

New Mexico Oil Conservation Division, District I  
1624 N. French Drive  
Hobbs, NM 88240

RECEIVED

Form 3160-3  
(April 2004)

NOV 03 2008

REVISED

HOBBS (N.M.)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

5. Lease Serial No.

SHL LC-069832-B

BHL NM-0153474

6. If Indian, Allottee or Tribe Name

APPLICATION FOR PERMIT TO DRILL OR REENTER

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. <37464>

Intrepid 9 Federal Com No. 1

2. Name of Operator

Cimarex Energy Co. of Colorado

3a. Address  
PO Box 140907  
Irving, TX 75014

3b. Phone No. (include area code)

972-401-3111

9. API Well No

30-005-

29089

10. Field and Pool, or Exploratory

Abo; Wildcat; ABO-WOLF CAMP

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

At Surface

1980' FNL & 330' FWL

Unit E

At proposed prod Zone

1980' FNL & 330' FEL

Unit H

Proposed Horizontal Abo Test

11. Sec., T. R. M. or Blk. and Survey or Area

9-15S-31E

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

12. County or Parish

Chaves

13. State

NM

15 Distance from proposed\*  
location to nearest  
property or lease line, ft  
(Also to nearest drig. unit line if  
any) 330'

16. No of acres in lease

40

17. Spacing Unit dedicated to this well

S2N2 160

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

NA

19. Proposed Depth

Pilot Hole 9075'

MD 13119'

TVD 8615'

20. BLM/BIA Bond No on File

NM-2575

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

4,435' GR

22. Approximate date work will start\*

4/1/2008

23. Estimated duration

35-45 days

24. Attachments

ROSWELL CONTROLLED WATER BASIN

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

03.26.08

Title

Manager Operations Administration

Approved By (Signature)

Name (Printed/Typed)

Date

Title

Acting Assistant Field Manager,  
Lands And Minerals

Office

ROSWELL FIELD OFFICE

APPROVED FOR 2 YEARS

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.

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)

DECLARED WATER BASIN

CEMENT BEHIND THE 133" BECEIARD  
CASING MUST BE CIRCULATED

WITNESS

KZ APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS ATTACHED

DISTRICT I  
1626 N. FRENCH DR., HOBBS, NM 88240

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102

DISTRICT II  
1301 W. GRAND AVENUE, ARTISIA, NM 88210

**OIL CONSERVATION DIVISION**  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Revised October 12, 2005  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

☐ AMENDED REPORT

API Number <b>30-005-29089</b>	Pool Code <b>✓</b>	Pool Name <b>Abq. Wildcat, ABO-WOLFCAAP</b>
Property Code <b>37464</b>	Property Name <b>INTREPID 9 FEDERAL COM</b>	Well Number <b>1</b>
OGRID No. <b>162683</b>	Operator Name <b>CIMAREX ENERGY COMPANY OF COLORADO</b>	Elevation <b>4435'</b>

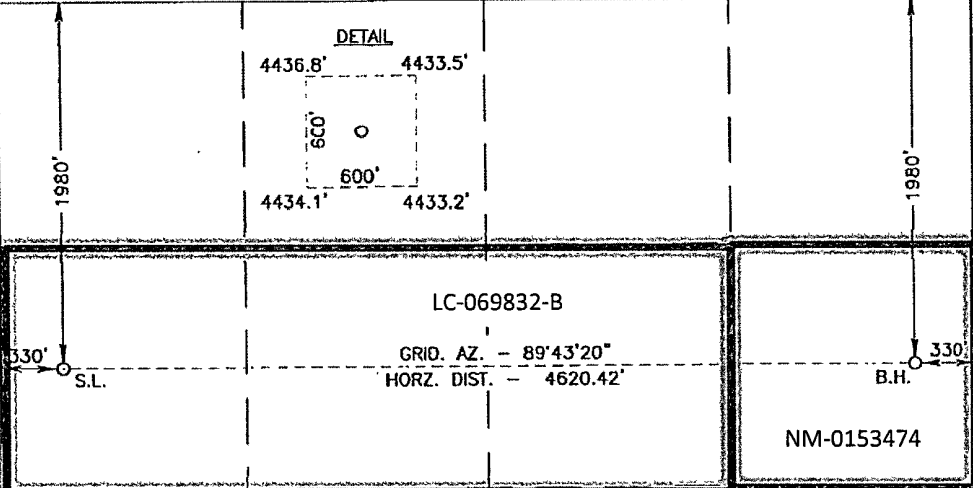
**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	9	15-S	31-E		1980	NORTH	330	WEST	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
H	9	15-S	31-E		1980	NORTH	330	EAST	CHAVES
Dedicated Acres <b>160</b>	Joint or Infill	Consolidation Code <b>P</b>	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

 <p>DETAIL</p> <p>4436.8' 4433.5'</p> <p>4434.1' 4433.2'</p> <p>1980'</p> <p>330'</p> <p>S.L.</p> <p>B.H.</p> <p>LC-069832-B</p> <p>GRID. AZ. - 89°43'20"</p> <p>HORZ. DIST. - 4620.42'</p> <p>NM-0153474</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information 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 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> 01-31-08 Signature Date</p> <p>Zeno Farris Printed Name</p>
<p><b>GEODETIC COORDINATES</b> NAD 27 NME SURFACE LOCATION</p> <p>Y=739550.5 N X=653083.1 E</p> <p>LAT.=33.032088° N LONG.=103.833835° W</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>JANUARY 15 2008 Date Surveyed</p> <p>Signature &amp; Seal of Professional Surveyor</p> <p>3239</p> <p>Certificate No. GARY C. EIDSON 12641 RONALD J. EIDSON 3239</p>

**Application to Drill**  
**Cimarex Energy Co. of Colorado**  
**Intrepid 9 Federal Com No. 1**  
Unit E                      Section 9  
T15S R31E                Chaves County, NM

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

- 1 Location:    SHL    1980' FNL & 330' FWL  
                       BHL    1980' FNL & 330' FEL        *Proposed Horizontal Abo Test*
  
- 2 Elevation above sea level:                4,435 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 9075' MD 13119' TVD 8615'
  
- 6 Estimated tops of geological markers:  
     Yates                                2,312'  
     Queen                                3,090'  
     San Andres                        3,940'  
     Abo Shale                            7,340'  
     Lower Abo Dolomite            8,585'  
     Wolfcamp LS                        8,675'
  
- 7 Possible mineral bearing formation:  
     Abo                                    Oil

8 Proposed Mud Circulating System:

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0	to	340	8.4 - 8.6	30-32	May lose circ	Fresh water spud mud
340	to	3,950	10.0	28-29	May lose circ	Brine Water
3,950	to	9075'	8.6 - 9.5	28-29	NC	Fresh water and brine, use hi-vis sweeps to keep hole clean
0'	to	13119'	8.4 - 8.9	28	NC	2% KCl

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. Mud system monitoring equipment with derrick floor indicators and visual/audio alarms shall be installed and operative prior to drilling into the Wolfcamp formation. This equipment will remain in use until production casing is run and cemented.

- 8a Drill 8¾" pilot hole to 9075.' Set KO Plug @ 8390.' Kick off horizontal leg @ 8385' and drill 6½" hole to 13119' MD & 8615' TVD. Run 4½" 11.6# P-110 BTC/LTC Peak Systems Iso-Pak Liner from 0'-13119.' No cement required for Peak Systems Liner.

**Application to Drill**  
**Cimarex Energy Co. of Colorado**  
**Intrepid 9 Federal Com No. 1**  
Unit E                      Section 9  
T15S R31E      Chaves County, NM

9      Casing & Cementing Program:

Hole Size	Depth		Casing OD		Weight	Thread	Collar	Grade
17½"	0	to 340'	New	13⅝"	48#	8-R	STC	H-40
12¼"	0	to 3,950'	New	9⅝"	40#	8-R	LTC	J/K-55
8¾"	0	to 9075'	New	7"	26#	8-R	LTC	P-110
6⅝"	0	to 13119'	New	4½"	11.6#	8-R	BTC/LTC	P-110

10      Cementing & Setting Depth:

13⅝"	Surface	Set 340' of 13⅝"	48#	H-40	STC
<u>Lead:</u> 110 sx Light Premium Plus + 0.125 lb/sk Poly-E-Flake + 1% CaCl <sub>2</sub> (wt 14.2, yld 1.64)					
<u>Tail:</u> 220 sx Premium Plus + 2% CaCl <sub>2</sub> (wt 14.8, yld 1.35)					
TOC      Surface					
9⅝"	Intermediate	Set 3,950' of 9⅝"	40#	J/K-55	LTC
<u>Lead:</u> 450 sx Interfill C + 0.125 lb/sk Poly-E-Flake (wt 11.9, yld 2.45)					
<u>Tail:</u> 200 sx Premium Plus + 1% CaCl <sub>2</sub> (wt 14.8, yld 1.33)					
TOC      Surface					
7"	Production	Set 9075' of 7"	26#	P-110	LTC
615 sx Super H + 0.5% Halad-344 + 0.4% CFR-3 + 1 lb/sk Salt + 5 lb/sk Gilsonite + 0.125 lb/sk Poly-e-flake + 0.35% HR-7 (wt 13.0, yld 1.67)					
<b>TOC    3,700'</b>					
4½"	Liner	Set 13119' of 4½"	11.6#	P-110	BTC/LTC
<i>Peak Systems Iso-Pack Liner will not require cementing.</i>					

Fresh water will be protected by setting 13⅝" casing at 340' and cementing to Surface  
Hydrocarbon zones will be protected by setting 9⅝" casing at 3,950' and cementing to Surface  
and by setting 7" casing at 9075' and cementing to 3700'

Cimarex uses the following minimum safety factors:

Burst	Collapse	Tension
1.125	1.125	1.80

Application to Drill  
Cimarex Energy Co. of Colorado  
Intrepid 9 Federal Com No. 1  
Unit E                      Section 9  
T15S R31E              Chaves County, NM

11      Pressure control Equipment:

Exhibit "E". A 13 3/8" 5000 PSI working pressure B.O.P. 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 below 6000'. 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 surface pipe through the running of production casing, the well will be equipped with a 5000 psi BOP system.

We are requesting a variance for testing the 13-3/8" surface casing from Onshore Order No. 2, which states that all casing strings below the conductor shall be pressure tested to 0.22 psi per foot or 1500 psi, whichever is greater, but not to exceed 70% of the manufacturer's stated maximum internal yield. We are requesting to test the 13-3/8" casing to 1000 psi using rig pumps. The BOP will be tested to 5000 PSI by an independent service company.

12      Testing, Logging and Coring Program:

- A. Mud logging                      2 man unit from 3950' 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. The area has a potential H2S hazard. An H2S drilling plan is attached. 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      **4000 psi**                      Estimated BHT      **175**

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

Drilling expected to take      35-45 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.

Abo                      pay will be perforated and stimulated.

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

## Hydrogen Sulfide Drilling Operations Plan

Cimarex Energy Co. of Colorado

Intrepid 9 Federal Com No. 1

Unit E

Section 9

T15S R31E Chaves County, NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
  - A. Characteristics of H2S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H2S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
- 2 H2S Detection and Alarm Systems:
  - A. H2S detectors and audio alarm system to be located at bell nipple, end of flow line (mud pit) and on derrick floor or doghouse.
- 3 Windsock and/or wind streamers:
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
- 4 Condition Flags and Signs:
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H2S present in dangerous concentration). Only emergency personnel admitted to location.
- 5 Well control equipment:
  - A. See exhibit "E"
- 6 Communication:
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.
- 9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

**Surface Use Plan**  
**Cimarex Energy Co. of Colorado**  
**Intrepid 9 Federal Com No. 1**  
Unit E                      Section 9  
T15S R31E              Chaves County, NM

- 1 EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
  - A. Exhibit "A" shows the proposed well site as staked.
  - B. From the intersection of St Hwy 249 and St Hwy 172, go West on St Hwy 249 approx 2.2 miles. Turn right at gate in ROW fence and go Northerly along meandering road approx 1.2 miles. This location is approx 150' East.
- 2 PLANNED ACCESS ROADS:              No new access roads are proposed.
- 3 LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A":
  - A. Water wells -    None known
  - B. Disposal wells -    None known
  - C. Drilling wells -    None known
  - D. Producing wells -    As shown on Exhibit "A"
  - E. Abandoned wells -    As shown on Exhibit "A"

**Surface Use Plan**  
**Cimarex Energy Co. of Colorado**  
**Intrepid 9 Federal Com No. 1**  
Unit E                      Section 9  
T15S R31E              Chaves County, NM

- 4 If on completion this well is a producer, Cimarex Energy Co. of Colorado will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied by a Sundry Notice.

5 Location and Type of Water Supply:

Water will be purchased locally from a commercial source and trucked over the access roads or piped in flexible lines laid on top of the ground.

6 Source of Construction Material:

If possible, construction will be obtained from the excavation of drill site. If additional material is needed, it will be purchased from a local source and transported over the access route as shown on Exhibit "C".

7 Methods of Handling Waste Material:

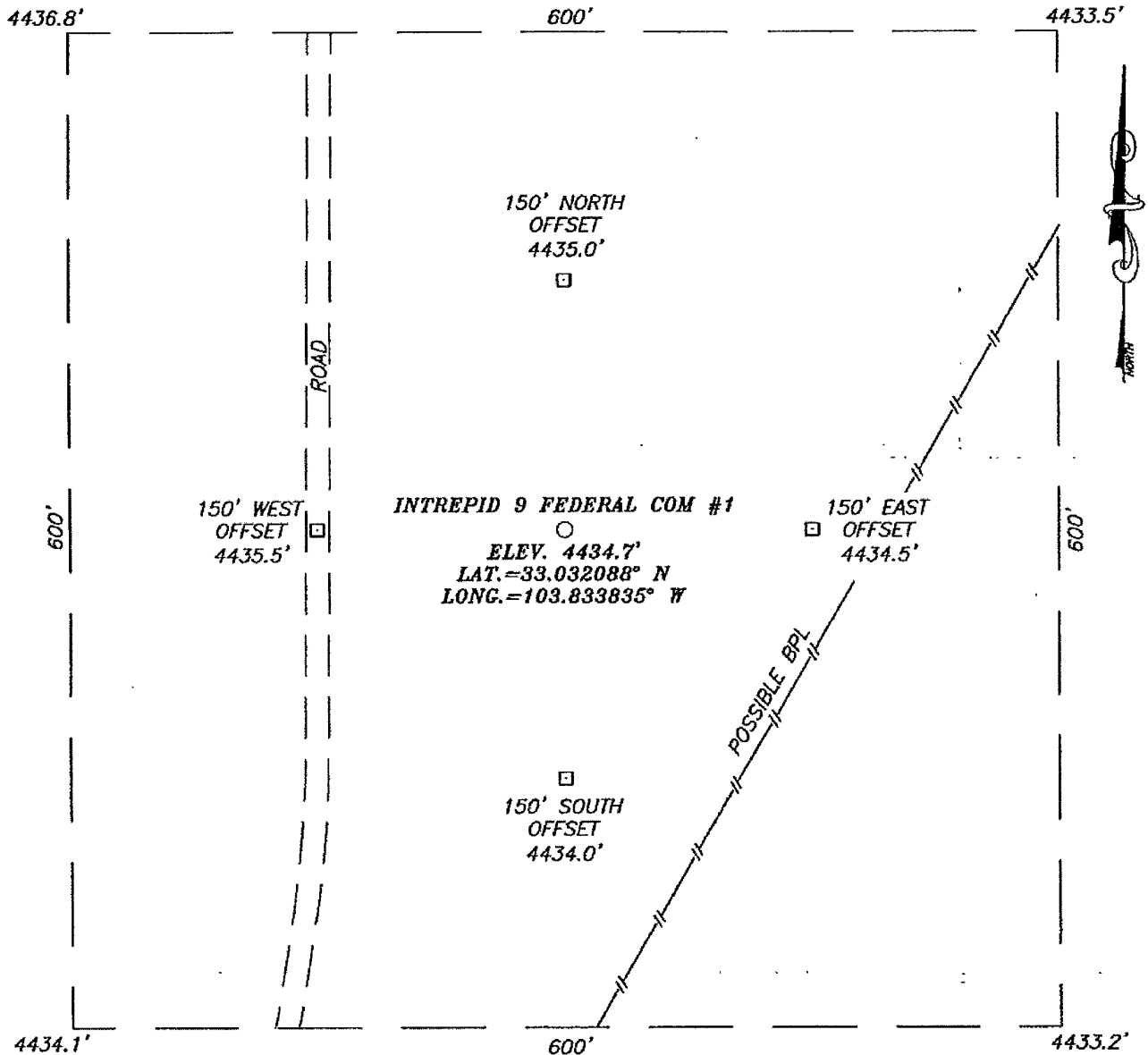
- A. Drill cuttings will be disposed of in the reserve pit and hauled to a State-approved disposal facility.
- B. All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.
- C. Salts remaining after completion of well will be picked up by supplier including broken sacks.
- D. Sewage from living quarters will drain into holding tanks and be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.
- E. Remaining drilling fluids will be hauled off by transports and be disposed of at a State approved disposal facility. Water produced during drilling will be put in reserve pit. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8 Ancillary Facilities:

- A. No camps or airstrips to be constructed.

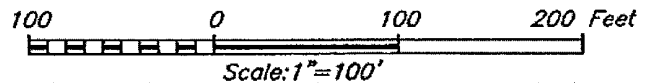


**SECTION 9, TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,**  
 CHAVES COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF STATE HIGHWAY 249 AND STATE HIGHWAY 172, GO WEST ON STATE HIGHWAY 249 APPROX. 2.2 MILES. TURN RIGHT AT GATE IN RIGHT-OF-WAY FENCE AND GO NORTHERLY ALONG MEANDERING ROAD APPROX. 1.2 MILES. THIS LOCATION IS APPROX. 150 FEET EAST.



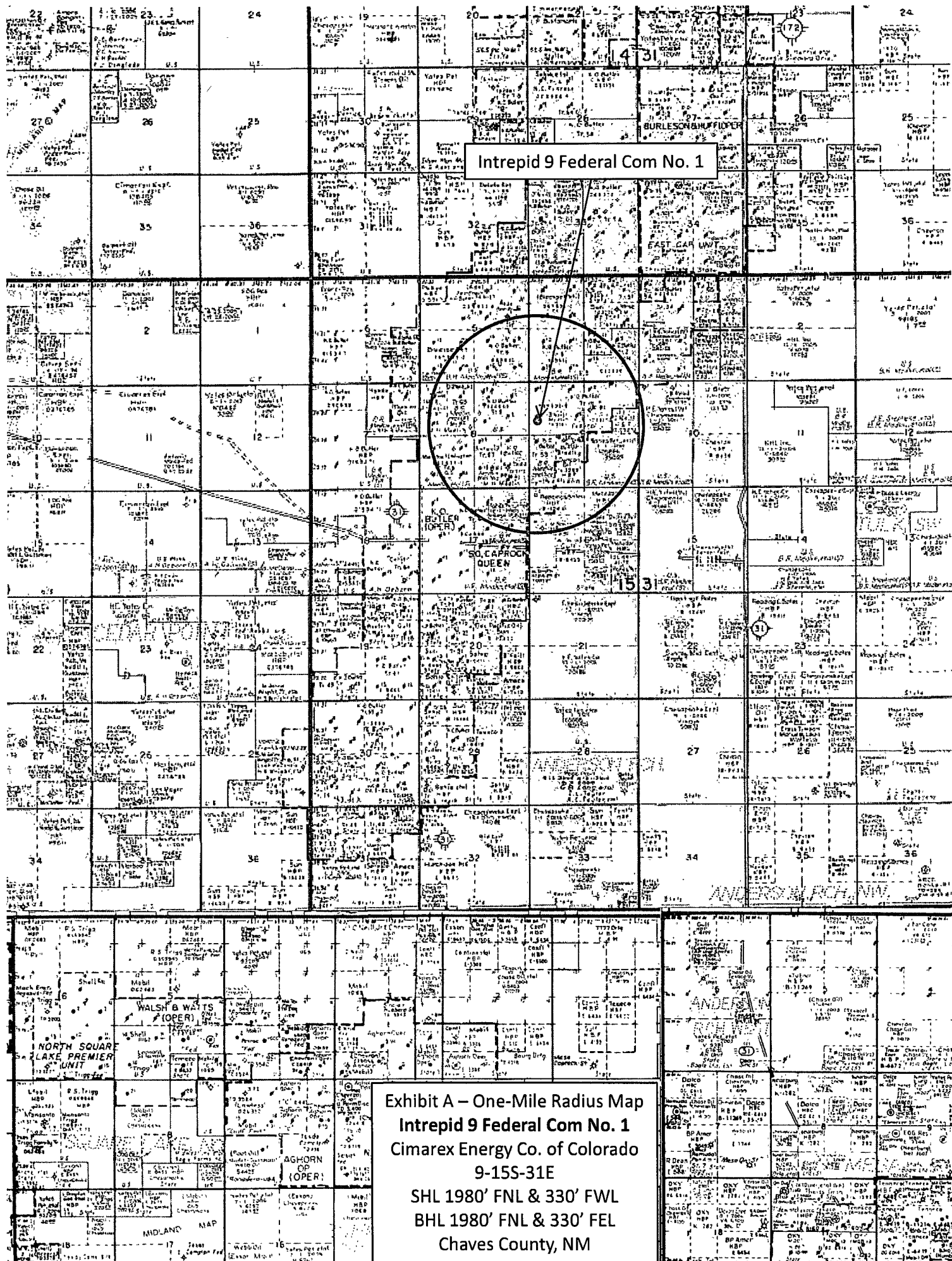
**CIMAREX ENERGY COMPANY OF COLORADO**

INTREPID 9 FEDERAL COM #1 WELL  
 LOCATED 1980 FEET FROM THE NORTH LINE  
 AND 330 FEET FROM THE WEST LINE OF SECTION 9,  
 TOWNSHIP 15 SOUTH, RANGE 31 EAST, N.M.P.M.,  
 CHAVES COUNTY, NEW MEXICO.

Survey Date: 01/15/08	Sheet 1 of 1 Sheets
W.O. Number: 07.11.1935	Dr By: DSS
Date: 01/22/08	Disk: .
07111935	Scale: 1"=100'


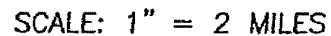


PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117



Intrepid 9 Federal Com No. 1

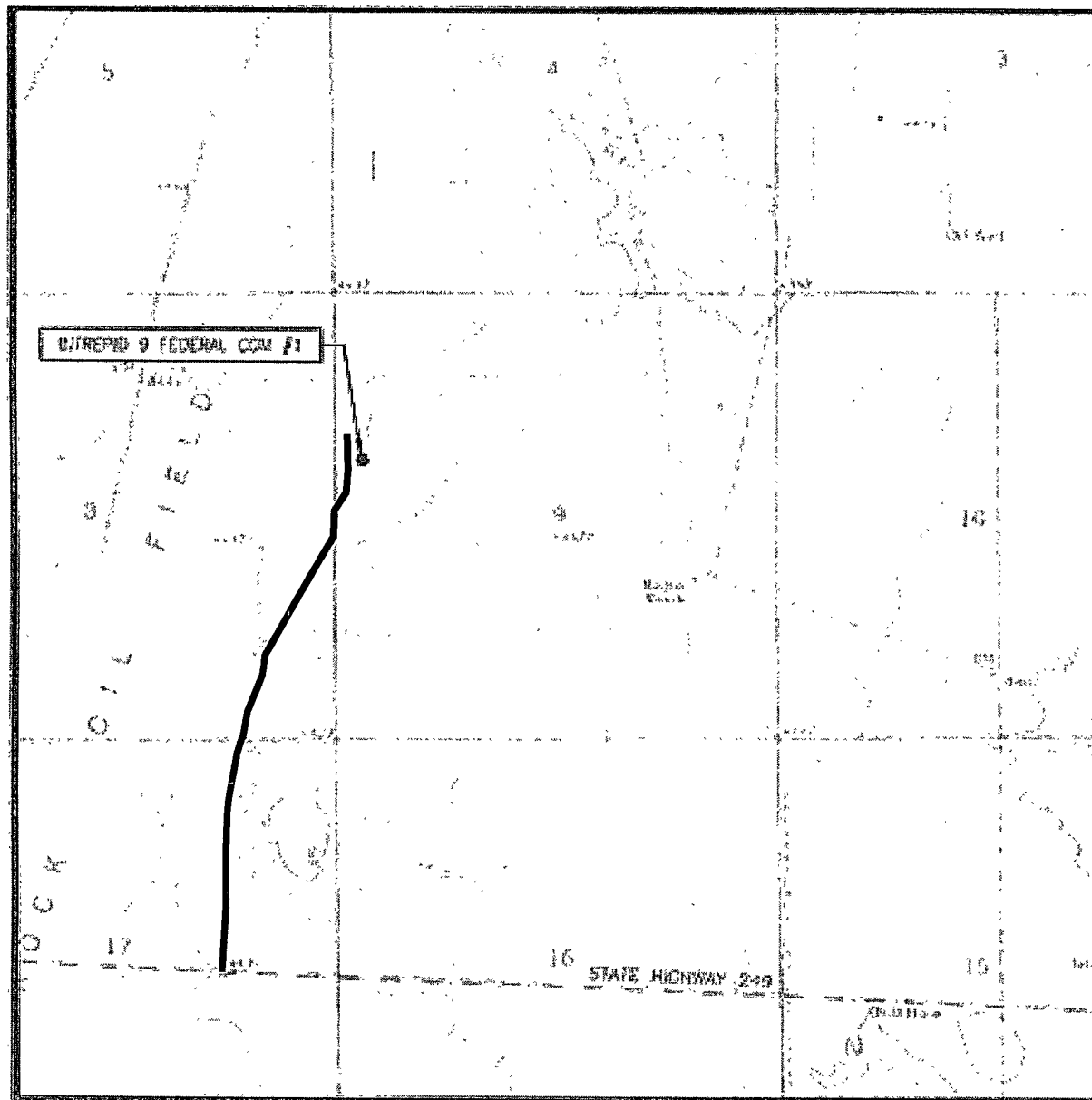
Exhibit A – One-Mile Radius Map  
Intrepid 9 Federal Com No. 1  
Cimarex Energy Co. of Colorado  
9-155-31E  
SHL 1980' FNL & 330' FWL  
BHL 1980' FNL & 330' FEL  
Chaves County, NM



PROVIDING SURVEYING SERVICES  
 SINCE 1948  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (505) 393-3117

## Exhibit B

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
CEDAR POINT SE, N.M. -- 10'

SEC. 8 TWP. 15-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

DESCRIPTION 1980' FNL & 330' FWL

ELEVATION 4435'

OPERATOR CIMAREX ENERGY COMPANY  
OF COLORADO

LEASE INTREPID 9 FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP

CEDAR POINT SE, N.M.

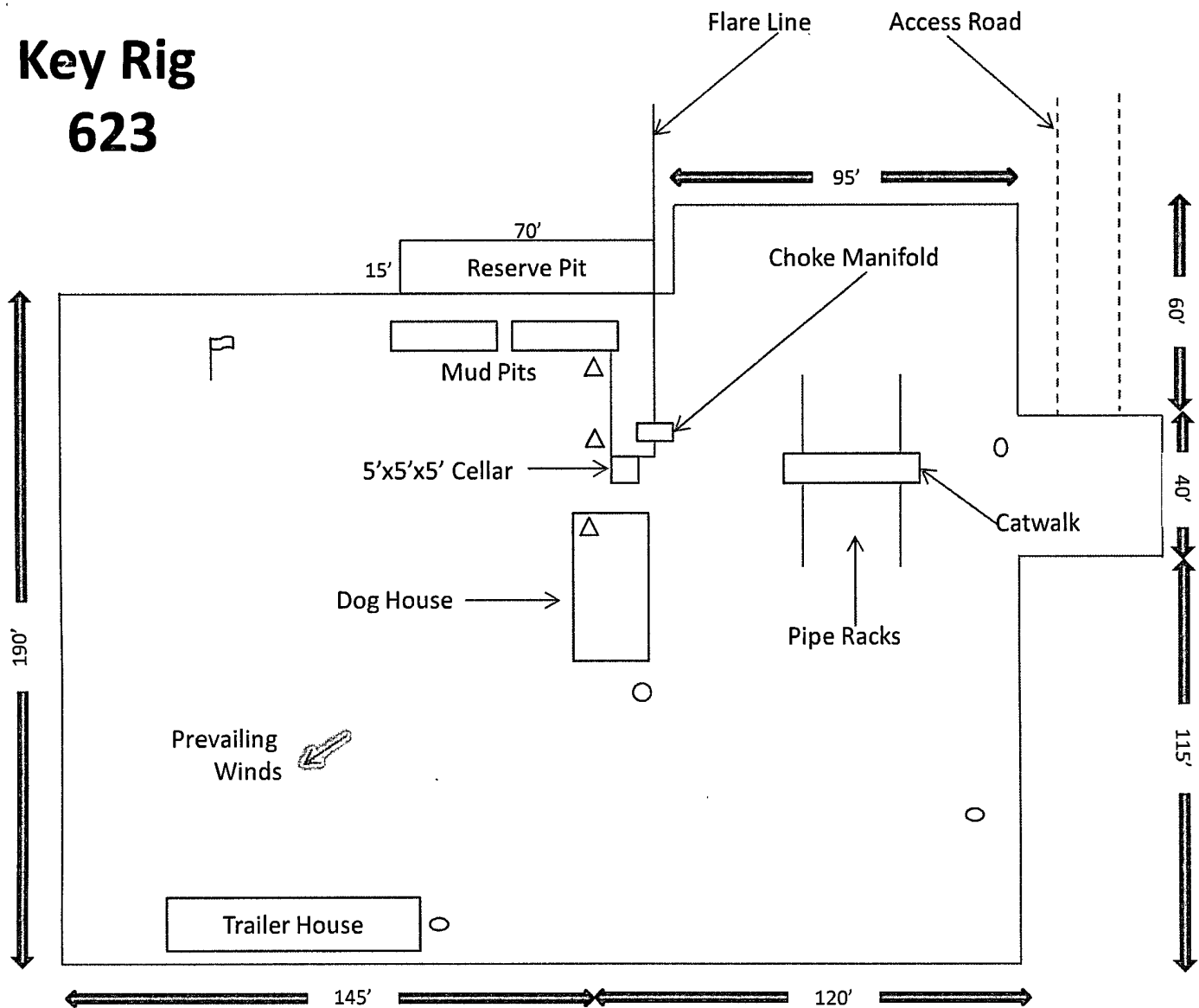


PROVIDING SURVEYING SERVICES  
SINCE 1940

**JOHN WEST SURVEYING COMPANY**

412 N. DAL PASO  
MORRIS, N.M. 88040  
(505) 350-3117

# Key Rig 623



- Wind Direction Indicators  
(wind sock or streamers)
- △ H2S Monitors  
(alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit

Exhibit D – Rig Diagram  
**Intrepid 9 Federal Com No. 1**  
 Cimarex Energy Co. of Colorado  
 9-15S-31E  
 SHL 1980' FNL & 330' FWL  
 BHL 1980' FNL & 330' FEL  
 Chaves County, NM

# SR & A

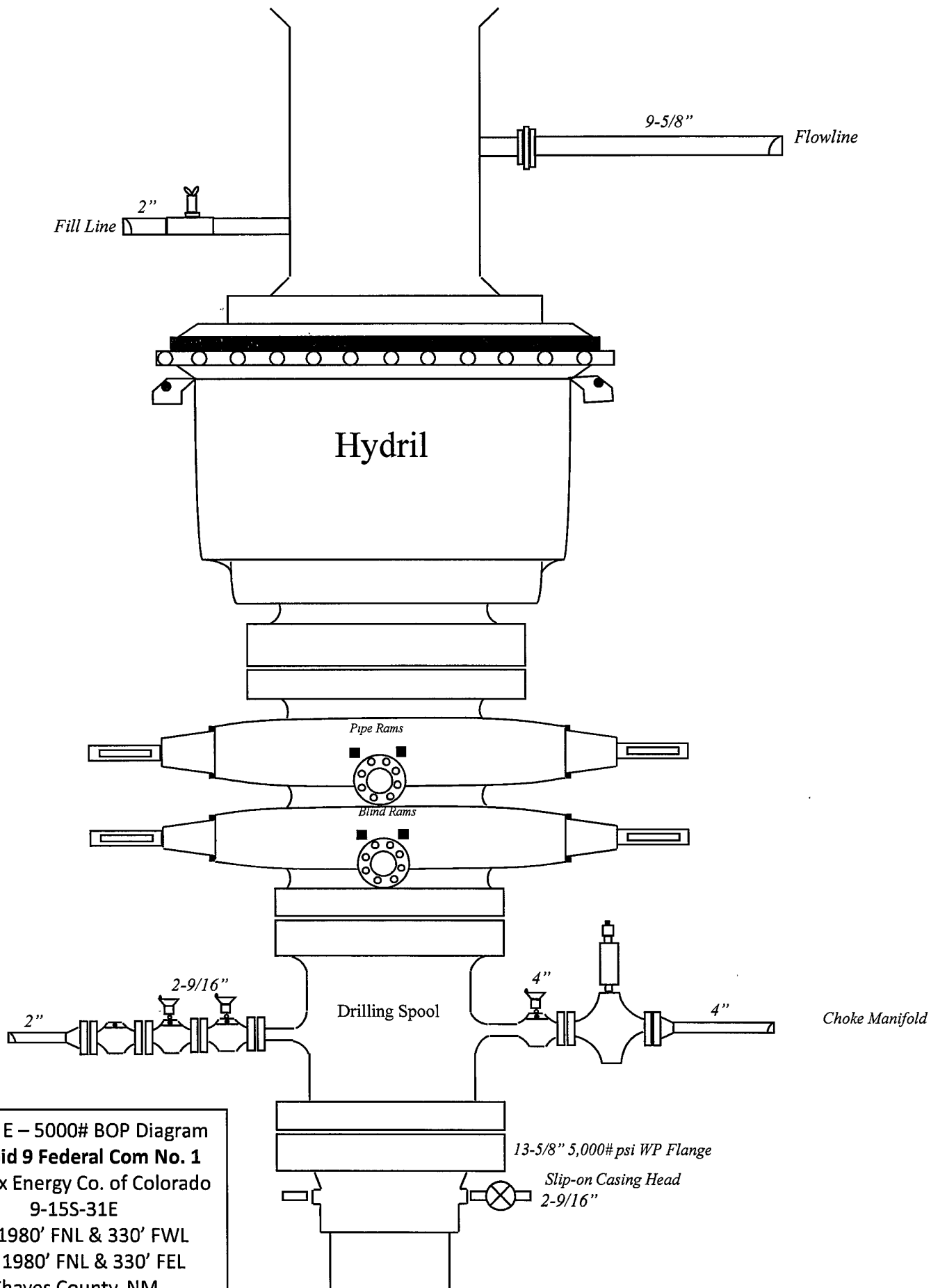
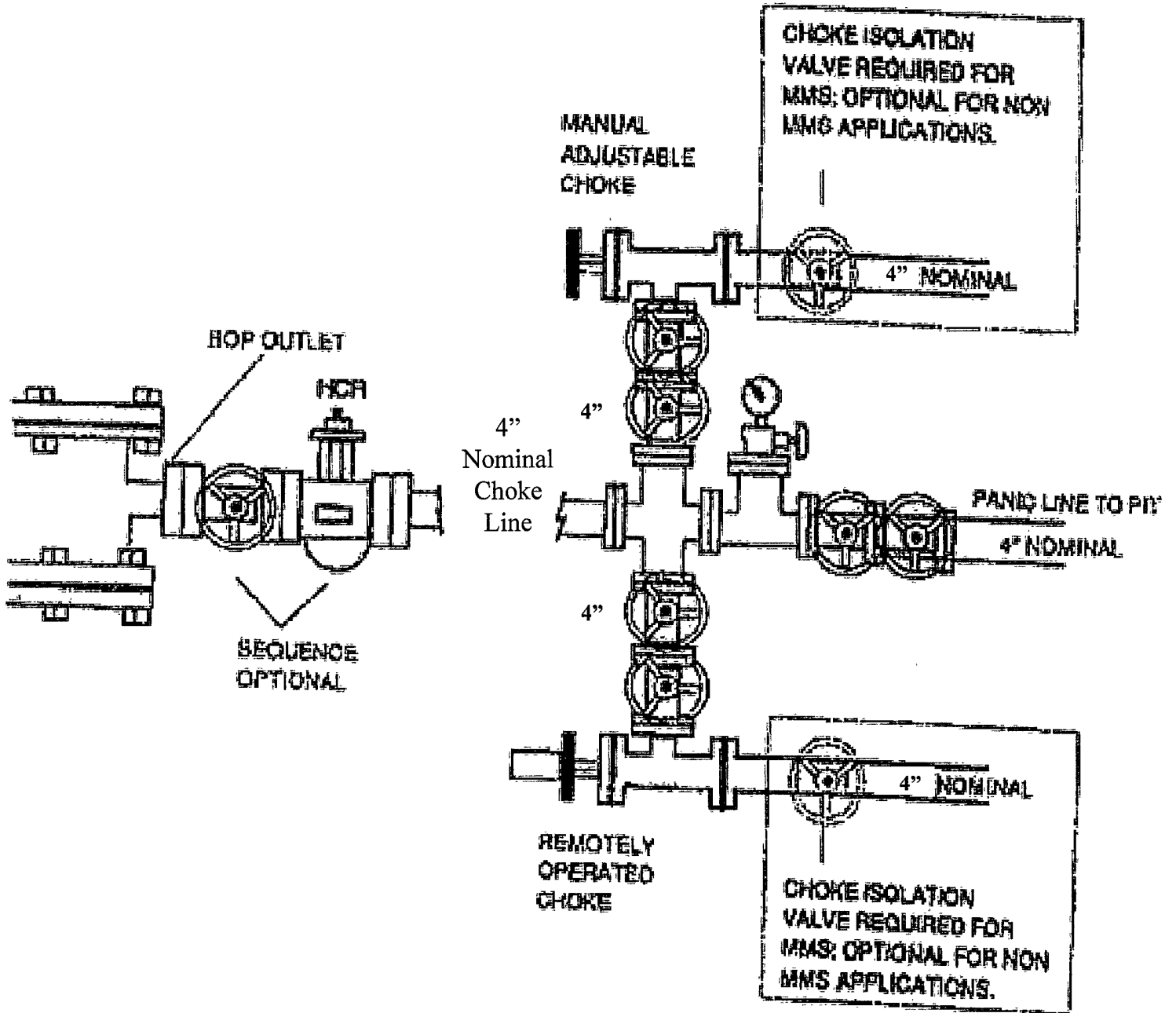


Exhibit E – 5000# BOP Diagram  
**Intrepid 9 Federal Com No. 1**  
 Cimarex Energy Co. of Colorado  
 9-15S-31E  
 SHL 1980' FNL & 330' FWL  
 BHL 1980' FNL & 330' FEL  
 Chaves County, NM

DRILLING OPERATIONS  
CHOKE MANIFOLD  
SM SERVICE



**Exhibit E-1 – Choke Manifold Diagram**  
**Intrepid 9 Federal Com No. 1**  
 Cimarex Energy Co. of Colorado  
 9-15S-31E  
 SHL 1980' FNL & 330' FWL  
 BHL 1980' FNL & 330' FEL  
 Chaves County, NM



# Planned Wellpath Report

Plan #1  
Page 1 of 3



INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1 SHL
Area	Chaves County, NM	Well	No. 1
Field	(Intrepid) Sec 9 T15-S R31-E	Wellbore	No. 1 PWB
Facility	Intrepid 9 FED COM 1		

## REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect™ 1.2
North Reference	Grid	User	Victor Hernandez
Scale	0.999936	Report Generated	01/30/08 at 15:26:12
Wellbore last revised	01/30/08	Database/Source file	WA_Midland/No. 1_PWB.x

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North [feet]	East [feet]	Easting [US feet]	Northing [US feet]	Latitude [°]	Longitude [°]
Slot Location	0.00	0.00	653083.10	739550.50	33 01 55.515N	103 50 01.807W
Facility Reference Pt			653083.10	739550.50	33 01 55.515N	103 50 01.807W
Field Reference Pt			653083.10	739550.50	33 01 55.515N	103 50 01.807W

## WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1 SHL (RT) to Facility Vertical Datum	18.00 feet
Horizontal Reference Pt	Facility Center	Rig on No. 1 SHL (RT) to GRN, ELEV.	4453.00 feet
Vertical Reference Pt	Rig on No. 1 SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00 feet
MD Reference Pt	Rig on No. 1 SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	GRN, ELEV.	Section Azimuth	89.72°





# Planned Wellpath Report

Plan #1  
Page 2 of 3



REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co.	Slot	No. 1 SHL
Area	Chaves County, NM	Well	No. 1
Field	(Intrepid) Sec 9 T15-S R31-E	Wellbore	No. 1 PWB
Facility	Intrepid 9 FED COM 1		

WELLPATH DATA (58 stations) † = interpolated/extrapolated station									
MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments	Path Comment
0.00	0.000	0.000	0.00	0.00	0.00	0.00	0.00		
2312.00†	0.000	0.000	2312.00	0.00	0.00	0.00	0.00		YATES
3090.00†	0.000	0.000	3090.00	0.00	0.00	0.00	0.00		QUEEN
3940.00†	0.000	0.000	3940.00	0.00	0.00	0.00	0.00		SAN ANDRES
7340.00†	0.000	0.000	7340.00	0.00	0.00	0.00	0.00		ABO SHALE
8300.00	0.000	0.000	8300.00	0.00	0.00	0.00	0.00	Tie On	
8385.00	0.000	89.723	8385.00	0.00	0.00	0.00	0.00	KOP	
8400.00†	4.290	89.723	8399.99	0.56	0.00	0.56	28.60		
8500.00†	32.890	89.723	8493.79	32.11	0.16	32.11	28.60		
8600.00†	61.490	89.723	8561.04	104.71	0.51	104.71	28.60		
8688.10†	86.687	89.723	8585.00	188.76	0.91	188.75	28.60		LOWER ABO DOLOMITE
8698.34	89.615	89.723	8585.33	198.99	0.96	198.99	28.60	EOC	
8700.00†	89.615	89.723	8585.34	200.65	0.97	200.65	0.00		
8800.00†	89.615	89.723	8586.01	300.65	1.45	300.64	0.00		
8900.00†	89.615	89.723	8586.68	400.65	1.93	400.64	0.00		
9000.00†	89.615	89.723	8587.35	500.64	2.42	500.64	0.00		
9100.00†	89.615	89.723	8588.03	600.64	2.90	600.63	0.00		
9200.00†	89.615	89.723	8588.70	700.64	3.38	700.63	0.00		
9300.00†	89.615	89.723	8589.37	800.64	3.87	800.63	0.00		
9400.00†	89.615	89.723	8590.04	900.63	4.35	900.62	0.00		
9500.00†	89.615	89.723	8590.71	1000.63	4.83	1000.62	0.00		
9600.00†	89.615	89.723	8591.38	1100.63	5.31	1100.62	0.00		
9700.00†	89.615	89.723	8592.05	1200.63	5.80	1200.61	0.00		
9800.00†	89.615	89.723	8592.72	1300.62	6.28	1300.61	0.00		
9900.00†	89.615	89.723	8593.40	1400.62	6.76	1400.61	0.00		
10000.00†	89.615	89.723	8594.07	1500.62	7.24	1500.60	0.00		
10100.00†	89.615	89.723	8594.74	1600.62	7.73	1600.60	0.00		
10200.00†	89.615	89.723	8595.41	1700.62	8.21	1700.60	0.00		
10300.00†	89.615	89.723	8596.08	1800.61	8.69	1800.59	0.00		
10400.00†	89.615	89.723	8596.75	1900.61	9.18	1900.59	0.00		
10500.00†	89.615	89.723	8597.42	2000.61	9.66	2000.59	0.00		
10600.00†	89.615	89.723	8598.09	2100.61	10.14	2100.58	0.00		
10700.00†	89.615	89.723	8598.76	2200.60	10.62	2200.58	0.00		
10800.00†	89.615	89.723	8599.44	2300.60	11.11	2300.58	0.00		
10900.00†	89.615	89.723	8600.11	2400.60	11.59	2400.57	0.00		
11000.00†	89.615	89.723	8600.78	2500.60	12.07	2500.57	0.00		
11100.00†	89.615	89.723	8601.45	2600.60	12.55	2600.57	0.00		
11200.00†	89.615	89.723	8602.12	2700.59	13.04	2700.56	0.00		
11300.00†	89.615	89.723	8602.79	2800.59	13.52	2800.56	0.00		
11400.00†	89.615	89.723	8603.46	2900.59	14.00	2900.55	0.00		



# Planned Wellpath Report

Plan #1  
Page 3 of 3



INTEQ

## REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co.	Slot	No. 1 SHL
Area	Chaves County, NM	Well	No. 1
Field	(Intrepid) Sec 9 T15-S R31-E	Wellbore	No. 1 PWB
Facility	Intrepid 9 FED COM 1		

## WELLPATH DATA (58 stations) † = interpolated/extrapolated station

MD [feet]	Inclination [°]	Azimuth [°]	TVD [feet]	Vert Sect [feet]	North [feet]	East [feet]	DLS [°/100ft]	Design Comments	Path Comment
11500.00†	89.615	89.723	8604.13	3000.59	14.49	3000.55	0.00		
11600.00†	89.615	89.723	8604.81	3100.58	14.97	3100.55	0.00		
11700.00†	89.615	89.723	8605.48	3200.58	15.45	3200.54	0.00		
11800.00†	89.615	89.723	8606.15	3300.58	15.93	3300.54	0.00		
11900.00†	89.615	89.723	8606.82	3400.58	16.42	3400.54	0.00		
12000.00†	89.615	89.723	8607.49	3500.58	16.90	3500.53	0.00		
12100.00†	89.615	89.723	8608.16	3600.57	17.38	3600.53	0.00		
12200.00†	89.615	89.723	8608.83	3700.57	17.86	3700.53	0.00		
12300.00†	89.615	89.723	8609.50	3800.57	18.35	3800.52	0.00		
12400.00†	89.615	89.723	8610.17	3900.57	18.83	3900.52	0.00		
12500.00†	89.615	89.723	8610.85	4000.56	19.31	4000.52	0.00		
12600.00†	89.615	89.723	8611.52	4100.56	19.80	4100.51	0.00		
12700.00†	89.615	89.723	8612.19	4200.56	20.28	4200.51	0.00		
12800.00†	89.615	89.723	8612.86	4300.56	20.76	4300.51	0.00		
12900.00†	89.615	89.723	8613.53	4400.55	21.24	4400.50	0.00		
13000.00†	89.615	89.723	8614.20	4500.55	21.73	4500.50	0.00		
13100.00†	89.615	89.723	8614.87	4600.55	22.21	4600.50	0.00		
13119.01	89.615	89.723	8615.00†	4619.56	22.30	4619.51	0.00	No. 1 BHL	

## HOLE & CASING SECTIONS Ref Wellbore: No. 1 PWB Ref Wellpath: Plan #1

String/Diameter	Start MD [feet]	End MD [feet]	Interval [feet]	Start TVD [feet]	End TVD [feet]	Start N/S [feet]	Start E/W [feet]	End N/S [feet]	End E/W [feet]
17.5in Open Hole	0.00	340.00	340.00	0.00	340.00	0.00	0.00	0.00	0.00
13.375in Casing Surface	0.00	340.00	340.00	0.00	340.00	0.00	0.00	0.00	0.00
12.25in Open Hole	340.00	3950.00	3610.00	340.00	3950.00	0.00	0.00	0.00	0.00
9.625in Casing Intermediate	340.00	3950.00	3610.00	340.00	3950.00	0.00	0.00	0.00	0.00
8.75in Open Hole	3950.00	8300.00	4350.00	3950.00	8300.00	0.00	0.00	0.00	0.00
7in Liner	3950.00	8300.00	4350.00	3950.00	8300.00	0.00	0.00	0.00	0.00
6.125in Open Hole	8300.00	13119.01	4819.01	8300.00	NA	0.00	0.00	NA	NA

## TARGETS

Name	MD [feet]	TVD [feet]	North [feet]	East [feet]	Grid East [us survey feet]	Grid North [us survey feet]	Latitude [°]	Longitude [°]	Shape
1) No. 1 BHL	13119.01	8615.00	22.30	4619.51	657702.30	739572.80	33.01 55.515N	103 49.07.548W	point



# Cimarex Energy Co.

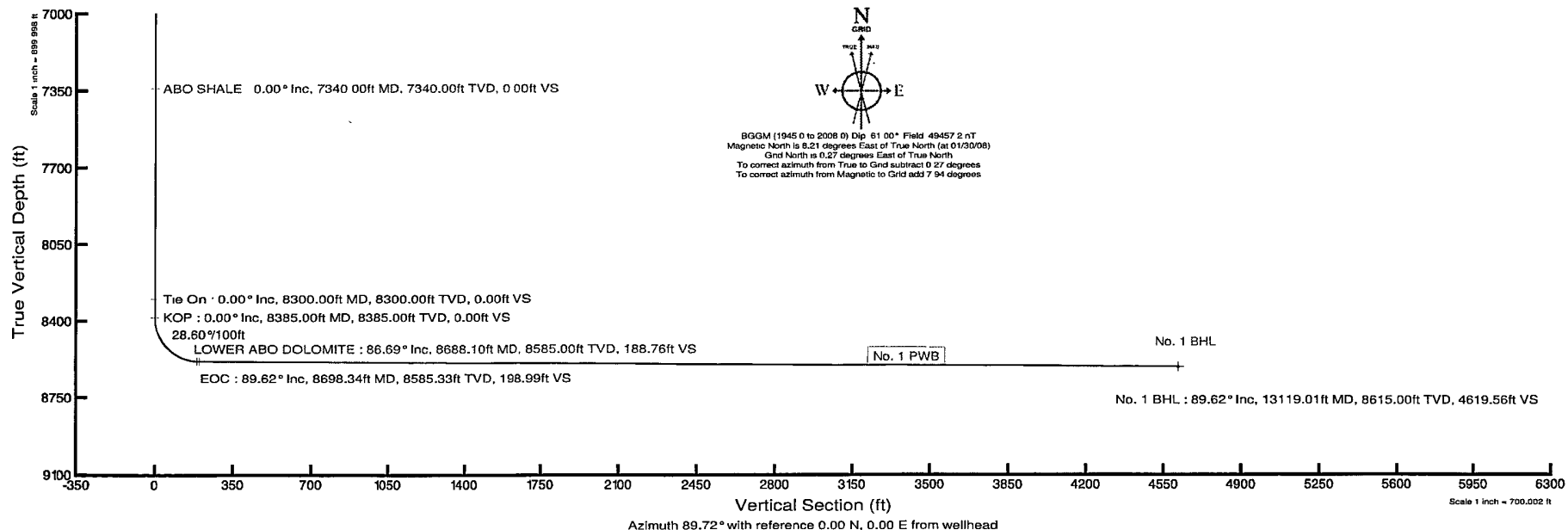
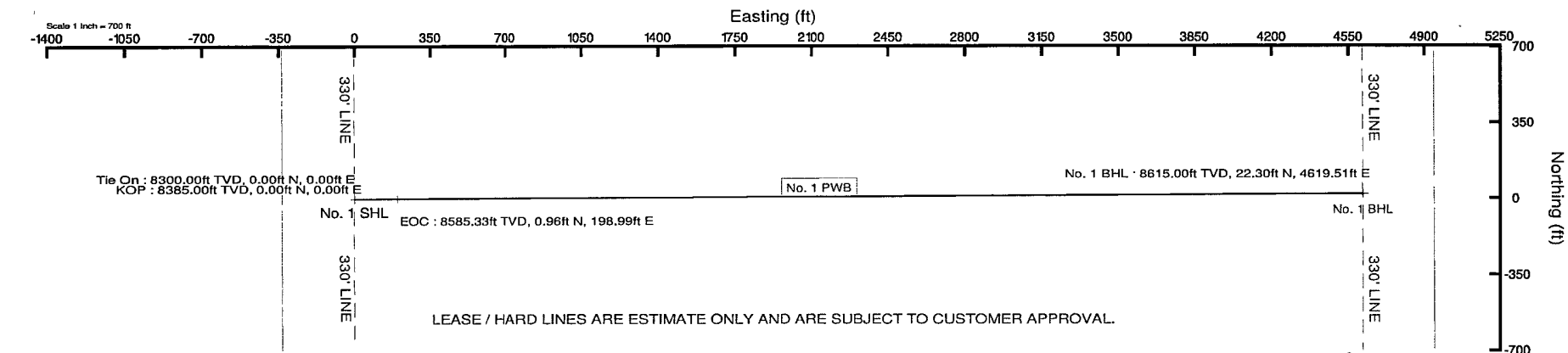
Location: Chaves County, NM  
Field: (Intrepid) Sec 9 T15-S R31-E  
Facility: Intrepid 9 FED COM 1

Slot No. 1 SHL  
Well No. 1  
Wellbore No. 1 PWB



Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8300.00	0.000	0.000	8300.00	0.00	0.00	0.00	0.00
KOP	8385.00	0.000	89.723	8385.00	0.00	0.00	0.00	0.00
EOC	8698.34	89.615	89.723	8585.33	0.96	198.99	28.60	198.99
No. 1 BHL	13119.01	89.615	89.723	8615.00	22.30	4619.51	0.00	4619.56

Plot reference wellpath is Plan #1	
True vertical depths are referenced to Rig on No. 1 SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (2011) US feet
Measured depths are referenced to Rig on No. 1 SHL (RT)	North Reference: Grid north
Rig on No. 1 SHL (RT) to GRN ELEV: 4453 feet	Scale: True distance
GRN ELEV to Mud line (Facility - Intrepid 9 FED COM 1) -4435 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 1/30/2008



# PROPOSED WELLPATH REPORT (CSV version)

Prepared by Baker Hughes INTEQ

Software System: WellArchitect™1.2

## REFERENCE WELLPATH IDENTIFICATION

Operator Cimarex Energy Co.  
Area Chaves County, NM  
Field (Intrepid) Sec 9 T15-S R31-E  
Facility Intrepid 9 FED COM 1  
Slot No. 1 SHL  
Well No. 1  
Wellbore No. 1 PWB  
Wellpath Plan #1  
Sidetrack (none)

## REPORT SETUP INFORMATION

Projection : NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet

North Refe Grid

Scale 0.999936

Wellbore L 1/30/2008

Software S WellArchitect™

User Victor Hernandez

Report Gen 01/30/08 at 15:26:08

DataBase/ WA\_Midland/ev23.xml

WELLPAT	Local North	Local East	Grid East	Grid North	Latitude	Longitude
	[ft]	[ft]	[ft]	[ft]	[°]	[°]
Slot Location	0	0	653083.1	739550.5	33 01 55.5	103 50 01.807W
Facility Ref			653083.1	739550.5	33 01 55.5	103 50 01.807W
Field Refer			653083.1	739550.5	33 01 55.5	103 50 01.807W

# WELLPATH DATUM

Calculation Minimum curvature

Horizontal Facility Center

Vertical Re Rig on No. 1 SHL (RT)

MD Refere Rig on No. 1 SHL (RT)

Field Vertic GRN. ELEV.

Rig on No. 18.00 feet

Rig on No. 4453.00 feet

Facility Ver 0.00 feet

Section Ori 0.00 feet

Section Ori 0.00 feet

Section Azi 89.72°

WELLPATH DATA Wellbore: No. 1 PWB Wellpath: Plan #1 † = interpolated/extrapolated station

	MD feet	Inclination deg	Azimuth deg	TVD feet	Vert Sect feet	North feet	East feet	DLS deg/100ft	Design Cor Path Comr Tgt#
	0	0	0	0	0	0	0	0	
†	2312	0	0	2312	0	0	0	0	YATES
†	3090	0	0	3090	0	0	0	0	QUEEN
†	3940	0	0	3940	0	0	0	0	SAN ANDRES
†	7340	0	0	7340	0	0	0	0	ABO SHALE
	8300	0	0	8300	0	0	0	0	0 Tie On
	8385	0	89.723	8385	0	0	0	0	0 KOP
†	8400	4.29	89.723	8399.99	0.56	0	0.56	28.6	
†	8500	32.89	89.723	8493.79	32.11	0.16	32.11	28.6	
†	8600	61.49	89.723	8561.04	104.71	0.51	104.71	28.6	
†	8688.1	86.687	89.723	8585	188.76	0.91	188.75	28.6	LOWER ABO DOLOMITE
	8698.34	89.615	89.723	8585.33	198.99	0.96	198.99	28.6	EOC
†	8700	89.615	89.723	8585.34	200.65	0.97	200.65	0	
†	8800	89.615	89.723	8586.01	300.65	1.45	300.64	0	
†	8900	89.615	89.723	8586.68	400.65	1.93	400.64	0	
†	9000	89.615	89.723	8587.35	500.64	2.42	500.64	0	
†	9100	89.615	89.723	8588.03	600.64	2.9	600.63	0	
†	9200	89.615	89.723	8588.7	700.64	3.38	700.63	0	
†	9300	89.615	89.723	8589.37	800.64	3.87	800.63	0	
†	9400	89.615	89.723	8590.04	900.63	4.35	900.62	0	

WELL PATH DATA Wellbore: No. 1 PWB Wellpath: Plan #1 † = interpolated/extrapolated station

	MD feet	Inclination deg	Azimuth deg	TVD feet	Vert Sect feet	North feet	East feet	DLS deg/100ft	Design Cor Path Comr Tgt#
†	9500	89.615	89.723	8590.71	1000.63	4.83	1000.62	0	
†	9600	89.615	89.723	8591.38	1100.63	5.31	1100.62	0	
†	9700	89.615	89.723	8592.05	1200.63	5.8	1200.61	0	
†	9800	89.615	89.723	8592.72	1300.62	6.28	1300.61	0	
†	9900	89.615	89.723	8593.4	1400.62	6.76	1400.61	0	
†	10000	89.615	89.723	8594.07	1500.62	7.24	1500.6	0	
†	10100	89.615	89.723	8594.74	1600.62	7.73	1600.6	0	
†	10200	89.615	89.723	8595.41	1700.62	8.21	1700.6	0	
†	10300	89.615	89.723	8596.08	1800.61	8.69	1800.59	0	
†	10400	89.615	89.723	8596.75	1900.61	9.18	1900.59	0	
†	10500	89.615	89.723	8597.42	2000.61	9.66	2000.59	0	
†	10600	89.615	89.723	8598.09	2100.61	10.14	2100.58	0	
†	10700	89.615	89.723	8598.76	2200.6	10.62	2200.58	0	
†	10800	89.615	89.723	8599.44	2300.6	11.11	2300.58	0	
†	10900	89.615	89.723	8600.11	2400.6	11.59	2400.57	0	
†	11000	89.615	89.723	8600.78	2500.6	12.07	2500.57	0	
†	11100	89.615	89.723	8601.45	2600.6	12.55	2600.57	0	
†	11200	89.615	89.723	8602.12	2700.59	13.04	2700.56	0	
†	11300	89.615	89.723	8602.79	2800.59	13.52	2800.56	0	
†	11400	89.615	89.723	8603.46	2900.59	14	2900.55	0	
†	11500	89.615	89.723	8604.13	3000.59	14.49	3000.55	0	
†	11600	89.615	89.723	8604.81	3100.58	14.97	3100.55	0	
†	11700	89.615	89.723	8605.48	3200.58	15.45	3200.54	0	
†	11800	89.615	89.723	8606.15	3300.58	15.93	3300.54	0	
†	11900	89.615	89.723	8606.82	3400.58	16.42	3400.54	0	
†	12000	89.615	89.723	8607.49	3500.58	16.9	3500.53	0	
†	12100	89.615	89.723	8608.16	3600.57	17.38	3600.53	0	
†	12200	89.615	89.723	8608.83	3700.57	17.86	3700.53	0	
†	12300	89.615	89.723	8609.5	3800.57	18.35	3800.52	0	
†	12400	89.615	89.723	8610.17	3900.57	18.83	3900.52	0	
†	12500	89.615	89.723	8610.85	4000.56	19.31	4000.52	0	
†	12600	89.615	89.723	8611.52	4100.56	19.8	4100.51	0	
†	12700	89.615	89.723	8612.19	4200.56	20.28	4200.51	0	
†	12800	89.615	89.723	8612.86	4300.56	20.76	4300.51	0	

WELL PATH DATA Wellbore: No. 1 PWB Wellpath: Plan #1 † = interpolated/extrapolated station

	MD feet	Inclination deg	Azimuth deg	TVD feet	Vert Sect feet	North feet	East feet	DLS deg/100ft	Design Cor Path Comr Tgt#
†	12900	89.615	89.723	8613.53	4400.55	21.24	4400.5	0	
†	13000	89.615	89.723	8614.2	4500.55	21.73	4500.5	0	
†	13100	89.615	89.723	8614.87	4600.55	22.21	4600.5	0	
	13119.01	89.615	89.723	8615	4619.56	22.3	4619.51	0	No. 1 BHL

1

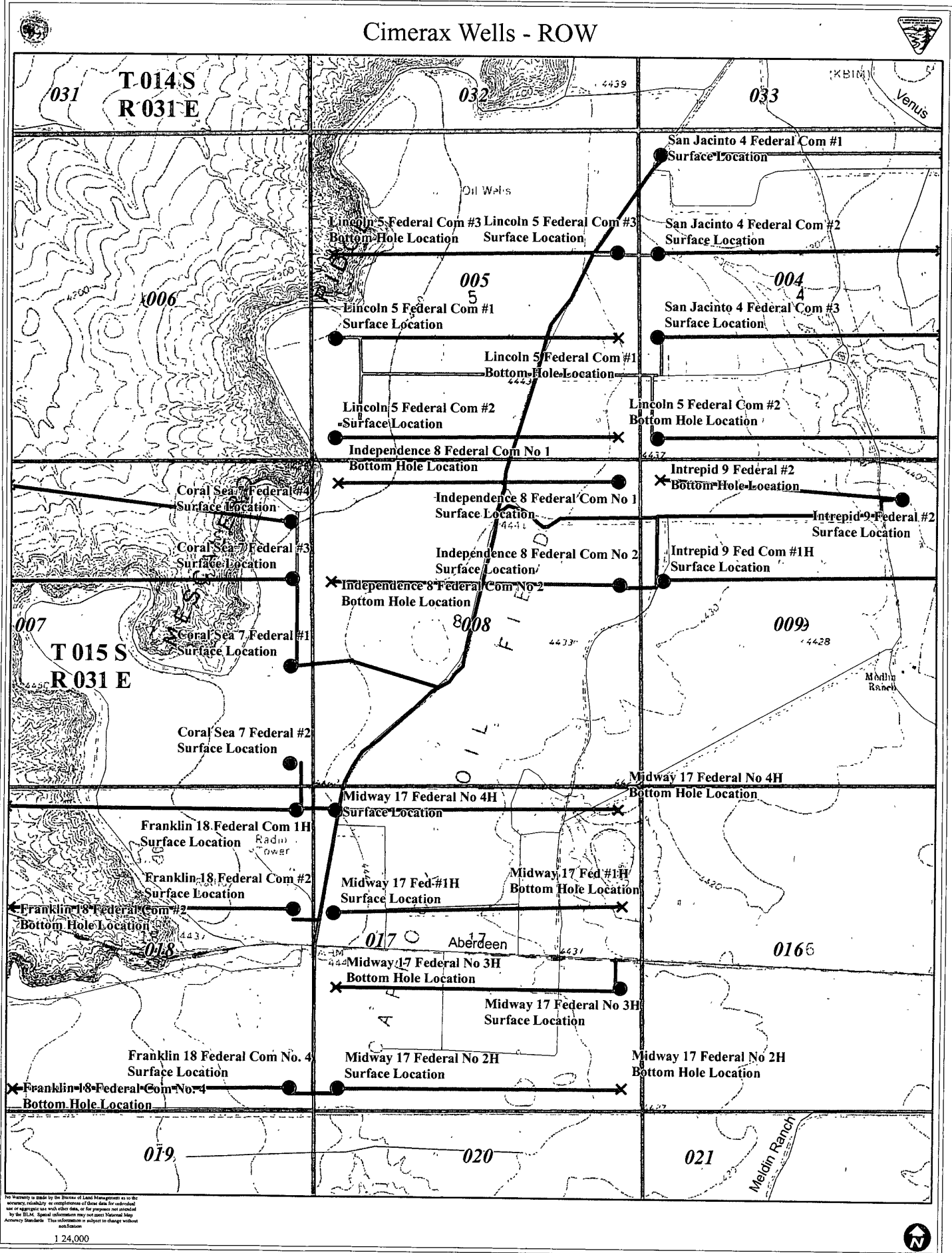
HOLE AND CASING SECTIONS Ref Wellbore: No. 1 PWB Ref Wellpath: Plan #1

String/Dian	Start MD feet	End MD feet	Interval feet	Start TVD feet	End TVD feet	Start N/S	End N/S	Start E/W	End E/W
17.5in Ope	0	340	340	0	340	0	0	0	0
13.375in C	0	340	340	0	340	0	0	0	0
12.25in Op	340	3950	3610	340	3950	0	0	0	0
9.625in Ca	340	3950	3610	340	3950	0	0	0	0
8.75in Ope	3950	8300	4350	3950	8300	0	0	0	0
7in Liner	3950	8300	4350	3950	8300	0	0	0	0
6.125in Op	8300	13119.01	4819.01	8300	NA	0	0	NA	NA

TARGETS

Name	MD feet	TVD feet	North feet	East feet	Grid East us survey f	Grid North us survey f	Latitude DegMinSec	Longitude DegMinSec	Shape	Comment	Design Comments
(1) No. 1 B	13119.01	8615	22.3	4619.51	657702.3	739572.8	33 01 55.5	103 49 07.1	point		

## Cimerax Wells - ROW





**EXHIBIT B**  
**PECOS DISTRICT - RFO**  
**CONDITIONS OF APPROVAL**

**October 31, 2008**

Intrepid 9 Fed Com #1H  
Cimarex Energy Company of Colorado  
Mineral Lease Number: NM-0153474  
Surface: 1980' FNL & 330' FWL, Sec. 9 T15S-R31E  
Bottom: 1980' FNL & 330' FEL, Sec. 9 T15S-R31E  
Chaves County, New Mexico NMPM

**GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

**I. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD (Filing of a Sundry Notice is required for this 60 day extension).

**II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

### **III. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

### **IV. CONSTRUCTION**

#### **A. NOTIFICATION:**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

#### **B. TOPSOIL:**

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil on the side of the well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction of the well pad.

#### **C. CLOSED SYSTEMS OR STEEL TANKS: No reserve pit will be used.**

Steel tanks are required for drilling operations: No Pits Allowed.

The operator shall properly dispose of drilling contents at an authorized disposal site.

#### **D. FEDERAL MINERAL MATERIALS PIT:**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

#### **E. WELL PAD SURFACING:**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need.

## **F. ON LEASE ACCESS ROADS:**

### **Road Egress and Ingress**

The access road shall be constructed to access the corner of the well pad.

### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

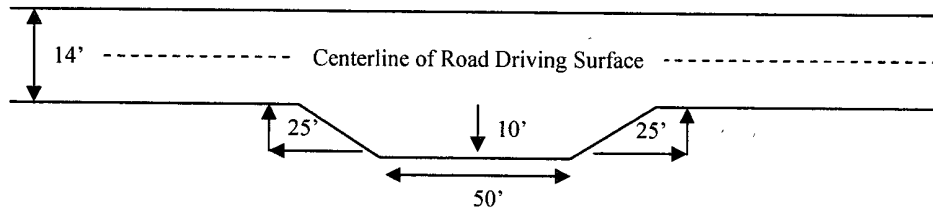
### **Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

### Standard Turnout – Plan View

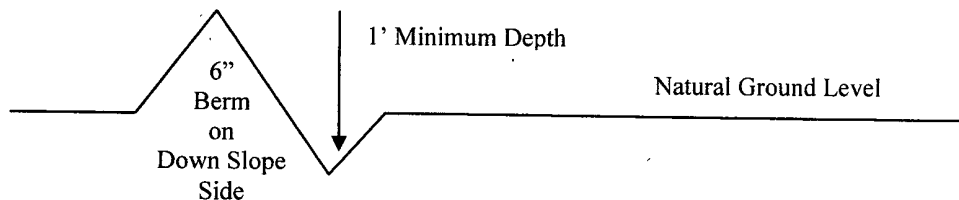


### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

### Cross Section Of Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### Formula For Spacing Interval Of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

### **Fence Requirement**

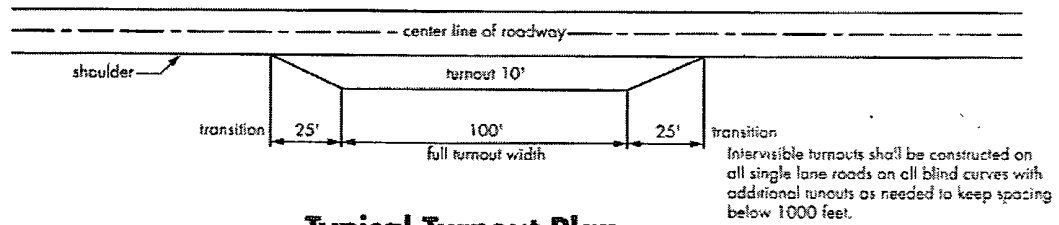
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

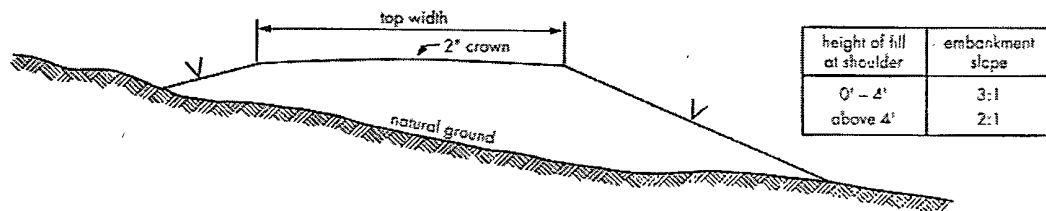
### **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

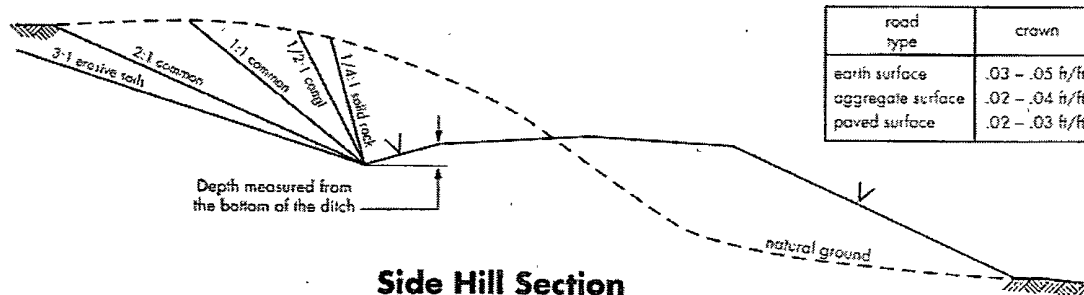
**Figure 1 – Cross Sections and Plans For Typical Road Sections**



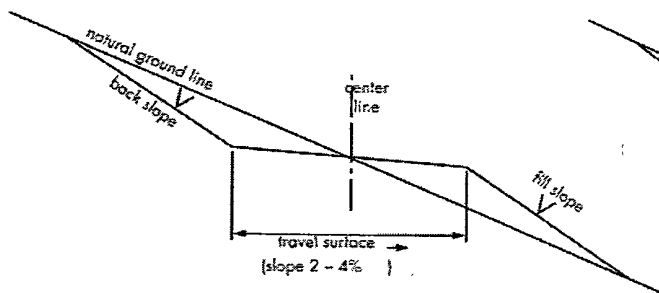
**Typical Turnout Plan**



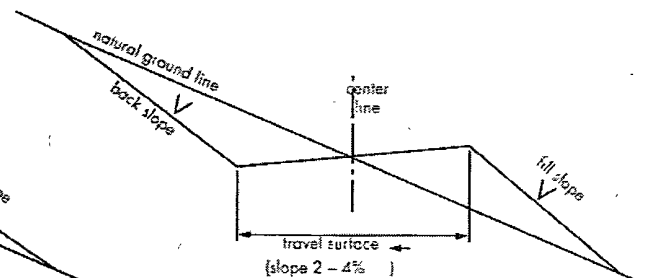
**Embankment Section**



**Side Hill Section**



**Typical Outsloped Section**



**Typical Insloped Section**

## **V. DRILLING**

### **DRILLING OPERATIONS REQUIREMENTS**

- 1 Chaves and Roosevelt Counties  
Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, 24 hours  
at  
(575) 627-0205.
2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
  - a. Spudding well
  - b. Setting and/or Cementing of all casing strings

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

#### **BOPE Tests**

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
5. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
6. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string(s). Any polymers used will be water based and non-toxic.

## **B. CASING**

1. The 13 3/8 inch usable water protection casing string(s) shall be set at approximately 340 ft. in competent bedrock.

## **VI. PRODUCTION**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, Juniper Green (Standard Environmental Color Chart June 2008).

### **VRM Facility Requirement**

Low-profile tanks not greater than eight-feet-high shall be used.

## **VII. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo "interim" reclamation in order to minimize the environmental impacts of development on other resources and uses.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, in order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing re-vegetated areas for production or work-over operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be re-vegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.



**Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2 (for Loamy HP-3)**

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama,	( <i>Bouteloua gracilis</i> )	4.00 LBS.
Sideoats grama,	( <i>Bouteloua curtipendula</i> )	1.0 LB.
Sand dropseed	( <i>Sporobolus cryptandrus</i> )	0.5 LB.
Vine mesquite	( <i>Panicum obtusum</i> )	1.0 LB.
Plains bristlegrass	( <i>Setaria macrostachya</i> )	1.0 LB.
Indian blanketflower	( <i>Gaillardia aristata</i> )	0.5 LB.
Desert or Scarlet	( <i>Sphaeralcea ambigua</i> )	1.0 LB.
Globemallow or	( <i>S. coccinea</i> )	
Annual sunflower	( <i>Helianthus annuus</i> )	<u>0.75 LB.</u>
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		9.75 LBS.

Certified Weed Free Seed. If one species is not available, increase ALL others proportionately. Use No Less than 4 species, including one forb. No less than 9.75 pounds lbs per acre shall be applied.

**VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

- a. Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.
- b. On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the Private Surface Land Owner agreements and a copy of the release is to be submitted upon abandonment.
- c. Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). A 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).
- d. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.