

ATB-10-820

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MAR 14 2011  
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Form 3160-3  
(April 2004)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

5. Lease Serial No.  
SHL NM-125173, BHL NM-94196  
6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

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

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. <38536>  
North Young 15 Federal Com No. 1 H

2. Name of Operator  
Cimarex Energy Co. of Colorado <162683>

9. API Well No.  
30-025- 40087

3a. Address  
600 N. Marienfeld St., Ste. 600; Midland, TX 79701

3b. Phone No. (include area code)  
432-571-7800

10. Field and Pool, or Exploratory  
Young; Bone Spring <65330>

4. Location of Well (Report location clearly and in accordance with any State requirements. \*)  
At Surface Unit M 660 FSL & 330 FWL  
At proposed prod. Zone Unit P 660 FSL & 330 FEL Horizontal Bone Spring test

11. Sec., T. R. M. or Blk. and Survey or Area  
15-18S-32E

14. Distance in miles and direction from nearest town or post office\*

12. County or Parish  
Lea  
13. State  
NM

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 660'

16. No of acres in lease  
NM-125173 - 240 acres  
NM-94196 - 160 acres

17. Spacing Unit dedicated to this well  
S2S2 160

18. Distance from proposed location\* to nearest well, drilling, completed, applied for, on this lease, ft. N/A

19. Proposed Depth  
Pilot Hole 9650'  
MD 13801' TVD 9150'

20. BLM/BIA Bond No. on File  
NM-2575

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3788' GR

22. Approximate date work will start\*  
03.15.11

23. Estimated duration  
25-30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor
2. A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator Certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature  
Zeno Farris

Name (Printed/Typed)  
Zeno Farris

Date  
01.17.11

Title  
Manager Operations Administration

Approved By (Signature)  
/S/ JEANETTE MARTINEZ

Name (Printed/Typed)  
/S/ JEANETTE MARTINEZ

Date  
MAR 09 2011

Title  
FIELD MANAGER

Office  
CARLSBAD FIELD OFFICE

Application approval 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.  
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. 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 fraudulent statements or representations as to any matter within its jurisdiction.

\* (Instructions on page 2)

KZ 03/17/11 Capitan Controlled Water Basin

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

Approval Subject to General Requirements  
& Special Stipulations Attached

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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

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

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State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised July 16, 2010

Submit one copy to appropriate  
District Office

MAR 14 2011  
HOBBS

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☒ AMENDED REPORT

|                                   |                                                        |                                                |
|-----------------------------------|--------------------------------------------------------|------------------------------------------------|
| API Number<br><b>30-025-40087</b> | Pool Code<br><b>49622 6530</b>                         | Pool Name<br><b>Young Parkway, Bone Spring</b> |
| Property Code<br><b>38536</b>     | Property Name<br><b>NORTH YOUNG 15 FEDERAL COM</b>     | Well Number<br><b>1</b>                        |
| OGRID No.<br><b>162683</b>        | Operator Name<br><b>CIMAREX ENERGY CO. OF COLORADO</b> | Elevation<br><b>3788'</b>                      |

Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M             | 15      | 18 S     | 32 E  |         | 660           | SOUTH            | 330           | WEST           | LEA    |

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 |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| P             | 15      | 18 S     | 32 E  |         | 660           | SOUTH            | 330           | EAST           | LEA    |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|-----------------|-----------------|--------------------|-----------|
| 160.59          |                 |                    |           |

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | <p><b>OPERATOR CERTIFICATION</b></p> <p>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 or has a right to drill this well at this 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.</p> <p><i>Zeno Farris</i> 1/17/2011<br/>Signature Date</p> <p>Printed Name <b>Zeno Farris</b></p> <p>Email Address</p> |  |
| <p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p><i>Gary L. Jones</i> 12/16/2010<br/>Date Surveyed</p> <p><i>Gary L. Jones</i><br/>Signature &amp; Seal of Professional Surveyor</p> <p>Certificate No. <b>Gary L. Jones 7977</b></p> <p><b>BASIN SURVEYS 23785</b></p> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |

Application to Drill  
**North Young 15 Federal Com No. 1**  
 Cimarex Energy Co. of Colorado  
 Unit M, Section 15  
 T18S-R32E, Lea County, NM

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In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

- 1 Location:           SHL    660 FSL & 330 FWL  
                           BHL    660 FSL & 330 FEL
  
- 2 Elevation above sea level:       3788' GR
  
- 3 Geologic name of surface formation:       Quaternary Alluvium Deposits
  
- 4 Drilling tools and associated equipment:       Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
  
- 5 Proposed drilling depth:       Pilot Hole 9650'           MD 13801'           TVD 9150'
  
- 6 Estimated tops of geological markers:

|         |       |             |        |
|---------|-------|-------------|--------|
| Rustler | 1200' | Delaware    | 5180'  |
| T. Salt | 1290' | Bone Spring | 7850'  |
| B. Salt | 2540' | Wolfcamp    | 11100' |
| Yates   | 3020' | Strawn      | 12110' |
| Capitan | 3650' | Morrow      | 12820' |
  
- 7 Possible mineral bearing formation:

|                |     |
|----------------|-----|
| Bone Spring    | Oil |
| Delaware       | Oil |
| Yates/7 Rivers | Oil |

8 Proposed Mud Circulating System:

| Depth                                                 | Mud Wt    | Visc  | Fluid Loss | Type Mud    |
|-------------------------------------------------------|-----------|-------|------------|-------------|
| 0' to <sup>1230</sup> <del>400</del> '                | 8.4 - 8.6 | 28    | NC         | FW          |
| <del>400</del> ' to <sup>2660</sup> <del>2850</del> ' | 10.0      | 30-32 | NC         | Brine water |
| <del>2850</del> ' to 13801'                           | 8.4 - 9.5 | 30-32 | NC         | FW, brine   |

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Proposed drilling Plan

Drill 8 3/4" pilot hole to 9650' and log. Set 270 sks HalCem -H 0.5% CFR-3 0.1% HR-60116.5 ppg yield 1.06 0% Excess cmt plug from 8955-9550.' Kick off 8 3/4" lateral @ 9015' and drill to TD @ 13801.' Run 5 1/2" 17# P-110 LTC from 0-13801.' *See OA*

Application to Drill  
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 Unit M, Section 15  
 T18S-R32E, Lea County, NM

9 Casing & Cementing Program:

| String                    | Hole Size | Depth                        | Casing OD | Weight | Collar | Grade  |
|---------------------------|-----------|------------------------------|-----------|--------|--------|--------|
| <i>see COA</i><br>Surface | 17½"      | 0' to <del>1380'</del> 400'  | New 13⅝"  | 48#    | STC    | H-40   |
| Intermediate              | 12¼"      | 0' to <del>2600'</del> 2850' | New 9⅝"   | 40#    | LTC    | J/K-55 |
| Production                | 8¾"       | 0' to 13801'                 | New 5½"   | 17#    | LTC    | P-110  |

10 Cementing:

*see COA*  
**Surface** 445SKS Halcem C + 4% Bentomite + 2% CaCl 14.2ppg 1.34yield 100% Excess  
**TOC Surface**

**Intermediate** Lead:945SKS EconoCem + 5% salt + 5 lbm gilsonite 14.6ppg 1.54yield 70% Excess  
 Tail:200SKS HalCem + 1% CaCl 14.8ppg 1.34 yield 25% Excess  
**TOC Surface**

**Production** Lead:1000SKS EconoCem - H + 0.2 % HR-601 2.44 11.9ppg 2.44 yield 50% Excess  
 Tail:1310SKS Versacem - H + 0.5% Halad(R)-344 + 0.4% CFR-3 + 1 lbm/sk salt + 0.1% HR-601 14.5ppg  
 1.22 yield 25% Excess  
**TOC 2600'**

According to the State Engineer, depth to ground water is 275.' Fresh water zones will be protected by setting 13⅝" casing at 400' and cementing to surface. Hydrocarbon zones will be protected by setting 9⅝" casing at 2850' and cementing to surface, and by setting 5½" casing at 13801' and cementing to 2600.'

| <u>Collapse Factor</u> | <u>Burst Factor</u> | <u>Tension Factor</u> |
|------------------------|---------------------|-----------------------|
| 1.125                  | 1.125               | 1.6                   |

11 Pressure control Equipment:

Exhibit "E". A 13⅝" 5000 PSI working pressure BOP tested to 3000 psi consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP unit will be hydraulically operated. BOP will be nipped up and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the 13⅝" casing through the running of production casing, the well will be equipped with a 5000 psi BOP system tested to 3000 psi.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high. Hydril will be tested to 250 psi low and 1500 psi high.

Application to Drill  
**North Young 15 Federal Com No. 1**  
Cimarex Energy Co. of Colorado  
Unit M, Section 15  
T18S-R32E, Lea County, NM

- 12 Testing, Logging and Coring Program: *See COA*
- A. Mud logging program: 2 man unit from 3100' to TD
  - B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR
  - C. No DSTs or cores are planned at this time.

13 Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H<sub>2</sub>S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H<sub>2</sub>S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H<sub>2</sub>S Safety package on all wells, attached is an "H<sub>2</sub>S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP      **3000 psi**      Estimated BHT      **130°**

- 14 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take      30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

The proposed well will be tested and potentialized as      **an oil well.**



# Cimarex Energy Co.

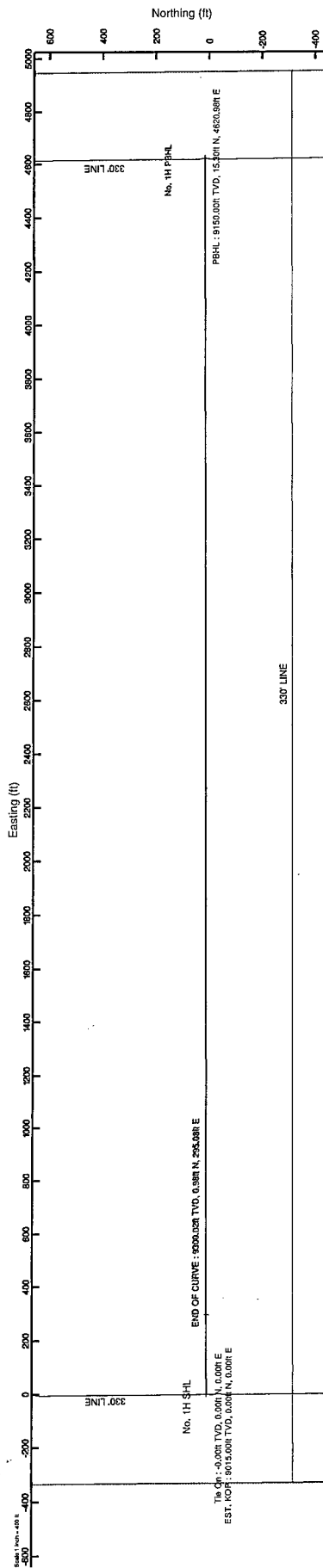
Location: Lea County, NM  
Field: (North) Sec 15, T18S, R32E  
Facility: North Young 15 Fed Com No. 1H

Slope: No. 1H SHL  
Well: No. 1H  
Wellbore: No. 1H PWB

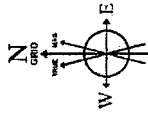


## Well Profile Data

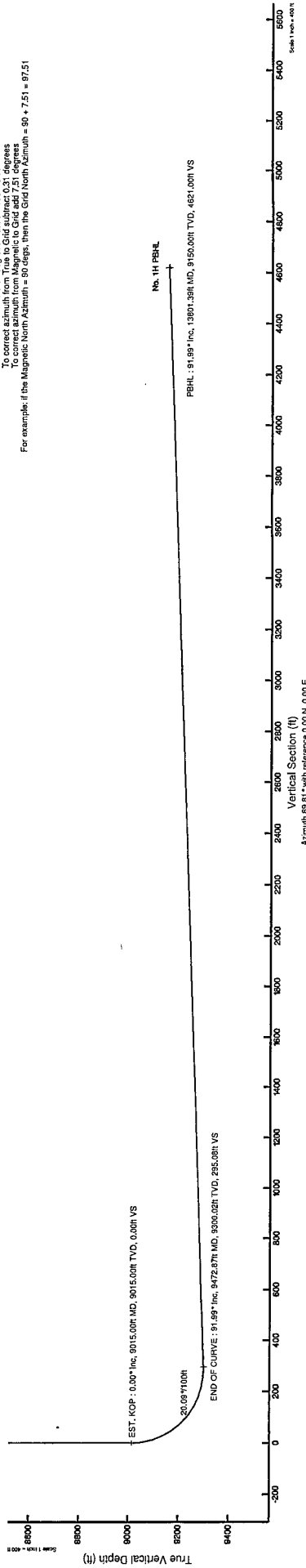
| Design Comment | MD (ft)  | Inc (°) | Az (°) | TVD (ft) | Local N (ft) | Local E (ft) | DLS (*100ft) | VS (ft) |
|----------------|----------|---------|--------|----------|--------------|--------------|--------------|---------|
| The On         | 0.00     | 0.000   | 89.810 | 0.00     | 0.00         | 0.00         | 0.00         | 0.00    |
| EST. KOP       | 9015.00  | 0.000   | 89.810 | 9015.00  | 0.00         | 0.00         | 0.00         | 0.00    |
| END OF CURVE   | 9472.87  | 91.986  | 89.810 | 9300.02  | 0.98         | 295.08       | 20.09        | 295.08  |
| PBHL           | 13801.39 | 91.986  | 89.810 | 9150.00  | 15.30        | 4820.98      | 0.00         | 4821.00 |



|                                                                              |
|------------------------------------------------------------------------------|
| Grid System: NAD83 / TM New Mexico State Plane, Eastern Zone (2000), US feet |
| North Reference: Grid North                                                  |
| Scale: True distance                                                         |
| Depths are in feet                                                           |
| Created by: gmsmear on 11/19/2011                                            |



BGM4 (1945.0 to 2012.0) Dip 60.65° Field 4886.7°  
Magnetic North is 7.82 degrees East of True North (at 11/1/2011)  
To correct azimuth from True to Grid subtract 7.82 degrees  
To correct magnetic azimuth from Grid to True add 7.82 degrees  
For example: if the Magnetic North Azimuth = 90 degrees, then the Grid North Azimuth = 90 + 7.82 = 97.82





# Planned Wellpath Report

Prelim\_2  
Page 1 of 5



## REFERENCE WELLPATH IDENTIFICATION

|          |                               |          |            |
|----------|-------------------------------|----------|------------|
| Operator | Cimarex Energy Co.            | Slot     | No. 1H SHL |
| Area     | Lea County, NM                | Well     | No. 1H     |
| Field    | (North) Sec 15, T18S, R32E    | Wellbore | No. 1H PWB |
| Facility | North Young 15 Fed Com No. 1H |          |            |

## 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                 | Gomeoscr                  |
| Scale               | 0.999944                                                         | Report Generated     | 1/12/2011 at 9:52:27 AM   |
| Convergence at slot | 0.31° East                                                       | Database/Source file | WA Midland/No. 1H_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     | 717092.70        | 634166.80      | 32°44'31.411"N         | 103°45'42.162"W |
| Facility Reference Pt |                   |          | 717092.70        | 634166.80      | 32°44'31.411"N         | 103°45'42.162"W |
| Field Reference Pt    |                   |          | 717424.50        | 633838.00      | 32°44'28.140"N         | 103°45'38.298"W |

## WELLPATH DATUM

|                          |                        |                                                   |                   |
|--------------------------|------------------------|---------------------------------------------------|-------------------|
| Calculation method       | Minimum curvature      | Rig on No. 1H SHL (GL) to Facility Vertical Datum | 0.00ft            |
| Horizontal Reference Pt  | Slot                   | Rig on No. 1H SHL (GL) to Mean Sea Level          | 3788.00ft         |
| Vertical Reference Pt    | Rig on No. 1H SHL (GL) | Facility Vertical Datum to Mud Line (Facility)    | 0.00ft            |
| MD Reference Pt          | Rig on No. 1H SHL (GL) | Section Origin                                    | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level         | Section Azimuth                                   | 89.81°            |



# Planned Wellpath Report

Prelim\_2  
Page 2 of 5



## REFERENCE WELLPATH IDENTIFICATION

|          |                               |          |            |
|----------|-------------------------------|----------|------------|
| Operator | Cimarex Energy Co.            | Slot     | No. 1H SHL |
| Area     | Lea County, NM                | Well     | No. 1H     |
| Field    | (North) Sec 15, T18S, R32E    | Wellbore | No. 1H PWB |
| Facility | North Young 15 Fed Com No. 1H |          |            |

## WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD [ft]  | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [srv ft] | Grid North [srv ft] | Latitude       | Longitude       | DLS [°/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|--------------------|---------------------|----------------|-----------------|---------------|----------|
| 0.00     | 0.000           | 89.810      | 0.00     | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          | Tie On   |
| 100.00†  | 0.000           | 89.810      | 100.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 200.00†  | 0.000           | 89.810      | 200.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 300.00†  | 0.000           | 89.810      | 300.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 400.00†  | 0.000           | 89.810      | 400.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 500.00†  | 0.000           | 89.810      | 500.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 600.00†  | 0.000           | 89.810      | 600.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 700.00†  | 0.000           | 89.810      | 700.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 800.00†  | 0.000           | 89.810      | 800.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 900.00†  | 0.000           | 89.810      | 900.00   | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1000.00† | 0.000           | 89.810      | 1000.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1100.00† | 0.000           | 89.810      | 1100.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1200.00† | 0.000           | 89.810      | 1200.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1300.00† | 0.000           | 89.810      | 1300.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1400.00† | 0.000           | 89.810      | 1400.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1500.00† | 0.000           | 89.810      | 1500.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1600.00† | 0.000           | 89.810      | 1600.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1700.00† | 0.000           | 89.810      | 1700.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1800.00† | 0.000           | 89.810      | 1800.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 1900.00† | 0.000           | 89.810      | 1900.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2000.00† | 0.000           | 89.810      | 2000.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2100.00† | 0.000           | 89.810      | 2100.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2200.00† | 0.000           | 89.810      | 2200.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2300.00† | 0.000           | 89.810      | 2300.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2400.00† | 0.000           | 89.810      | 2400.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2500.00† | 0.000           | 89.810      | 2500.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2600.00† | 0.000           | 89.810      | 2600.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2700.00† | 0.000           | 89.810      | 2700.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2800.00† | 0.000           | 89.810      | 2800.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 2900.00† | 0.000           | 89.810      | 2900.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3000.00† | 0.000           | 89.810      | 3000.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3100.00† | 0.000           | 89.810      | 3100.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3200.00† | 0.000           | 89.810      | 3200.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3300.00† | 0.000           | 89.810      | 3300.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3400.00† | 0.000           | 89.810      | 3400.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3500.00† | 0.000           | 89.810      | 3500.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3600.00† | 0.000           | 89.810      | 3600.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3700.00† | 0.000           | 89.810      | 3700.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3800.00† | 0.000           | 89.810      | 3800.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 3900.00† | 0.000           | 89.810      | 3900.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 4000.00† | 0.000           | 89.810      | 4000.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 4100.00† | 0.000           | 89.810      | 4100.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 4200.00† | 0.000           | 89.810      | 4200.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 4300.00† | 0.000           | 89.810      | 4300.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |
| 4400.00† | 0.000           | 89.810      | 4400.00  | 0.00           | 0.00       | 0.00      | 717092.70          | 634166.80           | 32°44'31.411"N | 103°45'42.162"W | 0.00          |          |





# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

|          |                               |          |            |
|----------|-------------------------------|----------|------------|
| Operator | Cimarex Energy Co.            | Slot     | No. 1H SHL |
| Area     | Lea County, NM                | Well     | No. 1H     |
| Field    | (North) Sec 15, T18S, R32E    | Wellbore | No. 1H PWB |
| Facility | North Young 15 Fed Com No. 1H |          |            |

## WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[srv ft] | Grid North<br>[srv ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|-----------------------|------------------------|----------------|-----------------|------------------|----------|
| 4500.00†   | 0.000              | 89.810         | 4500.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 4600.00†   | 0.000              | 89.810         | 4600.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 4700.00†   | 0.000              | 89.810         | 4700.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 4800.00†   | 0.000              | 89.810         | 4800.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 4900.00†   | 0.000              | 89.810         | 4900.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5000.00†   | 0.000              | 89.810         | 5000.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5100.00†   | 0.000              | 89.810         | 5100.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5200.00†   | 0.000              | 89.810         | 5200.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5300.00†   | 0.000              | 89.810         | 5300.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5400.00†   | 0.000              | 89.810         | 5400.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5500.00†   | 0.000              | 89.810         | 5500.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5600.00†   | 0.000              | 89.810         | 5600.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5700.00†   | 0.000              | 89.810         | 5700.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5800.00†   | 0.000              | 89.810         | 5800.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 5900.00†   | 0.000              | 89.810         | 5900.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6000.00†   | 0.000              | 89.810         | 6000.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6100.00†   | 0.000              | 89.810         | 6100.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6200.00†   | 0.000              | 89.810         | 6200.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6300.00†   | 0.000              | 89.810         | 6300.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6400.00†   | 0.000              | 89.810         | 6400.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6500.00†   | 0.000              | 89.810         | 6500.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6600.00†   | 0.000              | 89.810         | 6600.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6700.00†   | 0.000              | 89.810         | 6700.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6800.00†   | 0.000              | 89.810         | 6800.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 6900.00†   | 0.000              | 89.810         | 6900.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7000.00†   | 0.000              | 89.810         | 7000.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7100.00†   | 0.000              | 89.810         | 7100.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7200.00†   | 0.000              | 89.810         | 7200.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7300.00†   | 0.000              | 89.810         | 7300.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7400.00†   | 0.000              | 89.810         | 7400.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7500.00†   | 0.000              | 89.810         | 7500.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7600.00†   | 0.000              | 89.810         | 7600.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7700.00†   | 0.000              | 89.810         | 7700.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7800.00†   | 0.000              | 89.810         | 7800.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 7900.00†   | 0.000              | 89.810         | 7900.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8000.00†   | 0.000              | 89.810         | 8000.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8100.00†   | 0.000              | 89.810         | 8100.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8200.00†   | 0.000              | 89.810         | 8200.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8300.00†   | 0.000              | 89.810         | 8300.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8400.00†   | 0.000              | 89.810         | 8400.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8500.00†   | 0.000              | 89.810         | 8500.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8600.00†   | 0.000              | 89.810         | 8600.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8700.00†   | 0.000              | 89.810         | 8700.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8800.00†   | 0.000              | 89.810         | 8800.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |
| 8900.00†   | 0.000              | 89.810         | 8900.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |          |



# Planned Wellpath Report

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## REFERENCE WELLPATH IDENTIFICATION

|          |                               |          |            |
|----------|-------------------------------|----------|------------|
| Operator | Cimarex Energy Co.            | Slot     | No. 1H SHL |
| Area     | Lea County, NM                | Well     | No. 1H     |
| Field    | (North) Sec 15, T18S, R32E    | Wellbore | No. 1H PWB |
| Facility | North Young 15 Fed Com No. 1H |          |            |

## WELLPATH DATA (142 stations) † = interpolated/extrapolated station

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[srv ft] | Grid North<br>[srv ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments     |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|-----------------------|------------------------|----------------|-----------------|------------------|--------------|
| 9000.00†   | 0.000              | 89.810         | 9000.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             |              |
| 9015.00    | 0.000              | 89.810         | 9015.00     | 0.00              | 0.00          | 0.00         | 717092.70             | 634166.80              | 32°44'31.411"N | 103°45'42.162"W | 0.00             | EST. KOP     |
| 9100.00†   | 17.077             | 89.810         | 9098.75     | 12.57             | 0.04          | 12.57        | 717105.27             | 634166.84              | 32°44'31.410"N | 103°45'42.014"W | 20.09            |              |
| 9200.00†   | 37.166             | 89.810         | 9187.30     | 57.93             | 0.19          | 57.93        | 717150.62             | 634166.99              | 32°44'31.410"N | 103°45'41.483"W | 20.09            |              |
| 9300.00†   | 57.256             | 89.810         | 9254.88     | 130.94            | 0.43          | 130.94       | 717223.63             | 634167.23              | 32°44'31.408"N | 103°45'40.629"W | 20.09            |              |
| 9400.00†   | 77.347             | 89.810         | 9293.27     | 222.72            | 0.74          | 222.72       | 717315.41             | 634167.54              | 32°44'31.406"N | 103°45'39.554"W | 20.09            |              |
| 9472.87    | 91.986             | 89.810         | 9300.02     | 295.08            | 0.98          | 295.08       | 717387.76             | 634167.78              | 32°44'31.405"N | 103°45'38.707"W | 20.09            | END OF CURVE |
| 9500.00†   | 91.986             | 89.810         | 9299.08     | 322.19            | 1.07          | 322.19       | 717414.87             | 634167.87              | 32°44'31.404"N | 103°45'38.390"W | 0.00             |              |
| 9600.00†   | 91.986             | 89.810         | 9295.62     | 422.13            | 1.40          | 422.13       | 717514.81             | 634168.20              | 32°44'31.402"N | 103°45'37.219"W | 0.00             |              |
| 9700.00†   | 91.986             | 89.810         | 9292.15     | 522.07            | 1.73          | 522.07       | 717614.74             | 634168.53              | 32°44'31.400"N | 103°45'36.049"W | 0.00             |              |
| 9800.00†   | 91.986             | 89.810         | 9288.69     | 622.01            | 2.06          | 622.01       | 717714.67             | 634168.86              | 32°44'31.398"N | 103°45'34.879"W | 0.00             |              |
| 9900.00†   | 91.986             | 89.810         | 9285.22     | 721.95            | 2.39          | 721.95       | 717814.61             | 634169.19              | 32°44'31.396"N | 103°45'33.709"W | 0.00             |              |
| 10000.00†  | 91.986             | 89.810         | 9281.75     | 821.89            | 2.72          | 821.89       | 717914.54             | 634169.52              | 32°44'31.394"N | 103°45'32.539"W | 0.00             |              |
| 10100.00†  | 91.986             | 89.810         | 9278.29     | 921.83            | 3.05          | 921.83       | 718014.47             | 634169.85              | 32°44'31.392"N | 103°45'31.369"W | 0.00             |              |
| 10200.00†  | 91.986             | 89.810         | 9274.82     | 1021.77           | 3.38          | 1021.77      | 718114.41             | 634170.18              | 32°44'31.390"N | 103°45'30.199"W | 0.00             |              |
| 10300.00†  | 91.986             | 89.810         | 9271.36     | 1121.71           | 3.71          | 1121.71      | 718214.34             | 634170.51              | 32°44'31.387"N | 103°45'29.029"W | 0.00             |              |
| 10400.00†  | 91.986             | 89.810         | 9267.89     | 1221.65           | 4.05          | 1221.65      | 718314.28             | 634170.84              | 32°44'31.385"N | 103°45'27.859"W | 0.00             |              |
| 10500.00†  | 91.986             | 89.810         | 9264.42     | 1321.59           | 4.38          | 1321.59      | 718414.21             | 634171.18              | 32°44'31.383"N | 103°45'26.689"W | 0.00             |              |
| 10600.00†  | 91.986             | 89.810         | 9260.96     | 1421.53           | 4.71          | 1421.52      | 718514.14             | 634171.51              | 32°44'31.381"N | 103°45'25.519"W | 0.00             |              |
| 10700.00†  | 91.986             | 89.810         | 9257.49     | 1521.47           | 5.04          | 1521.46      | 718614.08             | 634171.84              | 32°44'31.379"N | 103°45'24.349"W | 0.00             |              |
| 10800.00†  | 91.986             | 89.810         | 9254.03     | 1621.41           | 5.37          | 1621.40      | 718714.01             | 634172.17              | 32°44'31.377"N | 103°45'23.179"W | 0.00             |              |
| 10900.00†  | 91.986             | 89.810         | 9250.56     | 1721.35           | 5.70          | 1721.34      | 718813.94             | 634172.50              | 32°44'31.375"N | 103°45'22.009"W | 0.00             |              |
| 11000.00†  | 91.986             | 89.810         | 9247.09     | 1821.29           | 6.03          | 1821.28      | 718913.88             | 634172.83              | 32°44'31.373"N | 103°45'20.839"W | 0.00             |              |
| 11100.00†  | 91.986             | 89.810         | 9243.63     | 1921.23           | 6.36          | 1921.22      | 719013.81             | 634173.16              | 32°44'31.371"N | 103°45'19.669"W | 0.00             |              |
| 11200.00†  | 91.986             | 89.810         | 9240.16     | 2021.17           | 6.69          | 2021.16      | 719113.74             | 634173.49              | 32°44'31.368"N | 103°45'18.499"W | 0.00             |              |
| 11300.00†  | 91.986             | 89.810         | 9236.70     | 2121.11           | 7.02          | 2121.10      | 719213.68             | 634173.82              | 32°44'31.366"N | 103°45'17.329"W | 0.00             |              |
| 11400.00†  | 91.986             | 89.810         | 9233.23     | 2221.05           | 7.35          | 2221.04      | 719313.61             | 634174.15              | 32°44'31.364"N | 103°45'16.159"W | 0.00             |              |
| 11500.00†  | 91.986             | 89.810         | 9229.76     | 2320.99           | 7.69          | 2320.98      | 719413.55             | 634174.48              | 32°44'31.362"N | 103°45'14.989"W | 0.00             |              |
| 11600.00†  | 91.986             | 89.810         | 9226.30     | 2420.93           | 8.02          | 2420.92      | 719513.48             | 634174.82              | 32°44'31.360"N | 103°45'13.819"W | 0.00             |              |
| 11700.00†  | 91.986             | 89.810         | 9222.83     | 2520.87           | 8.35          | 2520.86      | 719613.41             | 634175.15              | 32°44'31.358"N | 103°45'12.648"W | 0.00             |              |
| 11800.00†  | 91.986             | 89.810         | 9219.37     | 2620.81           | 8.68          | 2620.80      | 719713.35             | 634175.48              | 32°44'31.356"N | 103°45'11.478"W | 0.00             |              |
| 11900.00†  | 91.986             | 89.810         | 9215.90     | 2720.75           | 9.01          | 2720.74      | 719813.28             | 634175.81              | 32°44'31.353"N | 103°45'10.308"W | 0.00             |              |
| 12000.00†  | 91.986             | 89.810         | 9212.44     | 2820.69           | 9.34          | 2820.68      | 719913.21             | 634176.14              | 32°44'31.351"N | 103°45'09.138"W | 0.00             |              |
| 12100.00†  | 91.986             | 89.810         | 9208.97     | 2920.63           | 9.67          | 2920.62      | 720013.15             | 634176.47              | 32°44'31.349"N | 103°45'07.968"W | 0.00             |              |
| 12200.00†  | 91.986             | 89.810         | 9205.50     | 3020.57           | 10.00         | 3020.55      | 720113.08             | 634176.80              | 32°44'31.347"N | 103°45'06.798"W | 0.00             |              |
| 12300.00†  | 91.986             | 89.810         | 9202.04     | 3120.51           | 10.33         | 3120.49      | 720213.01             | 634177.13              | 32°44'31.345"N | 103°45'05.628"W | 0.00             |              |
| 12400.00†  | 91.986             | 89.810         | 9198.57     | 3220.45           | 10.66         | 3220.43      | 720312.95             | 634177.46              | 32°44'31.343"N | 103°45'04.458"W | 0.00             |              |
| 12500.00†  | 91.986             | 89.810         | 9195.11     | 3320.39           | 10.99         | 3320.37      | 720412.88             | 634177.79              | 32°44'31.341"N | 103°45'03.288"W | 0.00             |              |
| 12600.00†  | 91.986             | 89.810         | 9191.64     | 3420.33           | 11.33         | 3420.31      | 720512.82             | 634178.12              | 32°44'31.338"N | 103°45'02.118"W | 0.00             |              |
| 12700.00†  | 91.986             | 89.810         | 9188.17     | 3520.27           | 11.66         | 3520.25      | 720612.75             | 634178.46              | 32°44'31.336"N | 103°45'00.948"W | 0.00             |              |
| 12800.00†  | 91.986             | 89.810         | 9184.71     | 3620.21           | 11.99         | 3620.19      | 720712.68             | 634178.79              | 32°44'31.334"N | 103°44'59.778"W | 0.00             |              |
| 12900.00†  | 91.986             | 89.810         | 9181.24     | 3720.15           | 12.32         | 3720.13      | 720812.62             | 634179.12              | 32°44'31.332"N | 103°44'58.608"W | 0.00             |              |
| 13000.00†  | 91.986             | 89.810         | 9177.78     | 3820.09           | 12.65         | 3820.07      | 720912.55             | 634179.45              | 32°44'31.330"N | 103°44'57.438"W | 0.00             |              |
| 13100.00†  | 91.986             | 89.810         | 9174.31     | 3920.03           | 12.98         | 3920.01      | 721012.48             | 634179.78              | 32°44'31.328"N | 103°44'56.268"W | 0.00             |              |
| 13200.00†  | 91.986             | 89.810         | 9170.84     | 4019.97           | 13.31         | 4019.95      | 721112.42             | 634180.11              | 32°44'31.325"N | 103°44'55.098"W | 0.00             |              |



# Planned Wellpath Report

Prelim\_2  
Page 5 of 5



| REFERENCE WELLPATH IDENTIFICATION |                               |          |            |
|-----------------------------------|-------------------------------|----------|------------|
| Operator                          | Cimarex Energy Co.            | Slot     | No. 1H SHL |
| Area                              | Lea County, NM                | Well     | No. 1H     |
| Field                             | (North) Sec 15, T18S, R32E    | Wellbore | No. 1H PWB |
| Facility                          | North Young 15 Fed Com No. 1H |          |            |

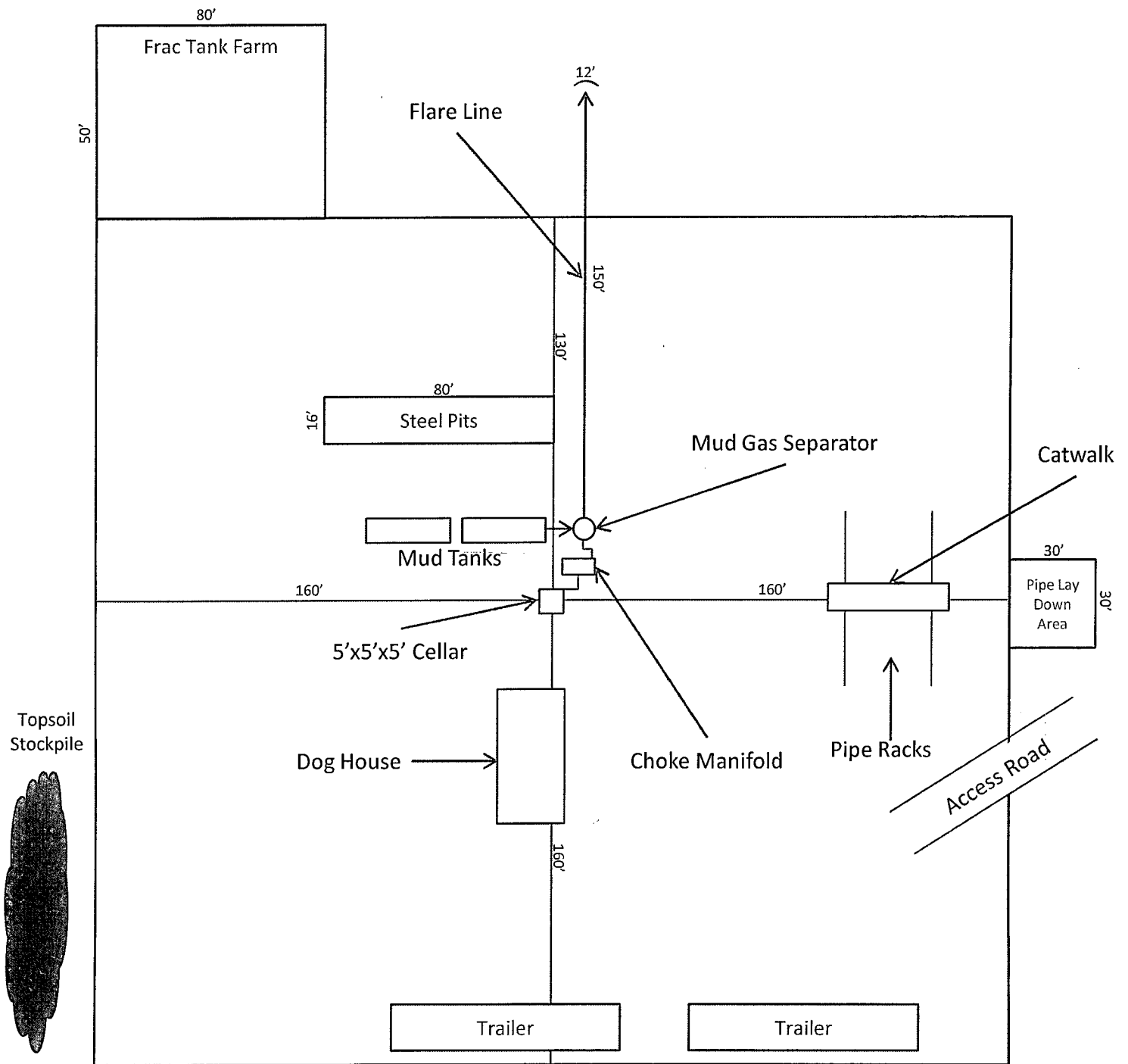
| WELLPATH DATA (142 stations) † = interpolated/extrapolated station |                    |                |             |                   |               |              |                       |                        |                |                 |                  |          |
|--------------------------------------------------------------------|--------------------|----------------|-------------|-------------------|---------------|--------------|-----------------------|------------------------|----------------|-----------------|------------------|----------|
| MD<br>[ft]                                                         | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[srv ft] | Grid North<br>[srv ft] | Latitude       | Longitude       | DLS<br>[°/100ft] | Comments |
| 13300.00†                                                          | 91.986             | 89.810         | 9167.38     | 4119.91           | 13.64         | 4119.89      | 721212.35             | 634180.44              | 32°44'31.323"N | 103°44'53.928"W | 0.00             |          |
| 13400.00†                                                          | 91.986             | 89.810         | 9163.91     | 4219.85           | 13.97         | 4219.83      | 721312.28             | 634180.77              | 32°44'31.321"N | 103°44'52.758"W | 0.00             |          |
| 13500.00†                                                          | 91.986             | 89.810         | 9160.45     | 4319.79           | 14.30         | 4319.77      | 721412.22             | 634181.10              | 32°44'31.319"N | 103°44'51.588"W | 0.00             |          |
| 13600.00†                                                          | 91.986             | 89.810         | 9156.98     | 4419.73           | 14.63         | 4419.71      | 721512.15             | 634181.43              | 32°44'31.317"N | 103°44'50.418"W | 0.00             |          |
| 13700.00†                                                          | 91.986             | 89.810         | 9153.51     | 4519.67           | 14.97         | 4519.64      | 721612.08             | 634181.76              | 32°44'31.314"N | 103°44'49.248"W | 0.00             |          |
| 13800.00†                                                          | 91.986             | 89.810         | 9150.05     | 4619.61           | 15.30         | 4619.58      | 721712.02             | 634182.10              | 32°44'31.312"N | 103°44'48.078"W | 0.00             |          |
| 13801.39                                                           | 91.986             | 89.810         | 9150.00†    | 4621.00           | 15.30         | 4620.98      | 721713.41             | 634182.10              | 32°44'31.312"N | 103°44'48.061"W | 0.00             | PBHL     |

| HOLE & CASING SECTIONS Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_2 |                  |                |                  |                   |                 |                   |                   |                 |                 |
|------------------------------------------------------------------------|------------------|----------------|------------------|-------------------|-----------------|-------------------|-------------------|-----------------|-----------------|
| String/Diameter                                                        | Start MD<br>[ft] | End MD<br>[ft] | Interval<br>[ft] | Start TVD<br>[ft] | End TVD<br>[ft] | Start N/S<br>[ft] | Start E/W<br>[ft] | End N/S<br>[ft] | End E/W<br>[ft] |
| 9.625in Casing                                                         | 0.00             | 2850.00        | 2850.00          | 0.00              | 2850.00         | 0.00              | 0.00              | 0.00            | 0.00            |
| 8.75in Open Hole                                                       | 2850.00          | 13801.39       | 10951.39         | 2850.00           | 9150.00         | 0.00              | 0.00              | 15.30           | 4620.97         |

| TARGETS        |            |             |               |              |                       |                        |                |                 |       |
|----------------|------------|-------------|---------------|--------------|-----------------------|------------------------|----------------|-----------------|-------|
| Name           | MD<br>[ft] | TVD<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[srv ft] | Grid North<br>[srv ft] | Latitude       | Longitude       | Shape |
| 1) No. 1H PBHL | 13801.39   | 9150.00     | 15.30         | 4620.98      | 721713.41             | 634182.10              | 32°44'31.312"N | 103°44'48.061"W | point |

| SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_2 |                |                              |                  |            |
|----------------------------------------------------------------|----------------|------------------------------|------------------|------------|
| Start MD<br>[ft]                                               | End MD<br>[ft] | Positional Uncertainty Model | Log Name/Comment | Wellbore   |
| 0.00                                                           | 13801.39       | NaviTrak (Standard)          |                  | No. 1H PWB |

# Key 884



1"=50'

N

Exhibit D – Rig Diagram  
**North Young 15 Federal Com No. 1**  
Cimarex Energy Co. of Colorado  
15-18S-32E  
SHL 660 FSL & 330 FWL  
BHL 660 FSL & 330 FEL  
Lea County, NM

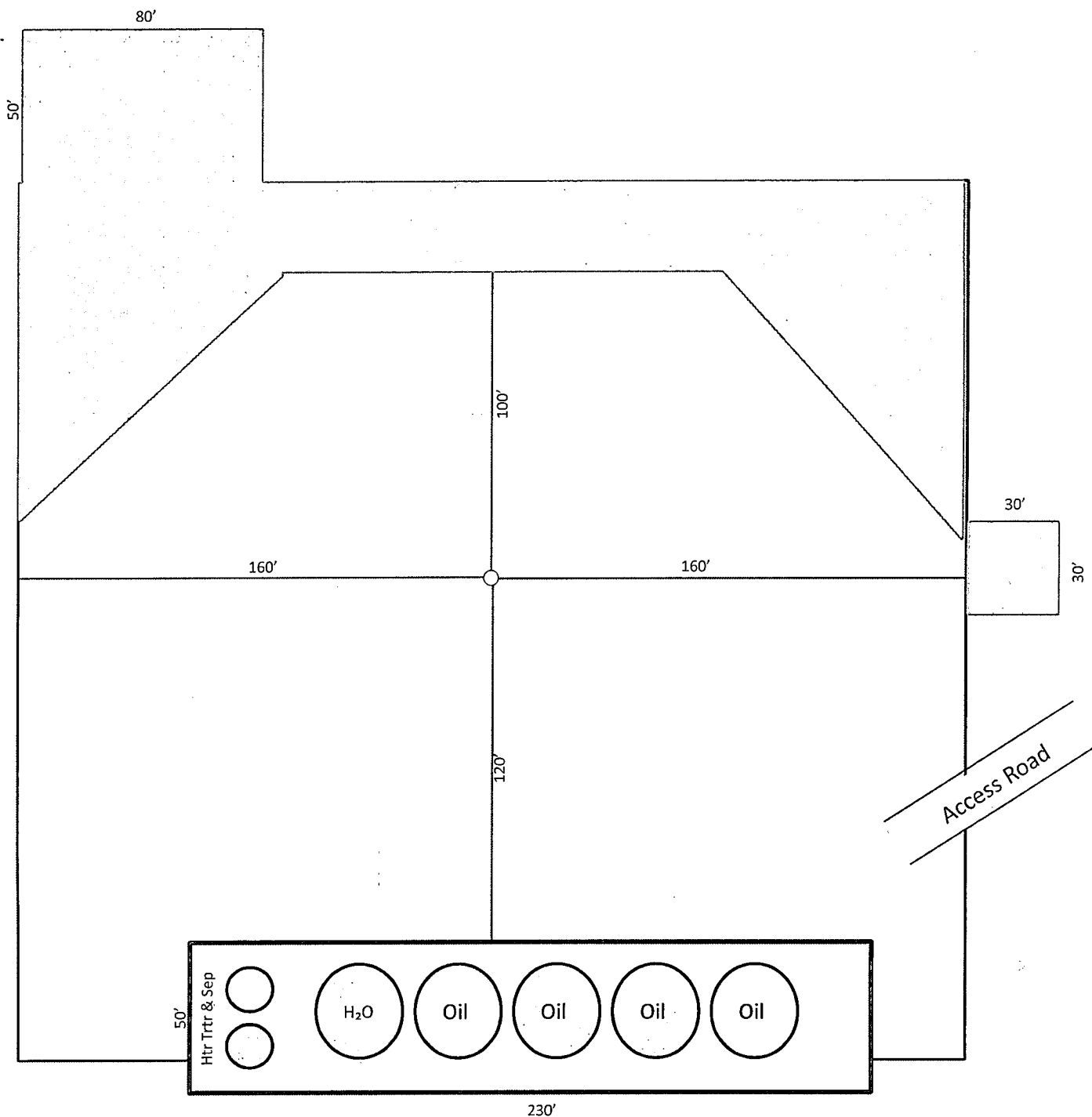
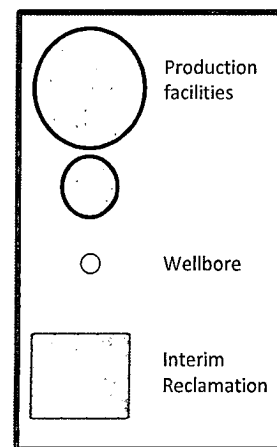


Exhibit D-1  
 Production Facilities Layout Diagram  
**North Young 15 Federal Com No. 1**  
 Cimarex Energy Co. of Colorado  
 15-18S-32E  
 SHL 660 FSL & 330 FWL  
 BHL 660 FSL & 330 FEL  
 Lea County, NM



1"=50'

SR & A

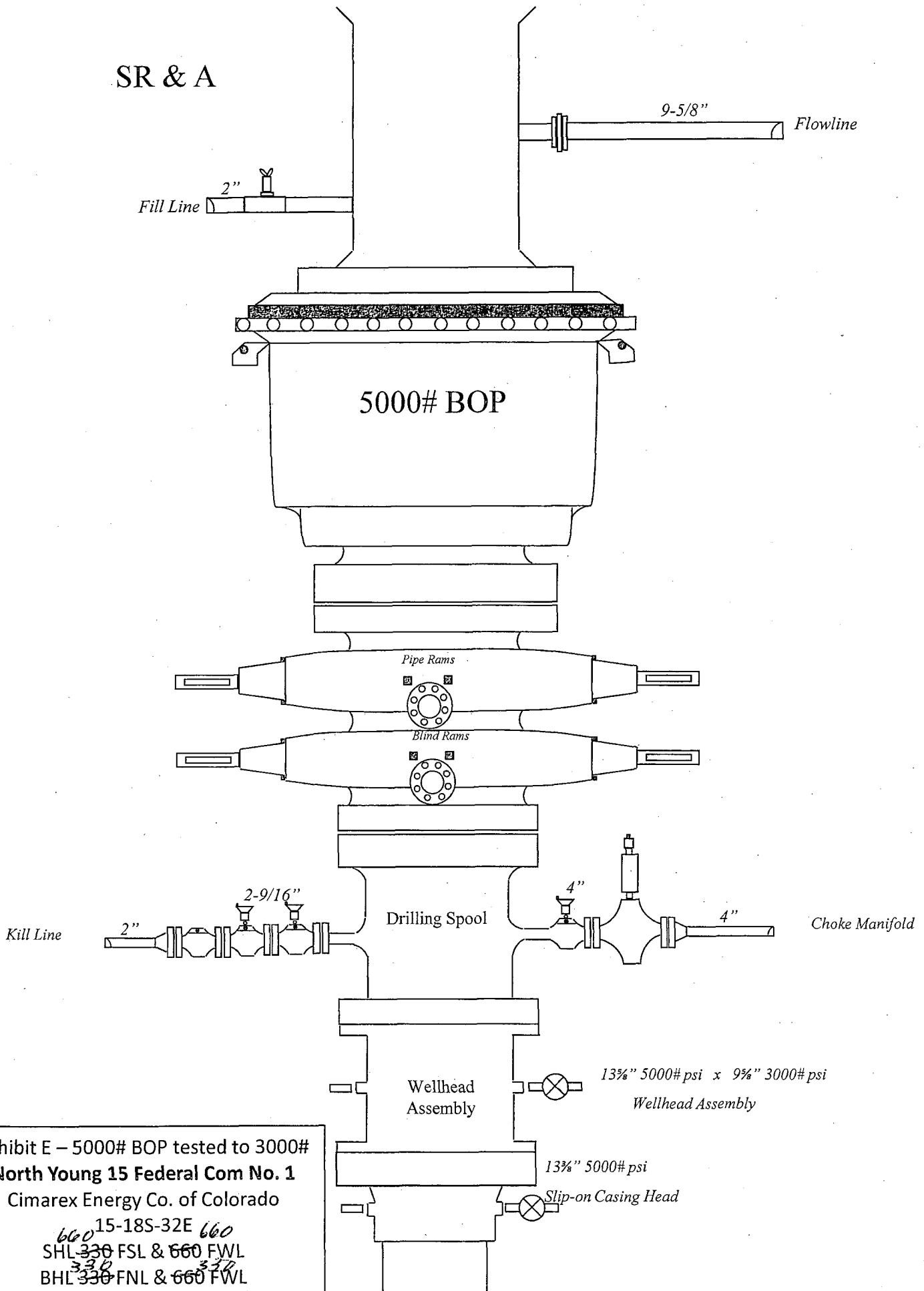


Exhibit E – 5000# BOP tested to 3000#

North Young 15 Federal Com No. 1

Cimarex Energy Co. of Colorado

15-18S-32E

SHL 330 FSL & 660 FWL

BHL 330 FNL & 660 FWL

Lea County, NM

# Drilling Operations Choke Manifold 5M Service tested to 3M

Exhibit E-1 – Choke Manifold Diagram

**North Young 15 Federal Com No. 1**

Cimarex Energy Co. of Colorado

15-18S-32E  
SHL 330 FSL & 660 FWL  
BHL 330 FNL & 660 FWL  
Lea County, NM

