

Form 3160-3
(March 2012)

OCD Hobbs

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD

JUL 14 2014

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work

☒ DRILL

☐ REENTER

1b. Type of Well

☒ Oil Well

☐ Gas Well

☐ Other

☒ Single Zone

☐ Multiple Zone

2. Name of Operator

Cimarex Energy Co.

215099

3a. Address

202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

3b. Phone No. (include area code)

918-585-1100

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

At Surface 60 FNL & 660 FWL; Sec. 33-19S-34E (D)

At proposed prod. Zone 330 FNL & 660 FWL; Sec. 28-19S-34E (D) Bone Spring

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

Hobbs, NM is 25 miles northeast of location

5. Lease Serial No.

SHL: NMNM097156; BHL: NMNM0056376; Other: NMNM056263; Other: NMNM097155

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

Cordoniz 28 Fed Com 7H

713196

9. API Well No.

30-025-41965

10. Field and Pool, or Exploratory

QUAIL RIDGE, B 1, SOUTH

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

33, 19S, 34E

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)

60

16. No of acres in lease

NMNM097156=80.00 acres
NMNM056376=1282.00 acres
NMNM056263=320.00 acres
NMNM097155=40.00 acres

1281.8

17. Spacing Unit dedicated to this well

200-00
160-per plat

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

1320' to the #6H

19. Proposed Depth

Pilot Hole TD: N/A

15,609 MD

10,770 TVD

20. BLM/BIA Bond No. on File

NM2575; NMB00835

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

3685 GR

22. Approximate date work will start*

1/27/14

23. Estimated duration

35 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

Regulatory Compliance

Name (Printed/Typed)

Terri Stathem

Date

12/4/13

Title

Approved By (Signature)

Title

FIELD MANAGER

Name (Printed/Typed)

Office

CARLSBAD STEPHEN J. CAFFEY

Date

12-8-14

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 States any false, fictitious, or fraudulent

(Continued on page 2)

E-PERMITTING - - New Well Pm.

Comp P&A TA

CSNG Loc CHG

ReComp Add New Pool

Cancl Well Create Pool

willfully to make to any department or agency of the United

*(Instructions on page 2)

JUL 15 2014

Operator Certification Statement

Cordoniz 28 Fed Com 7H

Cimarex Energy Co.

UL: D, Sec. 33, 19S, 34E

Lea Co., NM

Operator's Representative

Cimarex Energy Co. of Colorado

600 N. Marienfeld St., Ste. 600

Midland, TX 79701

Office Phone: (432) 571-7800

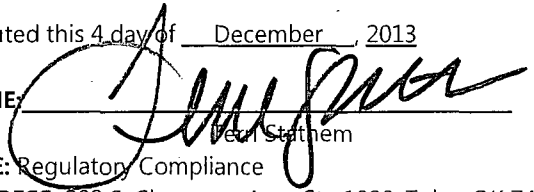
HOBBS OCD

JUL 14 2014

RECEIVED

CERTIFICATION: I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 4 day of December, 2013

NAME: 

T. Stathem

TITLE: Regulatory Compliance

ADDRESS: 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

TELEPHONE: 918-585-1100

EMAIL: TStathem@cimarex.com

Field Representative: Same as above

Application to Drill
Cordoniz 28 Fed Com 7H
 Cimarex Energy Co.
 UL: D, Sec. 33, 19S, 34E
 Lea Co., 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 60 FNL & 660 FWL; Sec. 33-19S-34E
 BHL 330 FNL & 660 FWL; Sec. 28-19S-34E
2. **Elevation Above Sea Level:** 3,685' 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:** 15,609 MD 10,770 TVD Pilot Hole TD: N/A
6. **Estimated Tops of Geological Markers:**

Formation	Est Top	Bearing
OSE Groundwater		175' N/A
Rustler		1630' N/A
Top Salt		1700' N/A
Tansill		3260' N/A
Delaware		5480' N/A
Brushy Canyon		6716' N/A
Bone Spring		8250' Hydrocarbons
1st BSS		9480' Hydrocarbons
2nd BSS		10000' Hydrocarbons
3rd BSS		10570' Hydrocarbons
Wolfcamp		10870' Hydrocarbons

7. **Possible Mineral Bearing Formation:** Shown above

7A. **OSE Ground Water Estimated Depth:**

8. **Casing Program:**

Name	Casing Depth From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft) TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Condition	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF at Full Evacuation (1.125)	Collapse SF at 1/3 Evacuation (1.125)	Burst SF (1.125)	Cumulative Air Weight	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface	0	1660	1660	17 1/2	13-3/8"	54.50	J-55	ST&C	New	716	8.3	1.58		3.82	90,470	79,006	6.51
Intermediate	0	5450	5450	12 1/4	9-5/8"	40.00	J-55	LT&C	New	2834	10.0		1.38	1.39	218,000	184,718	2.82
Production	0	10333	10333	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4835	9.0	1.30		1.60	183,090	157,933	2.14
Production	10333	15609	10770	8 3/4	5-1/2"	17.00	L-80	BT&C	New	5040	9.0	1.25		1.54	7,429	6,408	61.95

Note: Operator may drill a 8-1/2" OH from end of curve to TD of the well. This is to reduce the need to ream the conventionally drilled curve to run a RSS assembly into the lateral.

Application to Drill
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 Cimarex Energy Co.
 UL: D, Sec. 33, 19S, 34E
 Lea Co., NM

8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.30 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.30 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Intermediate	Tension	A 1.8 design factor with effects of buoyancy: 10.00 ppg.
	Collapse	A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Production and/or Completion System	Tension	A 1.8 design factor with effects of buoyancy: 9.00 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

9. Cementing Program:

Casing Type	Type	Sacks	Yield	Weight	Cubic Feet	Cement Blend
Surface	Lead	1055	1.75	13.50	1845	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	215	1.34	14.80	288	Class C + LCM, 6.32 gps water
	TOC: 0	85% Excess		Centralizers per Onshore Order 2.III.B.1f		
Intermediate	Lead	1207	1.88	12.90	2268	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	292	1.34	14.80	391	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	81% Excess				
Production	Lead	598	2.40	11.90	1435	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1471	1.24	14.50	1824	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 5250	25% Excess		No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.		

Cement volumes will be adjusted depending on hole size

9a. Proposed Drilling Plan:

Pilot Hole TD: No Pilot KOP: 10,333' EOC: 11,087'

Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

10. Pressure Control Equipment:

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed 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 and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 1500 high on the intermediate casing.

Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

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Cordoniz 28 Fed Com 7H
Cimarex Energy Co.
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See COA
11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1660'	11.80	8.30 28	NC	FW Spud Mud
1660' to 5450'	5.600	10.00 30-32	NC	Brine Water
5450' to 15609'		9.00 30-32	NC	FW/Cut 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.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12. Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 5450 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / GR -- Inter. Csg to TD
CNL / GR -- Surf to Inter. Csg
- C. No DSTs or cores are planned at this time
- D. CBL w/ CCL from as far as gravity will let it fall to TOC

13. Potential Hazards: *See COA*

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S 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: 4847 psi

Estimated BHT: 166°

14. Construction and Drilling:

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

Drilling expected to take: 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:

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

OSE Groundwater pay will be perforated and stimulated.

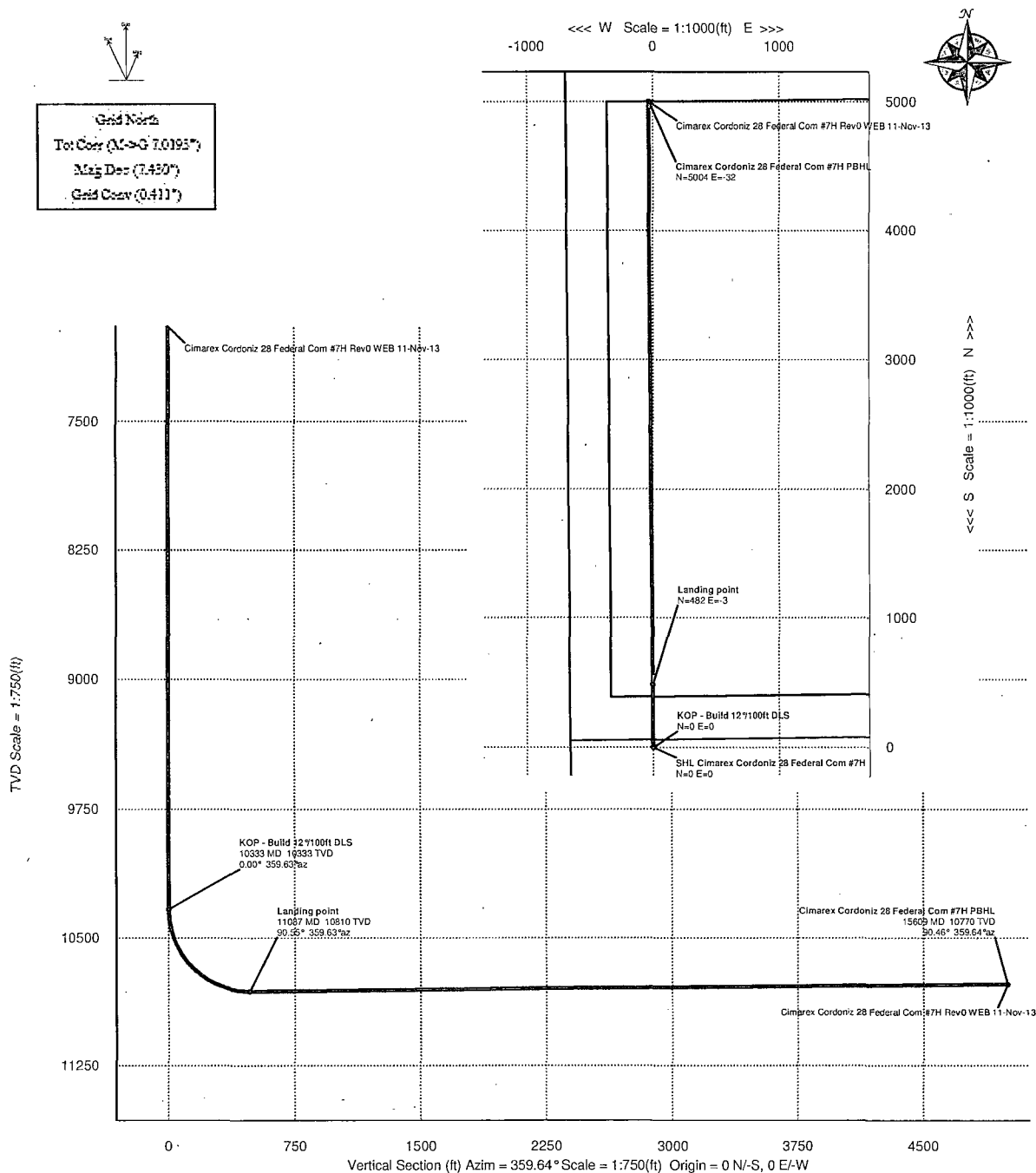
The proposed well will be tested and potentialized as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL	Cordoniz 28 Federal Com #7H		FIELD	NM Lea County		STRUCTURE	TBD	
Map/Well Parameters	MD: BOGM 2013	Dip: 60.487°	Date: November 11, 2013	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Miscellaneous	Slot: Cimarex Cordoniz 28 Federal Com #7H	Ground level: 3685ft above MSL
	Mag Dec: 7.430°	PG: 48921, 3rd		Lat: N 32 37 25.702	Northing: 591511.70 IUS		Plan: Rev0 WEB 11-Nov-13	Srv Date: November 11, 2013
				Lon: W 103 34 18.115	Easting: 775625.50 IUS			
					Grid Conv: 0.411"			
					Scale Fact: 0.99997266			



Critical Points

Critical Point MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL Cimarex Cordoniz 28 Federal Com #7H	0.00	0.00	359.64	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	10332.50	0.00	359.64	10332.50	0.00	0.00	0.00
Landing point	11087.22	90.55	359.64	10810.00	482.15	482.14	-3.07
Cimarex Cordoniz 28 Federal Com #7H PBHL	15609.10	90.46	359.64	10770.00	5003.85	5003.75	-31.80



Cimarex Cordoniz 28 Federal Com #7H Rev0 WEB 11-Nov-13 Proposal
Report 100' Interpolated
(Non-Def Plan)



Report Date: November 11, 2013 - 05:59 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex Cordoniz 28 Federal Com #7H
Well: Cimarex Cordoniz 28 Federal Com #7H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Cordoniz 28 Federal Com #7H Rev0 WEB 11-Nov-13
Survey Date: November 11, 2013
Tort / AHD / DDI / ERD Ratio: 90.651 ° / 5003.851 ft / 5.816 / 0.463
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 37' 25.70150", W 103° 34' 18.11539"
Location Grid N/E Y/X: N 591511.700 RUS, E 775825.600 ftUS
CRS Grid Convergence Angle: 0.4106 °
Grid Scale Factor: 0.99997206

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 359.636 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3685.000 ft above MSL
Seabed / Ground Elevation: 3685.000 ft above MSL
Magnetic Declination: 7.430 °
Total Gravity Field Strength: 998.4937mgn (9.80665 Based)
Total Magnetic Field Strength: 48601.283 nT
Magnetic Dip Angle: 60.487 °
Declination Date: November 11, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.4106 °
Total Corr Mag North->Grid North: 7.0193 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
SHL Cimarex Cordoniz 28 Federal Com #7H	0.00	0.00	359.64	0.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	N/A
	100.00	0.00	359.64	100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	200.00	0.00	359.64	200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	300.00	0.00	359.64	300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	400.00	0.00	359.64	400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	500.00	0.00	359.64	500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	600.00	0.00	359.64	600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	700.00	0.00	359.64	700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	800.00	0.00	359.64	800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	900.00	0.00	359.64	900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1000.00	0.00	359.64	1000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1100.00	0.00	359.64	1100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1200.00	0.00	359.64	1200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1300.00	0.00	359.64	1300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1400.00	0.00	359.64	1400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1500.00	0.00	359.64	1500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1600.00	0.00	359.64	1600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1700.00	0.00	359.64	1700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1800.00	0.00	359.64	1800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	1900.00	0.00	359.64	1900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2000.00	0.00	359.64	2000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2100.00	0.00	359.64	2100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2200.00	0.00	359.64	2200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2300.00	0.00	359.64	2300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2400.00	0.00	359.64	2400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2500.00	0.00	359.64	2500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2600.00	0.00	359.64	2600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2700.00	0.00	359.64	2700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	2800.00	0.00	359.64	2800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	2900.00	0.00	359.64	2900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3000.00	0.00	359.64	3000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3100.00	0.00	359.64	3100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3200.00	0.00	359.64	3200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3300.00	0.00	359.64	3300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3400.00	0.00	359.64	3400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3500.00	0.00	359.64	3500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3600.00	0.00	359.64	3600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3700.00	0.00	359.64	3700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3800.00	0.00	359.64	3800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	3900.00	0.00	359.64	3900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4000.00	0.00	359.64	4000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4100.00	0.00	359.64	4100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4200.00	0.00	359.64	4200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4300.00	0.00	359.64	4300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4400.00	0.00	359.64	4400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4500.00	0.00	359.64	4500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4600.00	0.00	359.64	4600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4700.00	0.00	359.64	4700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4800.00	0.00	359.64	4800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	4900.00	0.00	359.64	4900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5000.00	0.00	359.64	5000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5100.00	0.00	359.64	5100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5200.00	0.00	359.64	5200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5300.00	0.00	359.64	5300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5400.00	0.00	359.64	5400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5500.00	0.00	359.64	5500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5600.00	0.00	359.64	5600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5700.00	0.00	359.64	5700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5800.00	0.00	359.64	5800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	5900.00	0.00	359.64	5900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6000.00	0.00	359.64	6000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6100.00	0.00	359.64	6100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6200.00	0.00	359.64	6200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6300.00	0.00	359.64	6300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6400.00	0.00	359.64	6400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6500.00	0.00	359.64	6500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6600.00	0.00	359.64	6600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6700.00	0.00	359.64	6700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6800.00	0.00	359.64	6800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	6900.00	0.00	359.64	6900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7000.00	0.00	359.64	7000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7100.00	0.00	359.64	7100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7200.00	0.00	359.64	7200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7300.00	0.00	359.64	7300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7400.00	0.00	359.64	7400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7500.00	0.00	359.64	7500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7600.00	0.00	359.64	7600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7700.00	0.00	359.64	7700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7800.00	0.00	359.64	7800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	7900.00	0.00	359.64	7900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8000.00	0.00	359.64	8000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8100.00	0.00	359.64	8100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8200.00	0.00	359.64	8200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	8300.00	0.00	359.64	8300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8400.00	0.00	359.64	8400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8500.00	0.00	359.64	8500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8600.00	0.00	359.64	8600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8700.00	0.00	359.64	8700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8800.00	0.00	359.64	8800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	8900.00	0.00	359.64	8900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9000.00	0.00	359.64	9000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9100.00	0.00	359.64	9100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9200.00	0.00	359.64	9200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9300.00	0.00	359.64	9300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9400.00	0.00	359.64	9400.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9500.00	0.00	359.64	9500.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9600.00	0.00	359.64	9600.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9700.00	0.00	359.64	9700.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9800.00	0.00	359.64	9800.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	9900.00	0.00	359.64	9900.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	10000.00	0.00	359.64	10000.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	10100.00	0.00	359.64	10100.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	10200.00	0.00	359.64	10200.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	10300.00	0.00	359.64	10300.00	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
KOP - Build 12"/100ft DLS	10332.50	0.00	359.64	10332.50	0.00	0.00	0.00	591511.70	775825.60	N 32 37 25.70	W 103 34 18.12	0.00	0.00	0.00
	10400.00	8.10	359.64	10399.78	4.76	4.76	-0.03	591516.46	775825.57	N 32 37 25.75	W 103 34 18.12	4.76	359.64	12.00
	10500.00	20.10	359.64	10496.59	29.08	29.08	-0.19	591540.78	775825.41	N 32 37 25.99	W 103 34 18.12	29.08	359.64	12.00
	10600.00	32.10	359.64	10586.23	72.99	72.98	-0.46	591584.68	775825.14	N 32 37 26.42	W 103 34 18.11	72.99	359.64	12.00
	10700.00	44.09	359.64	10664.78	134.57	134.57	-0.86	591646.26	775824.74	N 32 37 27.03	W 103 34 18.11	134.57	359.64	12.00
	10800.00	56.09	359.64	10728.82	211.14	211.14	-1.35	591722.83	775824.25	N 32 37 27.79	W 103 34 18.11	211.14	359.64	12.00
	10900.00	68.09	359.64	10775.54	299.35	299.34	-1.91	591811.03	775823.69	N 32 37 28.86	W 103 34 18.11	299.35	359.64	12.00
	11000.00	80.09	359.64	10802.90	395.34	395.34	-2.52	591907.02	775823.08	N 32 37 29.61	W 103 34 18.11	395.34	359.64	12.00
Landing point	11087.22	90.55	359.64	10810.00	482.15	482.14	-3.07	591993.82	775822.53	N 32 37 30.47	W 103 34 18.11	482.15	359.64	12.00
	11100.00	90.55	359.64	10809.88	494.93	494.92	-3.15	592006.61	775822.45	N 32 37 30.60	W 103 34 18.11	494.93	359.64	0.00
	11200.00	90.55	359.64	10808.91	594.93	594.91	-3.79	592106.60	775821.81	N 32 37 31.59	W 103 34 18.11	594.93	359.64	0.00
	11300.00	90.55	359.64	10807.95	694.92	694.91	-4.43	592206.59	775821.17	N 32 37 32.58	W 103 34 18.11	694.92	359.64	0.00
	11400.00	90.55	359.64	10806.99	794.92	794.90	-5.06	592306.58	775820.54	N 32 37 33.57	W 103 34 18.11	794.92	359.64	0.00
	11500.00	90.55	359.64	10806.03	894.91	894.89	-5.70	592406.57	775819.90	N 32 37 34.56	W 103 34 18.11	894.91	359.64	0.00
	11600.00	90.54	359.64	10805.08	994.91	994.89	-6.34	592506.56	775819.26	N 32 37 35.55	W 103 34 18.11	994.91	359.64	0.00
	11700.00	90.54	359.64	10804.14	1094.90	1094.88	-6.97	592606.55	775818.63	N 32 37 36.54	W 103 34 18.11	1094.90	359.64	0.00
	11800.00	90.54	359.64	10803.19	1194.90	1194.88	-7.61	592706.54	775817.99	N 32 37 37.52	W 103 34 18.10	1194.90	359.64	0.00
	11900.00	90.54	359.64	10802.25	1294.89	1294.87	-8.25	592806.53	775817.35	N 32 37 38.51	W 103 34 18.10	1294.89	359.64	0.00
	12000.00	90.54	359.64	10801.31	1394.89	1394.86	-8.88	592906.52	775816.72	N 32 37 39.50	W 103 34 18.10	1394.89	359.64	0.00
	12100.00	90.53	359.64	10800.38	1494.89	1494.86	-9.52	593006.51	775816.08	N 32 37 40.49	W 103 34 18.10	1494.89	359.64	0.00
	12200.00	90.53	359.64	10799.45	1594.88	1594.85	-10.16	593106.50	775815.44	N 32 37 41.48	W 103 34 18.10	1594.88	359.64	0.00
	12300.00	90.53	359.64	10798.53	1694.88	1694.84	-10.79	593206.49	775814.81	N 32 37 42.47	W 103 34 18.10	1694.88	359.64	0.00
	12400.00	90.53	359.64	10797.61	1794.87	1794.84	-11.43	593306.48	775814.17	N 32 37 43.46	W 103 34 18.10	1794.87	359.64	0.00
	12500.00	90.52	359.64	10796.69	1894.87	1894.83	-12.06	593406.47	775813.54	N 32 37 44.45	W 103 34 18.10	1894.87	359.64	0.00
	12600.00	90.52	359.64	10795.77	1994.86	1994.82	-12.70	593506.46	775812.90	N 32 37 45.44	W 103 34 18.10	1994.86	359.64	0.00
	12700.00	90.52	359.64	10794.86	2094.86	2094.82	-13.34	593606.46	775812.26	N 32 37 46.43	W 103 34 18.10	2094.86	359.64	0.00
	12800.00	90.52	359.64	10793.96	2194.86	2194.81	-13.97	593706.45	775811.63	N 32 37 47.42	W 103 34 18.09	2194.86	359.64	0.00
	12900.00	90.52	359.64	10793.05	2294.85	2294.81	-14.61	593806.44	775810.99	N 32 37 48.41	W 103 34 18.09	2294.85	359.64	0.00
	13000.00	90.51	359.64	10792.15	2394.85	2394.80	-15.24	593906.43	775810.36	N 32 37 49.40	W 103 34 18.09	2394.85	359.64	0.00
	13100.00	90.51	359.64	10791.26	2494.84	2494.79	-15.88	594006.42	775809.72	N 32 37 50.39	W 103 34 18.09	2494.84	359.64	0.00
	13200.00	90.51	359.64	10790.37	2594.84	2594.79	-16.51	594106.41	775809.09	N 32 37 51.38	W 103 34 18.09	2594.84	359.64	0.00
	13300.00	90.51	359.64	10789.48	2694.84	2694.78	-17.15	594206.40	775808.45	N 32 37 52.37	W 103 34 18.09	2694.84	359.64	0.00
	13400.00	90.51	359.64	10788.59	2794.83	2794.78	-17.78	594306.39	775807.82	N 32 37 53.35	W 103 34 18.09	2794.83	359.64	0.00

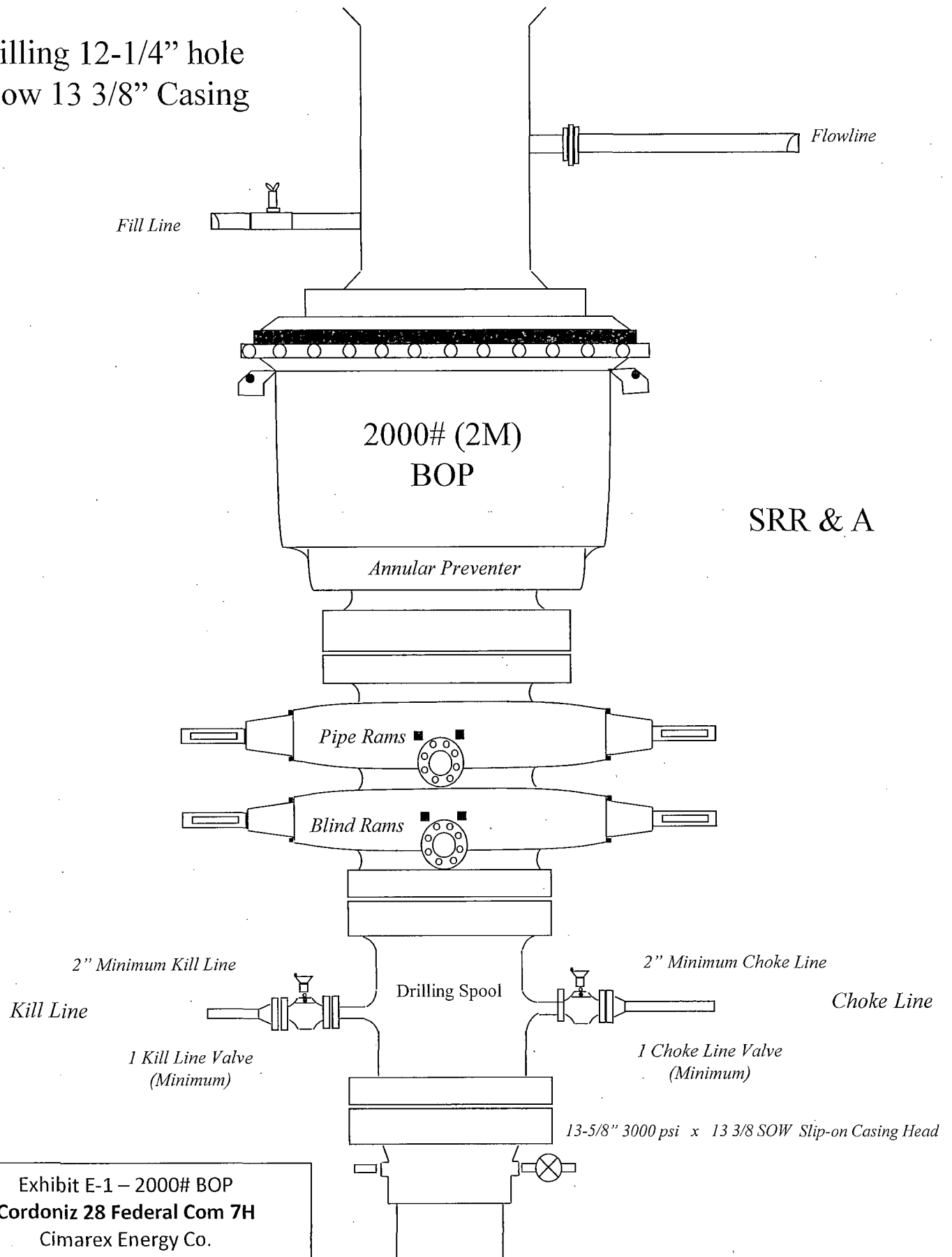
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	13500.00	90.50	359.64	10787.71	2894.83	2894.77	-18.42	594406.38	775807.18	N 32 37 54.34	W 103 34 18.09	2894.83	359.64	0.00
	13600.00	90.50	359.64	10786.84	2994.83	2994.76	-19.05	594506.37	775806.55	N 32 37 55.33	W 103 34 18.09	2994.83	359.64	0.00
	13700.00	90.50	359.64	10785.96	3094.82	3094.76	-19.69	594606.37	775805.91	N 32 37 56.32	W 103 34 18.09	3094.82	359.64	0.00
	13800.00	90.50	359.64	10785.09	3194.82	3194.75	-20.33	594706.36	775805.28	N 32 37 57.31	W 103 34 18.09	3194.82	359.64	0.00
	13900.00	90.50	359.64	10784.23	3294.81	3294.75	-20.96	594806.35	775804.64	N 32 37 58.30	W 103 34 18.08	3294.81	359.64	0.00
	14000.00	90.49	359.64	10783.36	3394.81	3394.74	-21.59	594906.34	775804.01	N 32 37 59.29	W 103 34 18.08	3394.81	359.64	0.00
	14100.00	90.49	359.64	10782.51	3494.81	3494.74	-22.23	595006.33	775803.37	N 32 38 0.28	W 103 34 18.08	3494.81	359.64	0.00
	14200.00	90.49	359.64	10781.65	3594.80	3594.73	-22.86	595106.32	775802.74	N 32 38 1.27	W 103 34 18.08	3594.80	359.64	0.00
	14300.00	90.49	359.64	10780.80	3694.80	3694.72	-23.50	595206.31	775802.10	N 32 38 2.26	W 103 34 18.08	3694.80	359.64	0.00
	14400.00	90.48	359.64	10779.95	3794.80	3794.72	-24.13	595306.31	775801.47	N 32 38 3.25	W 103 34 18.08	3794.80	359.64	0.00
	14500.00	90.48	359.64	10779.11	3894.79	3894.71	-24.77	595406.30	775800.83	N 32 38 4.24	W 103 34 18.08	3894.79	359.64	0.00
	14600.00	90.48	359.64	10778.27	3994.79	3994.71	-25.40	595506.29	775800.20	N 32 38 5.23	W 103 34 18.08	3994.79	359.64	0.00
	14700.00	90.48	359.64	10777.43	4094.78	4094.70	-26.04	595606.28	775799.56	N 32 38 6.22	W 103 34 18.08	4094.78	359.64	0.00
	14800.00	90.48	359.64	10776.60	4194.78	4194.70	-26.67	595706.27	775798.93	N 32 38 7.21	W 103 34 18.08	4194.78	359.64	0.00
	14900.00	90.47	359.64	10775.77	4294.78	4294.69	-27.31	595806.26	775798.30	N 32 38 8.20	W 103 34 18.07	4294.78	359.64	0.00
	15000.00	90.47	359.64	10774.95	4394.77	4394.69	-27.94	595906.25	775797.66	N 32 38 9.19	W 103 34 18.07	4394.77	359.64	0.00
	15100.00	90.47	359.64	10774.12	4494.77	4494.68	-28.57	596006.25	775797.03	N 32 38 10.18	W 103 34 18.07	4494.77	359.64	0.00
	15200.00	90.47	359.64	10773.31	4594.77	4594.67	-29.21	596106.24	775796.39	N 32 38 11.16	W 103 34 18.07	4594.77	359.64	0.00
	15300.00	90.47	359.64	10772.49	4694.76	4694.67	-29.84	596206.23	775795.76	N 32 38 12.15	W 103 34 18.07	4694.76	359.64	0.00
	15400.00	90.46	359.64	10771.68	4794.76	4794.66	-30.48	596306.22	775795.13	N 32 38 13.14	W 103 34 18.07	4794.76	359.64	0.00
	15500.00	90.46	359.64	10770.88	4894.76	4894.66	-31.11	596406.21	775794.49	N 32 38 14.13	W 103 34 18.07	4894.76	359.64	0.00
	15600.00	90.46	359.64	10770.07	4994.75	4994.65	-31.74	596506.20	775793.86	N 32 38 15.12	W 103 34 18.07	4994.75	359.64	0.00
Cimarex Cordoniz 28 Federal Com #7H PBHL	15609.10	90.46	359.64	10770.00	5003.85	5003.75	-31.80	596515.30	775793.80	N 32 38 15.21	W 103 34 18.07	5003.85	359.64	0.00

Survey Type: Non-Def Plan

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

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	10332.500	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Cordoniz 28 Federal Com #7H
	10332.500	15609.096	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Cordoniz 28 Federal Com #7H

Drilling 12-1/4" hole
below 13 3/8" Casing



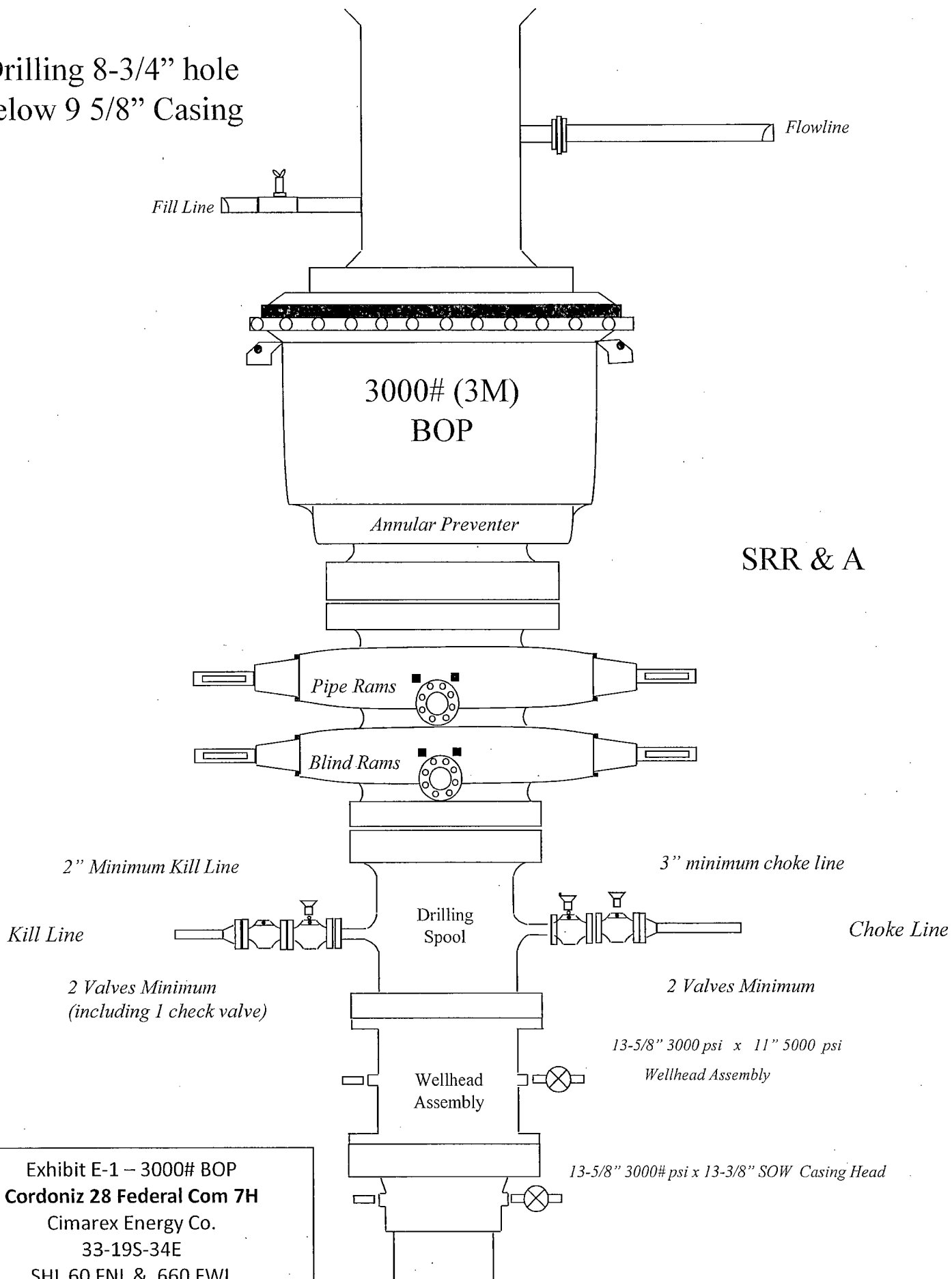
SRR & A

Exhibit E-1 – 2000# BOP
Cordoniz 28 Federal Com 7H

Cimarex Energy Co.
33-19S-34E

SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

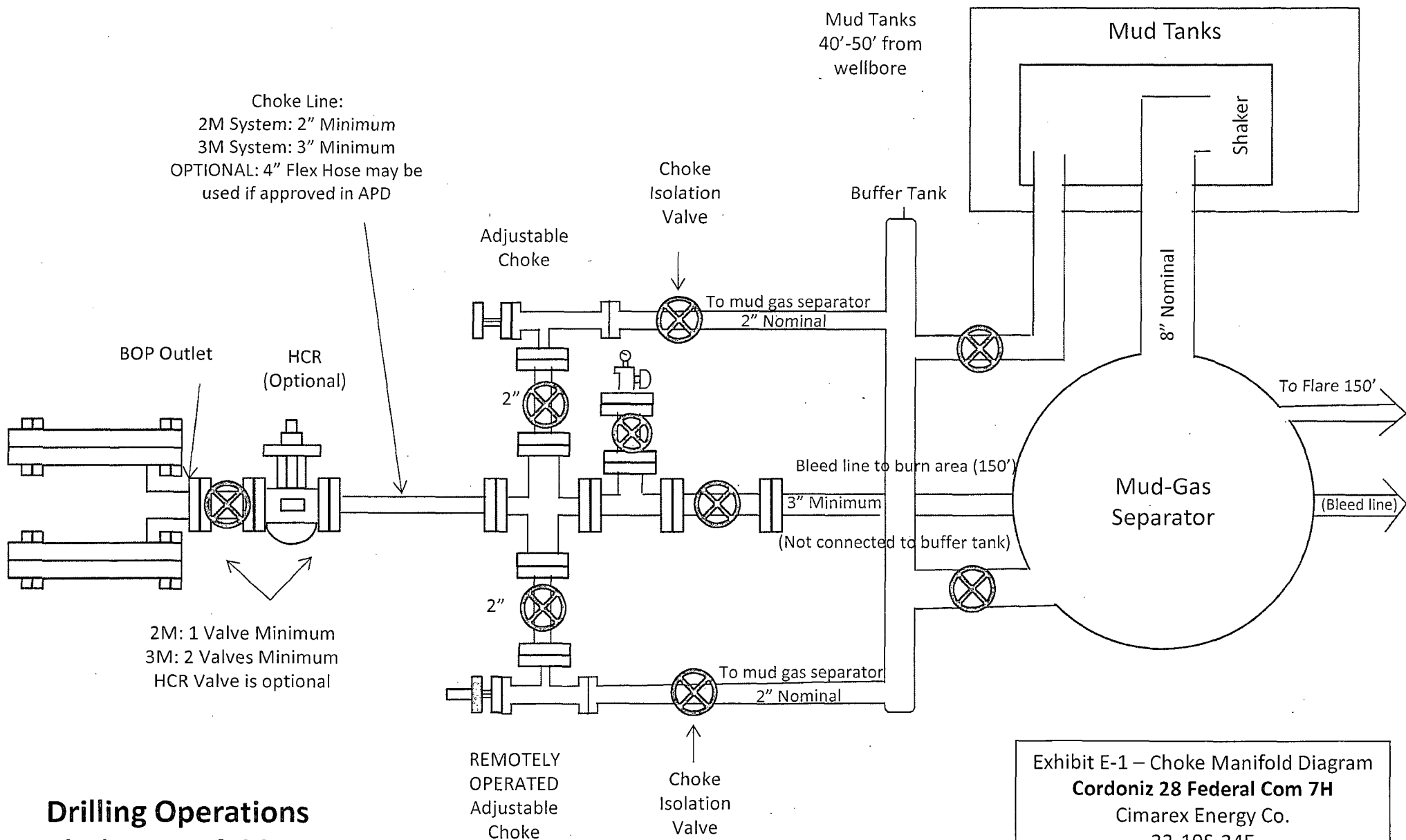
Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
Cordoniz 28 Federal Com 7H
Cimarex Energy Co.
33-19S-34E
SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

Choke Line:
 2M System: 2" Minimum
 3M System: 3" Minimum
 OPTIONAL: 4" Flex Hose may be
 used if approved in APD



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Cordoniz 28 Federal Com 7H
 Cimarex Energy Co.
 33-19S-34E
 SHL 60 FNL & 660 FWL
 BHL 330 FNL & 660 FWL
 Lea County, NM

Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Cordoniz 28 Federal Com 7H

Cimarex Energy Co.

33-19S-34E

SHL 60 FNL & 660 FWL

BHL 330 FNL & 660 FWL

Lea County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:		P.O. Number:	
Oderco Inc		odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE	
10,000 PSI	15,000 PSI	0 PSI	
COUPLINGS			
Stem Part No.		Ferrule No.	
OKC OKC		OKC OKC	
Type of Coupling:			
Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE		ACTUAL BURST PRESSURE:	
15 MIN.		0 PSI	
Hose Assembly Serial Number:		Hose Serial Number:	
79793		OKC	
Comments:			
Date:	Tested:	Approved:	
3/8/2011	<i>A. James</i>	<i>Kevin</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type

C & K

L.D.

4"

Working Pressure

10000 PSI

Length

45'

O.D.

6.09"

Burst Pressure

Standard Safety Multiplier Applies

Verification

Type of Fitting

4 1/16 10K

Die Size

6.38"

Hose Serial #

5544

Coupling Method

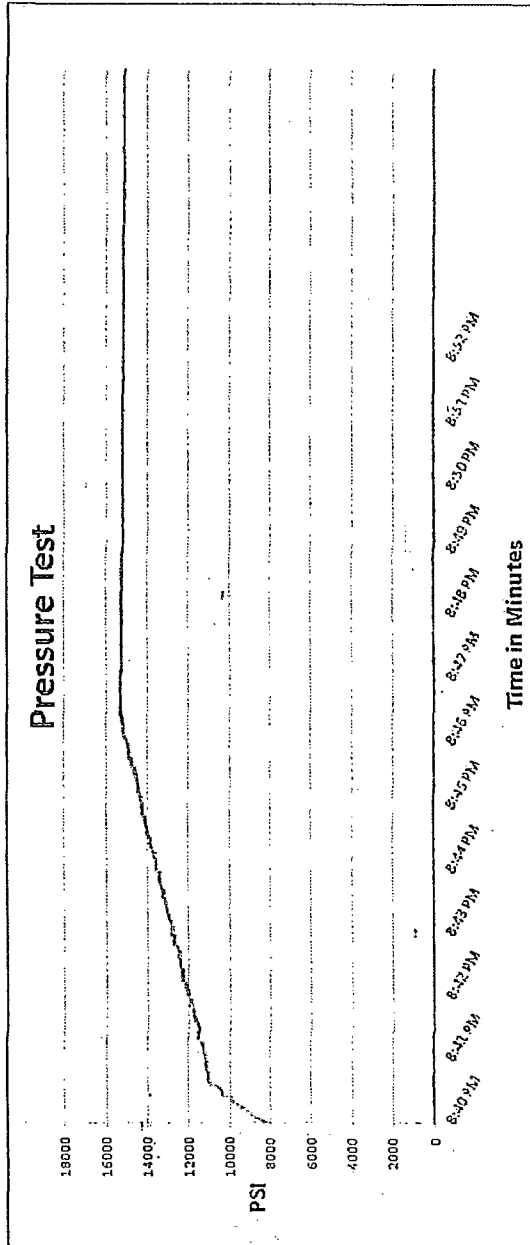
Swage

Final O.D.

6.25"

Hose Assembly Serial #

79793



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure

Peak Pressure
15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Cordoniz 28 Federal Com 7H
Cimarex Energy Co.
33-19S-34E
SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

Exhibit F-2 - Co-Flex Hose
Cordoniz 28 Federal Com 7H

Cimarex Energy Co.
33-19S-34E

SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM

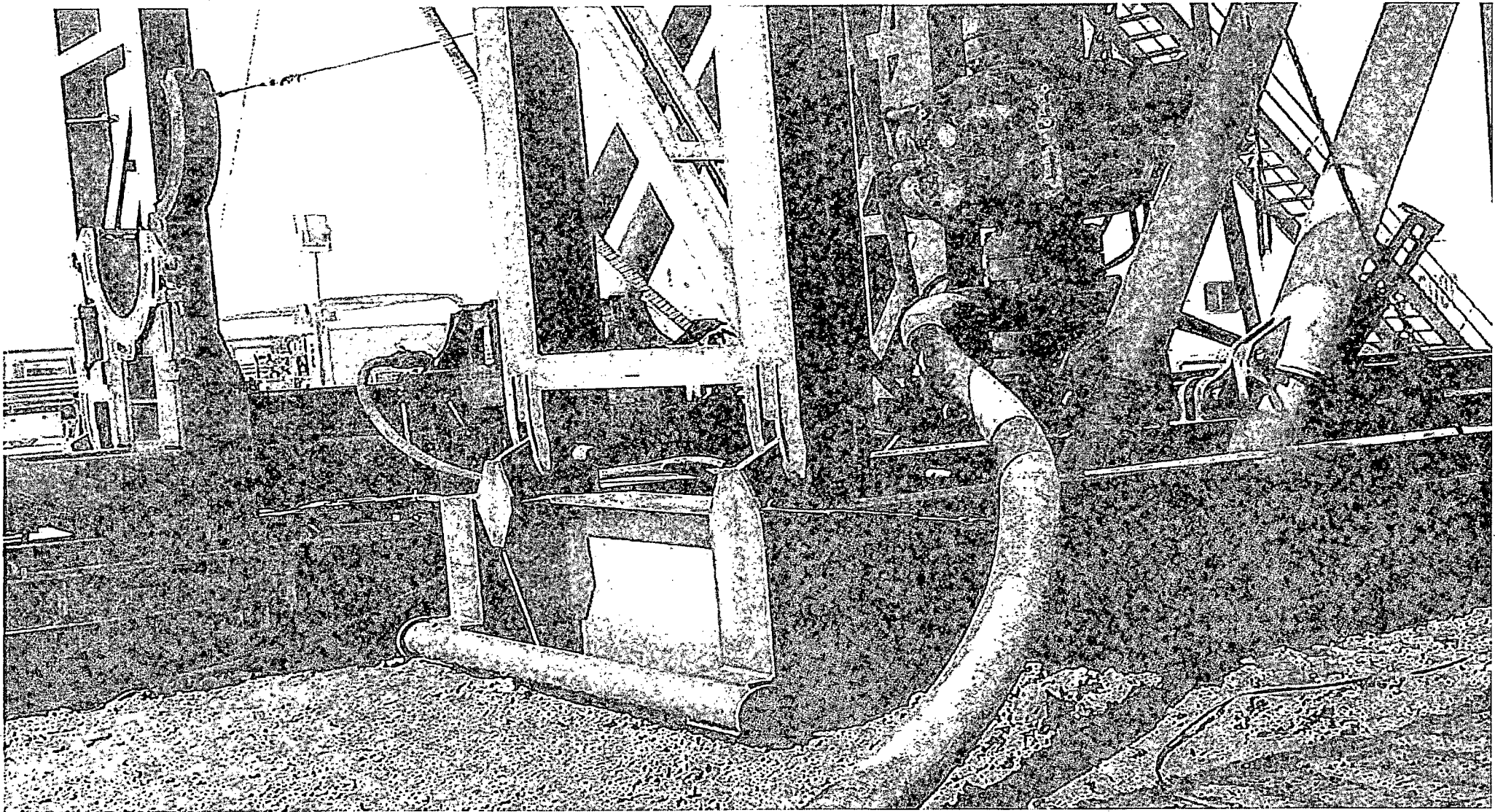


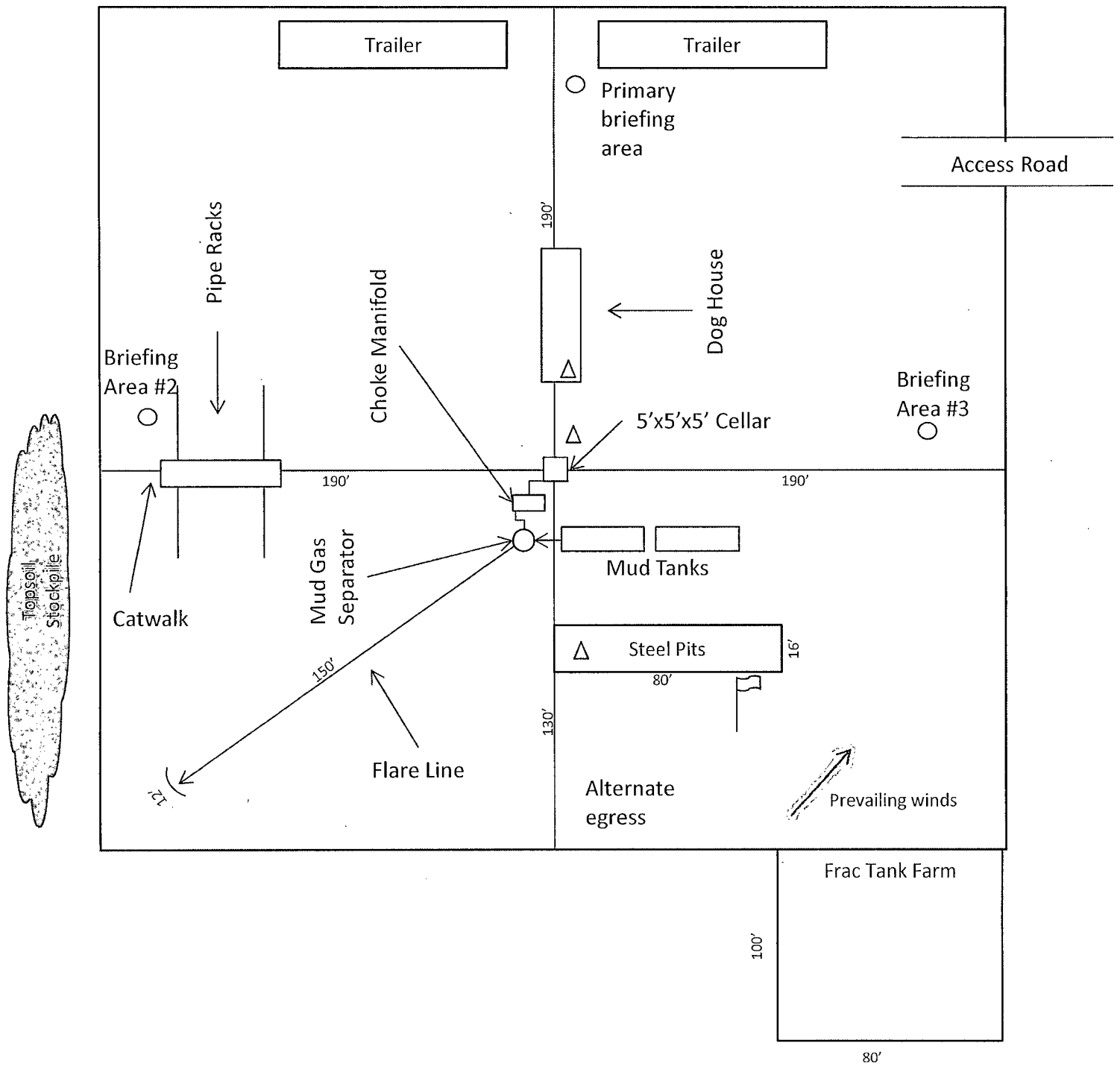
Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041		
Comments:		
Approved:		Date:
<i>David Garcia</i>		3/8/2011

Exhibit F – Co-Flex Hose
Cordoniz 28 Federal Com 7H
Cimarex Energy Co.
33-19S-34E
SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM





Wind Direction Indicators
(wind sock or streamers)



- H2S Monitors
(alarms at bell nipple and shale shaker)



Briefing Areas

N



Exhibit D – Rig Diagram
Cordoniz 28 Federal Com 7H
Cimarex Energy Co.
33-19S-34E
SHL 60 FNL & 660 FWL
BHL 330 FNL & 660 FWL
Lea County, NM