	- plan hits target - Point	0.00	0.00	6,870.00	-397.95	4,561.60	697,683.55	606,083.40	32° 55' 3.953 N	104° 7' 20.435 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,895.78	5,340.00	Abo Shale	Shale	0.92	274.99
	6,870.00	Wolfcamp Dolomite	Dolomite	0.92	274.99
	7,000.00	Wolfcamp	Other	0.92	274.99

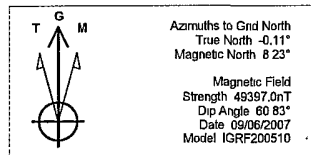
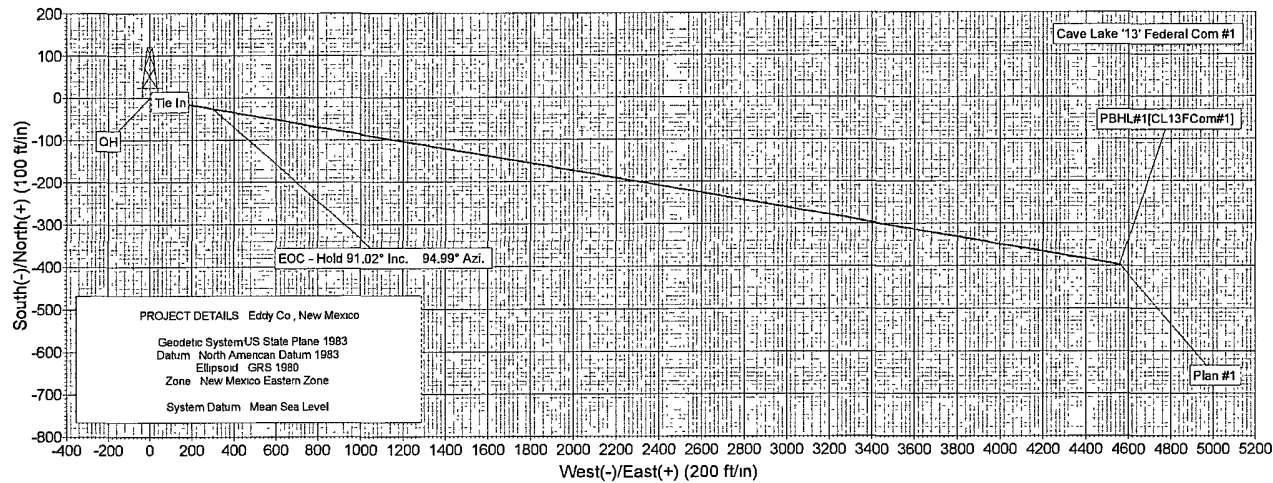
Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
6,600.00	6,600.00	0.00	0.00	Tie In
6,650.00	6,650.00	0.00	0.00	Top of Window
6,660.00	6,660.00	-0.02	0.26	Base of Window
6,665.02	6,665.01	-0.05	0.52	KOP - Build 19.31° / 100
7,120.84	6,946.15	-26.26	300.97	EOC - Hold 91.02° Inc. :: 94.99° Azi.

Checked By: _____ Approved By: _____ Date: _____

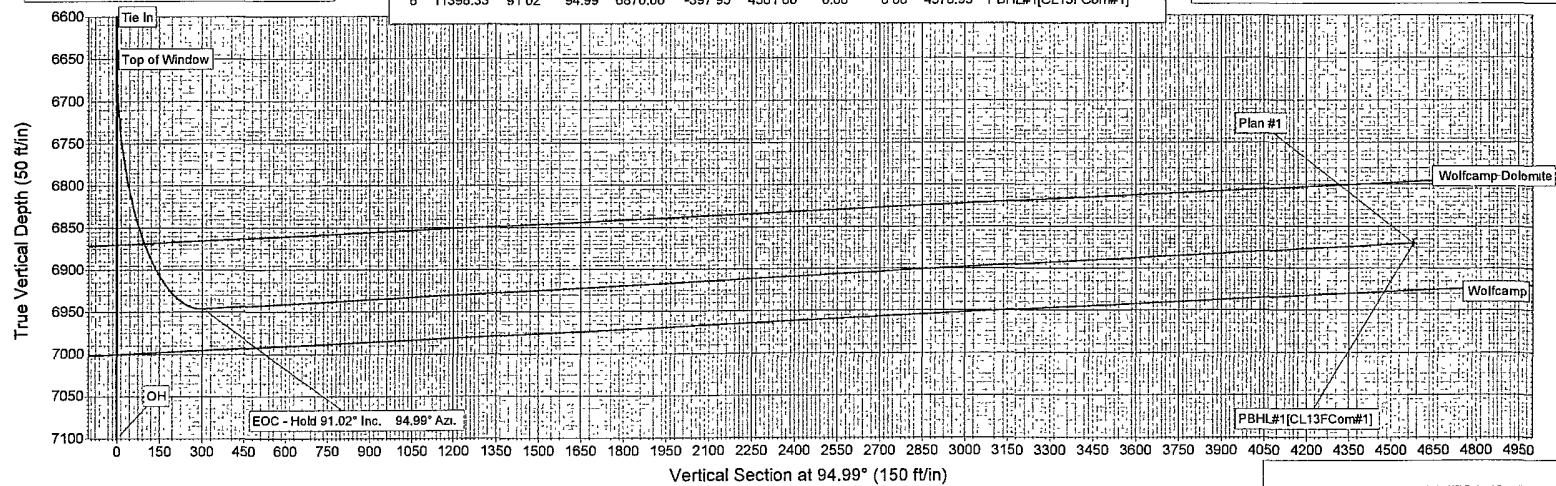


Project: Eddy Co., New Mexico
 Site: Cave Lake '13' Federal Com #1
 Well: Cave Lake '13' Federal Com #1
 Wellbore: Lateral #1
 Plan: Plan #1 (Cave Lake '13' Federal Com #1/Lateral #1)



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	6600.00	0.00	0.00	6600.00	0.00	0.00	0.00	0.00	0.00	
2	6650.00	0.00	0.00	6650.00	0.00	0.00	0.00	0.00	0.00	
3	6660.00	3.00	94.99	6660.00	-0.02	0.26	30.00	94.99	0.26	
4	6665.02	3.00	94.99	6665.01	-0.05	0.52	0.00	0.00	0.52	
5	7120.84	91.02	94.99	6946.15	-26.26	300.97	19.31	0.00	302.12	
6	11398.33	91.02	94.99	6870.00	-397.95	4561.60	0.00	0.00	4578.93	PBHL#1[CL13FCom#1]

ANNOTATIONS		
TVD	MD	Annotation
6600.00	6600.00	Tie In
6650.00	6650.00	Top of Window
6660.00	6660.00	Base of Window
6665.01	6665.02	KOP - Build 19.31" / 100
6946.15	7120.84	EOC - Hold 91.02° Inc. 94.99° Azi.



Plan: Plan #1 (Cave Lake '13' Federal Com #1/Lateral #1)
 Created By: L.D. Burton Date: January 7, 2008