

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF CIMAREX ENERGY CO.
FOR A NON-STANDARD OIL SPACING AND
PRORATION UNIT AND FOR COMPULSORY
POOLING, CHAVES COUNTY, NEW MEXICO.

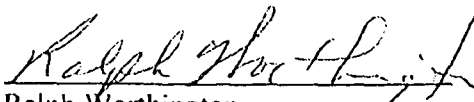
Case No. _____

AFFIDAVIT OF RALPH WORTHINGTON

COUNTY OF MIDLAND)
) ss.
STATE OF TEXAS)

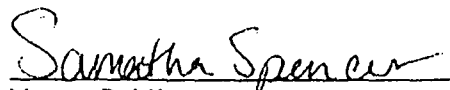
Ralph Worthington, being duly sworn upon his oath, deposes and states:

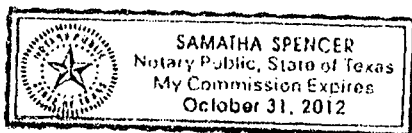
1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am a geologist for Cimarex Energy Co. ("Cimarex").
3. Exhibit A is a structure map on top of the Hueco (Wolfcamp) formation. The formation dips gently to the southeast. Exhibit A also contains production data from existing wells in the pool.
4. Exhibit B is a cross section which shows the productive interval and stratigraphic target for horizontal Abo/Wolfcamp wells in the area.
5. Attached as Exhibit C is the horizontal drilling plan for the subject well. A horizontal wellbore will test a greater reservoir length, increasing the chances for an economic completion.
6. All four quarter-quarter sections in the well unit are prospective in the Abo/Wolfcamp formation, and Cimarex anticipates producing reserves from each quarter-quarter section.


Ralph Worthington

SUBSCRIBED AND SWORN TO before me this 9th day of June, 2010 by Ralph Worthington.

My Commission Expires: October 31, 2012


Notary Public



Oil Conservation Division
Case No. _____
Exhibit No. 2

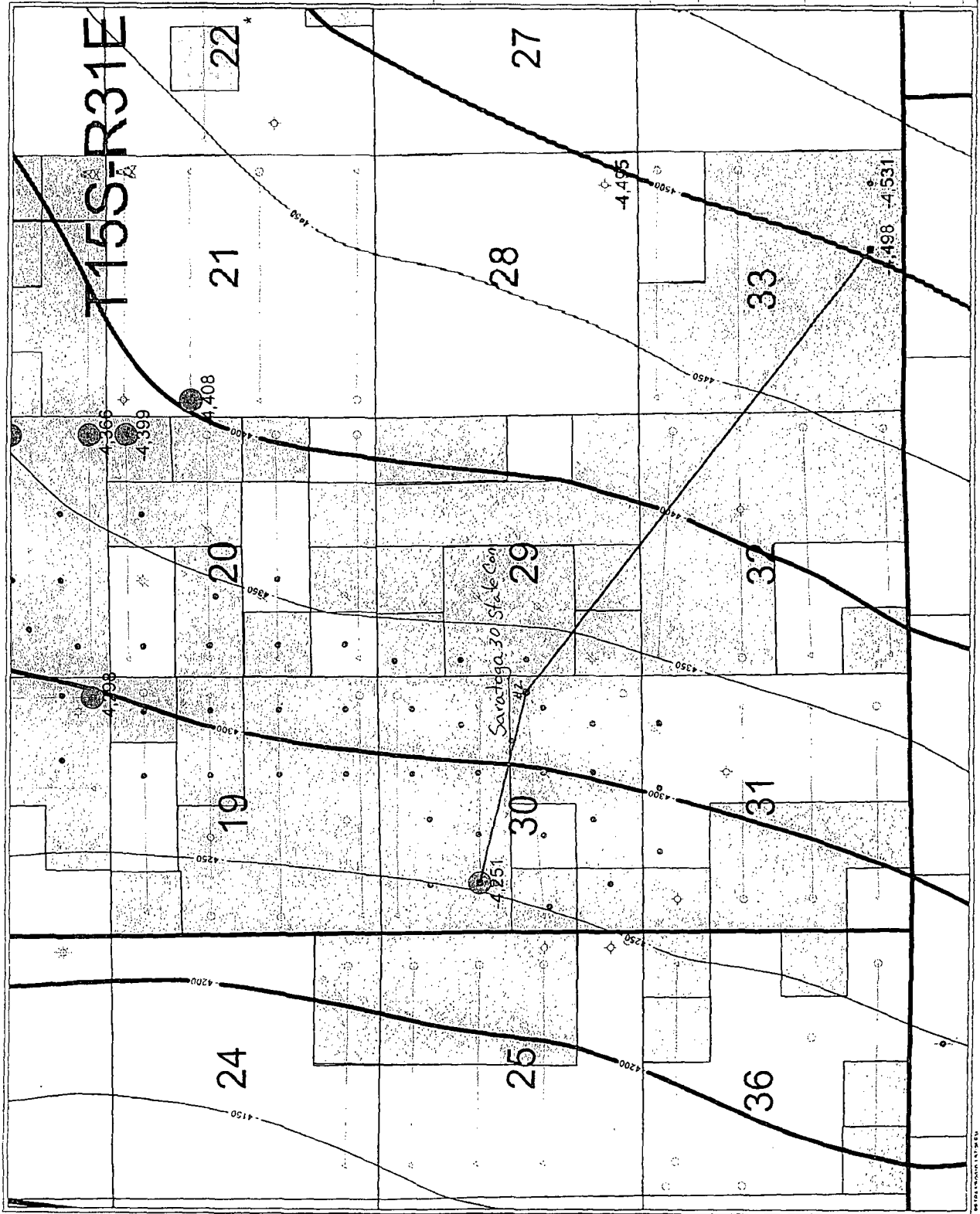


Exhibit A

CIMAREX ENERGY CO.

SARATOGA 30 STATE LEASE

STRUCTURE MAP

TOP HUECO (WOLFCAMP)

CHARLES COUNTY, NM

POSTED WELL DATA

ATTITUDE MAP
Zones Well and Oil Present

Well Symbols
Abandoned Oil Well
Well Drilled
Dry Hole
Production Well
Well Symbol
Oil Well
2019 Repairs

REMARKS

ALL WELLS

STRUCTURE CI = 50'

By: R. W. Wagoner

0 1,852 3,704
FEET

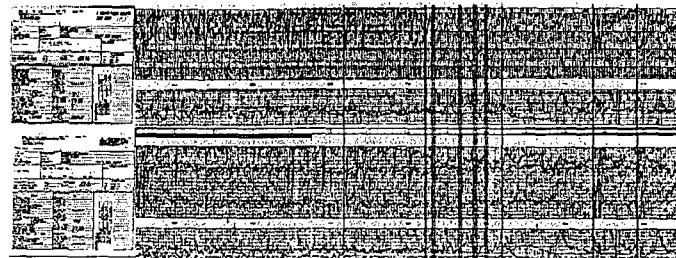
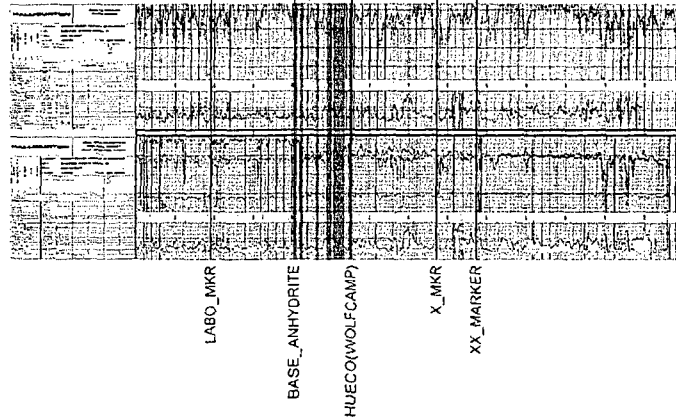
W

ELEV_KB : 4.475 FT
23019
COMP_DATE : 9/19/2008
SARATOGA 30 STATE COM
T15SR31E S30
1980 FNL 990 FWL
ABO_O : 9.932 BEL
ABO_G : 13.296 MCF

29052
SARATOGA 30 STATE COM
T15SR31E S30
2310 FSL 330 FEL

ELEV_KB : 4.422 FT
21168
COMP_DATE : 1/12/2002
RAVEN '33'
T15SR31E S33
660 FSL 2023 FEL

E



Stratigraphic target
Lower Abo
Est 8720' TVD

Exhibit B

CIMAREX ENERGY CO.

SARATOGA 30 STATE LEASE

LOWER ABO(WOLF CAMP)

STRUCTURAL X-SECTION

Chaves Co. NM

WELL - ELEV_KB FT

API Name

WELL - COMP DATE

Well Name

Wellbore

True Rpt Sec

Footwall Cdr

WELL - COMP DATE

WELL - COMP DATE

WELL - ABO(OB)

WELL - ABO(OB)

Constant Distance Between Wells

By: R. Wedgerton

June 8, 2010 4:33 PM

DISTRICT I
1623 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 86210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
Property Code	Property Name SARATOGA "30" STATE COM	Well Number 2
OGRID No.	Operator Name CIMAREX ENERGY CO. OF COLORADO	Elevation 4430'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	30	15 S	31 E		2310	SOUTH	330	EAST	CHAVES

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	30	15 S	31 E		1980	SOUTH	375	WEST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
-----------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

EXHIBIT C		OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature _____ Date _____ Printed Name _____	
BOTTOM HOLE LOCATION Lat - N32°59'06.13" Long - W103°52'07.00" NMSPCE- N 722407.775 E 683834.414 (NAD-83)		SURFACE LOCATION Lat - N32°59'07.66" Long - W103°51'13.55" NMSPCE- N 722581.9 E 688386.7 (NAD-83)	
		SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. MAY 10, 2008 Date Surveyed _____ Signature & Seal of Professional Surveyor _____ W.O. _____ Certificate No. Gary L. Jones 7977 BASIN SURVEYS	



Planned Wellpath Report

Preliminary

Page 1 of 4



INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Chaves County, NM	Well	No. 2H SHL
Field	(Saratoga) Sec 30, T15S, R31E	Wellbore	No. 2H PWB
Facility	Saratoga 30 ST COM No. 2H		

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect@ 2.0
North Reference	Grid	User	Victor Hernandez
Scale	0.999934	Report Generated	7/25/2008 at 1:16:22 PM
Convergence at slot	0.26° East	Database/Source file	WA_Midland/No. 2H_PWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	688386.70	722581.90	32°59'07.660"N	103°51'13.554"W
Facility Reference Pt			688386.70	722581.90	32°59'07.660"N	103°51'13.554"W
Field Reference Pt			688386.70	722581.90	32°59'07.660"N	103°51'13.554"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 2H SHL (RT) to Facility Vertical Datum	18.00ft
Horizontal Reference Pt	Facility Center	Rig on No. 2H SHL (RT) to Mean Sea Level	4448.00ft
Vertical Reference Pt	Rig on No. 2H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 2H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	267.81°



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Page 2 of 4



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Facility	Saratoga 30 ST COM No. 2H		

WELLPATH DATA (50 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
0.00	0.000	267.810	0.00	0.00	0.00	0.00	0.00	Tie On
8570.00	0.000	267.810	8570.00	0.00	0.00	0.00	0.00	KOP
8670.00†	30.000	267.810	8665.49	25.59	-0.98	-25.57	30.00	
8770.00†	60.000	267.810	8735.40	95.49	-3.65	-95.42	30.00	
8868.73†	89.619	267.810	8760.98	189.72	-7.25	-189.58	30.00	BOC
8870.00†	89.619	267.810	8760.99	190.99	-7.30	-190.85	0.00	
8970.00†	89.619	267.810	8761.65	290.98	-11.12	-290.77	0.00	
9070.00†	89.619	267.810	8762.32	390.98	-14.94	-390.70	0.00	
9170.00†	89.619	267.810	8762.98	490.98	-18.77	-490.62	0.00	
9270.00†	89.619	267.810	8763.65	590.98	-22.59	-590.55	0.00	
9370.00†	89.619	267.810	8764.31	690.97	-26.41	-690.47	0.00	
9470.00†	89.619	267.810	8764.98	790.97	-30.23	-790.39	0.00	
9570.00†	89.619	267.810	8765.64	890.97	-34.05	-890.32	0.00	
9670.00†	89.619	267.810	8766.31	990.97	-37.88	-990.24	0.00	
9770.00†	89.619	267.810	8766.97	1090.97	-41.70	-1090.17	0.00	
9870.00†	89.619	267.810	8767.64	1190.96	-45.52	-1190.09	0.00	
9970.00†	89.619	267.810	8768.30	1290.96	-49.34	-1290.02	0.00	
10070.00†	89.619	267.810	8768.97	1390.96	-53.17	-1389.94	0.00	
10170.00†	89.619	267.810	8769.63	1490.96	-56.99	-1489.87	0.00	
10270.00†	89.619	267.810	8770.29	1590.95	-60.81	-1589.79	0.00	
10370.00†	89.619	267.810	8770.96	1690.95	-64.63	-1689.72	0.00	
10470.00†	89.619	267.810	8771.62	1790.95	-68.45	-1789.64	0.00	
10570.00†	89.619	267.810	8772.29	1890.95	-72.28	-1889.57	0.00	
10670.00†	89.619	267.810	8772.95	1990.95	-76.10	-1989.49	0.00	
10770.00†	89.619	267.810	8773.62	2090.94	-79.92	-2089.42	0.00	
10870.00†	89.619	267.810	8774.28	2190.94	-83.74	-2189.34	0.00	
10970.00†	89.619	267.810	8774.95	2290.94	-87.56	-2289.27	0.00	
11070.00†	89.619	267.810	8775.61	2390.94	-91.39	-2389.19	0.00	
11170.00†	89.619	267.810	8776.28	2490.94	-95.21	-2489.11	0.00	
11270.00†	89.619	267.810	8776.94	2590.93	-99.03	-2589.04	0.00	



Planned Wellpath Report

Preliminary
Page 3 of 4



INTEQ

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Operator	Cimarex Energy Co. of Colorado	Slot	No. 2H SHL
Area	Chaves County, NM	Well	No. 2H SHL
Field	(Saratoga) Sec 30, T15S, R31E	Wellbore	No. 2H PWB
Facility	Saratoga 30 ST COM No. 2H		

WELLPATH DATA (50 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	Comments
11370.00†	89.619	267.810	8777.61	2690.93	-102.85	-2688.96	0.00	
11470.00†	89.619	267.810	8778.27	2790.93	-106.68	-2788.89	0.00	
11570.00†	89.619	267.810	8778.93	2890.93	-110.50	-2888.81	0.00	
11670.00†	89.619	267.810	8779.60	2990.92	-114.32	-2988.74	0.00	
11770.00†	89.619	267.810	8780.26	3090.92	-118.14	-3088.66	0.00	
11870.00†	89.619	267.810	8780.93	3190.92	-121.96	-3188.59	0.00	
11970.00†	89.619	267.810	8781.59	3290.92	-125.79	-3288.51	0.00	
12070.00†	89.619	267.810	8782.26	3390.92	-129.61	-3388.44	0.00	
12170.00†	89.619	267.810	8782.92	3490.91	-133.43	-3488.36	0.00	
12270.00†	89.619	267.810	8783.59	3590.91	-137.25	-3588.29	0.00	
12370.00†	89.619	267.810	8784.25	3690.91	-141.07	-3688.21	0.00	
12470.00†	89.619	267.810	8784.92	3790.91	-144.90	-3788.14	0.00	
12570.00†	89.619	267.810	8785.58	3890.90	-148.72	-3888.06	0.00	
12670.00†	89.619	267.810	8786.24	3990.90	-152.54	-3987.99	0.00	
12770.00†	89.619	267.810	8786.91	4090.90	-156.36	-4087.91	0.00	
12870.00†	89.619	267.810	8787.57	4190.90	-160.18	-4187.84	0.00	
12970.00†	89.619	267.810	8788.24	4290.90	-164.01	-4287.76	0.00	
13070.00†	89.619	267.810	8788.90	4390.89	-167.83	-4387.68	0.00	
13170.00†	89.619	267.810	8789.57	4490.89	-171.65	-4487.61	0.00	
13235.04	89.619	267.810	8790.00†	4555.93	-174.14	-4552.60	0.00	No. 2H BHL



Planned Wellpath Report

Preliminary

Page 4 of 4



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Area	Chaves County, NM	Well	No. 2H SHL
Field	(Saratoga) Sec 30, T15S, R31E	Wellbore	No. 2H PWB
Facility	Saratoga 30 ST COM No. 2H		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 2H BHL	13235.04	8790.00	-174.14	4552.60	683834.41	722407.78	32°59'06.139"N	103°52'07.008"W	point

SURVEY PROGRAM Ref Wellbore: No. 2H PWB Ref Wellpath: Preliminary

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
18.00	13235.04	NaviTrak (Standard)		No. 2H PWB



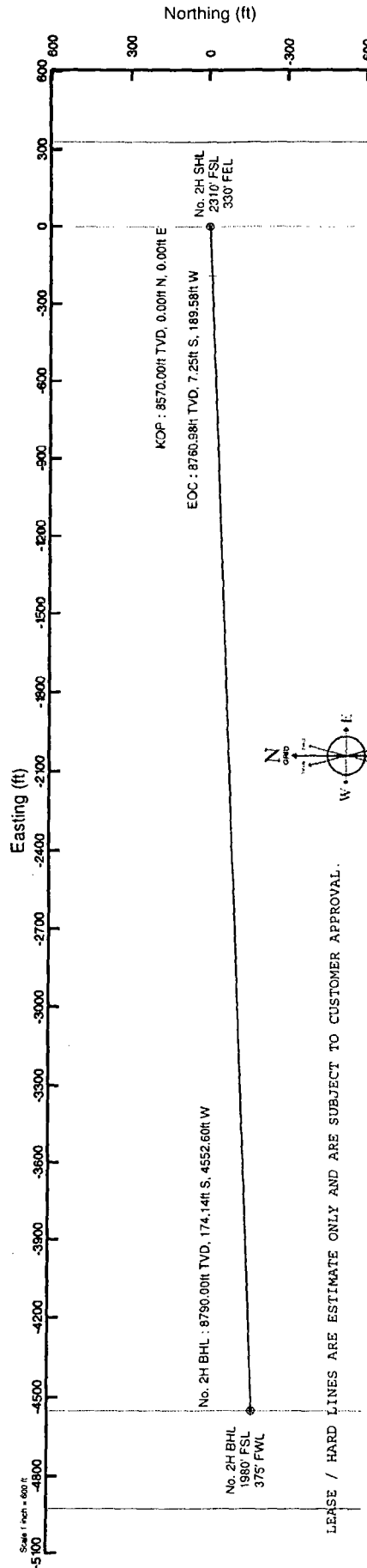
Cimarex Energy Co. of Colorado

Location: Chaves County, NM
Field: (Saraboga) Sec 30, T15S, R31E
Facility: Saraboga 30 ST COM No. 2H
Slot: No. 2H SHL
Well: No. 2H SHL
Wellbore: No. 2H PWB



Well Profile Data

Design Comment	MD (ft)	Inc. (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	267.810	0.00	0.00	0.00	0.00	0.00
KOP	8570.00	0.000	267.810	8570.00	0.00	0.00	0.00	0.00
EOC	8868.73	89.619	267.810	8760.98	-7.25	-189.58	30.00	189.72
No. 2H BHL	13235.04	89.619	267.810	8790.00	-174.14	-4552.60	0.00	4555.93



BCCM (1945.0 to 2005.0) Dip: 80.92° Field: 49345 A-7
Magnetic Declination: 10.00° East of True
Grid North is 0.00° East of True
To correct azimuth from True to Grid subtract 0.26 degrees
To correct azimuth from Magnetic to Grid add 7.91 degrees
For example if the Magnetic Azimuth = 45 degrees, then the Grid Azimuth = 45 - 7.91 = 37.09°

This reference wellbore is preliminary.	
True vertical depths are referenced to Rig on No. 2H SHL (RT)	Grid System: NAD83 / T.M. New Mexico State Plane, Eastern Zone (2011), U.S. feet
Measured depths are referenced to Rig on No. 2H SHL (RT)	North Reference: Grid north
Rig on No. 2H SHL (RT) to Mean Sea Level: 4445 feet	Scale: True distance
Mean Sea Level to Mud Line (Facility): Saraboga 30 ST COM No. 2H: 4430 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 7/25/2008

