

ATS-14-273

HOBBS OCD

JUL 14 2014

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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

5. Lease Serial No.
SHL: NMNM057285; BHL: NMNM056263

6. If Indian, Allottee or Tribe Name

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.

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

8. Lease Name and Well No.
Cordoniz 28 Fed Com 5H (313196)

3a. Address
202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

3b. Phone No. (include area code)
918-585-1100

9. API Well No.

30-025-41963

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

At Surface 350 FSL & 2220 FEL (0)
At proposed prod. Zone 330 FNL & 1980 FEL (B)

10. Field and Pool. or Exploratory
QUAL RIDGE, AS, SOUTH

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

28, 19S, 34E

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

Hobbs, NM is 25 miles to the northeast of location

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)

350

16. No of acres in lease
NMNM057285=1280.00 acres
NMNM056263=320.00 acres

17. Spacing Unit dedicated to this well

160.00

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

1080' to the #6H

19. Proposed Depth
Pilot Hole TD: N/A
15,203 MD 10,770 TVD

20. BLM/BIA Bond No. on File

NM2575; NMB000835

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

3697 GR

22. Approximate date work will start*

1/13/14

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:

- Well plat certified by a registered surveyor
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator Certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Name (Printed/Typed)

Terri Stathem

Date

12/4/13

Title

Regulatory Compliance

Steve Canney

Approved By (Signature)

Name (Printed/Typed)

Office CARLSBAD FIELD OFFICE

Date

JUN - 9 2014

Title

FIELD MANAGER

Application approval does not warrant or certify conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. States any false, fictitious, or fraudulent statement

(Continued on page 2)

Capitan Controlled Water

E-PERMITTING -- New Well P.M.
Comp P&A TA
CSNG Loc CHG
ReComp Add New Pool
Cancl Well Create Pool

ject lease which would entitle the applicant to

APPROVAL FOR TWO YEARS

to make to any department or agency of the United

*(Instructions on page 2)

SEE ATTACHED FOR

CONDITIONS OF APPROVAL

JUL 15 2014

Approval Subject to General Requirements
& Special Stipulations Attached

Operator Certification Statement

Cordoniz 28 Fed Com 5H

Cimarex Energy Co.

UL: O, Sec. 28, 19S, 34E

Lea Co., NM

HOBBS OCD

JUL 14 2014

RECEIVED

Operator's Representative

Cimarex Energy Co. of Colorado

600 N. Marienfeld St., Ste. 600

Midland, TX 79701

Office Phone: (432) 571-7800

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:

Terri Statthem

TITLE: Regulatory Compliance

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

TELEPHONE: 918-585-1100

EMAIL: TStatthem@cimarex.com

Field Representative: Same as above

Application to Drill
Cordoniz 28 Fed Com 5H
 Cimarex Energy Co.
 UL: O, Sec. 28, 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 350 FSL & 2220 FEL
 BHL 330 FNL & 1980 FEL
2. **Elevation Above Sea Level:** 3,697' 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:** 15,203 MD 10,770 TVD Pilot Hole TD: N/A
6. **Estimated Tops of Geological Markers:**

Formation	Est Top	Bearing
Rustler	1630	N/A
Top Salt	1700	N/A
Tansill	3260	N/A
Delaware	5480	N/A
Cherry Canyon	5640	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

Bell / Cherry → Delaware is group

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

7A. **OSE Ground Water Estimated Depth:** 175'

8. **Casing Program:**

See COA

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 1750	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	15203	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
Cordoniz 28 Fed Com 5H
 Cimarex Energy Co.
 UL: O, Sec. 28, 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 Production 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	1368	1.24	14.50	1696	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.

See COA

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.

Application to Drill
Cordoniz 28 Fed Com 5H
Cimarex Energy Co.
UL: O, Sec. 28, 19S, 34E
Lea Co., NM

See COA

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1660'	17.50	8.30-28	NC	FW Spud Mud
1660' to 5450'	10.00	30-32	NC	Brine Water
5450' to 15203'	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

See COA

13. Potential Hazards:

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough 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.

Bone Spring pay will be perforated and stimulated.

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

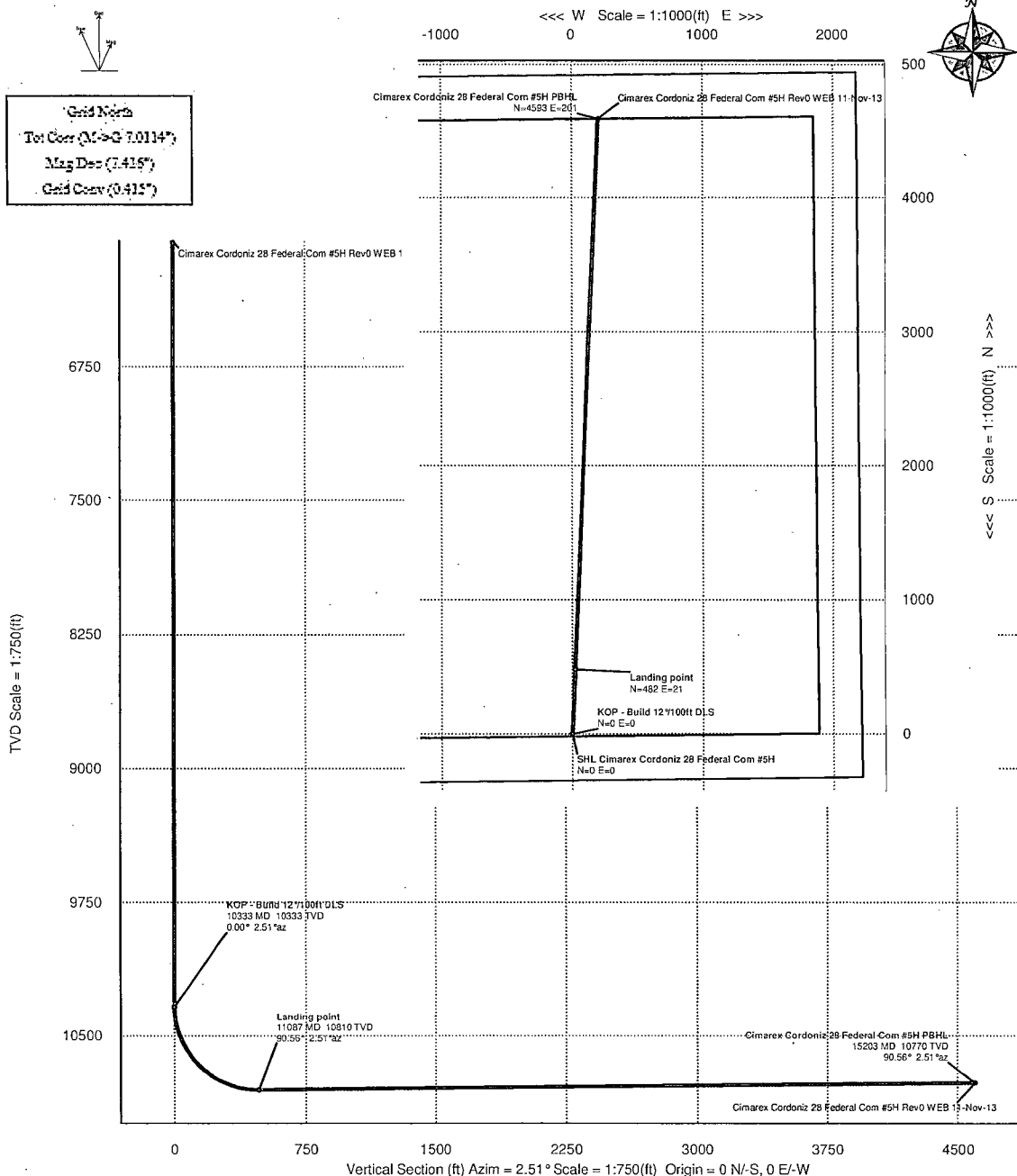
See COA



Cimarex

PATHFINDER
A Schlumberger Company

WELL	Cordoniz 28 Federal Com #5H	FIELD	NM Lea County	STRUCTURE	TBD
Magnetic Parameters	Dip: 60.490° Mag Dec: 7.436°	Date: November 11, 2013 FS: 49602.8mT	Surface Location Lat: N 31 37 29.855 Lon: W 103 33 49.843	NAD83 New Mexico State Plane, Eastern Zone, US Feet Northing: 591048.90 MJS Easting: 776503.50 MJS Grid Conv: 0.415" Scale Fact: 0.99997236	Miscellaneous Sit: Cimarex Cordoniz 28 Federal Com #5H Plot: Prod WEB 11-Nov-13 Srv Date: November 11, 2013 Ground level (5687ft above MSL)



Critical Points								
Critical Point MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS	
SHL Cimarex Cordoniz 28 Federal Com #5H	0.00	0.00	2.51	0.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	10332.50	0.00	2.51	10332.50	0.00	0.00	0.00	0.00
Landing point	11087.22	90.56	2.51	10810.00	482.15	481.69	21.09	12.00
Cimarex Cordoniz 28 Federal Com #5H PBHL	15202.59	90.56	2.51	10770.00	4597.33	4592.93	201.11	0.00



Cimarex Cordoniz 28 Federal Com #5H Rev0 WEB 11-Nov-13 Proposal
Report 100' Interpolated
(Non-Def Plan)



Report Date: November 11, 2013 - 05:15 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex Cordoniz 28 Federal Com #5H
Well: Cimarex Cordoniz 28 Federal Com #5H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Cordoniz 28 Federal Com #5H Rev0 WEB 11-Nov-13
Survey Date: November 11, 2013
Tort / AHD / DDI / ERD Ratio: 90.559 ° / 4597.332 ft / 5.768 / 0.425
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 37' 29.85526", W 103° 33' 49.84297"
Location Grid N/E Y/X: N 591948.900 ftUS, E 778240.500 ftUS
CRS Grid Convergence Angle: 0.4149 °
Grid Scale Factor: 0.99997336

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 2.507 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3697.000 ft above MSL
Seabed / Ground Elevation: 3697.000 ft above MSL
Magnetic Declination: 7.426 °
Total Gravity Field Strength: 998.4926mgm (9.80665 Based)
Total Magnetic Field Strength: 48602.843 nT
Magnetic Dip Angle: 60.490 °
Declination Date: November 11, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.4149 °
Total Corr Mag North->Grid North: 7.0114 °
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 #5H	0.00	0.00	2.51	0.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	N/A
	100.00	0.00	2.51	100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	200.00	0.00	2.51	200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	300.00	0.00	2.51	300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	400.00	0.00	2.51	400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	500.00	0.00	2.51	500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	600.00	0.00	2.51	600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	700.00	0.00	2.51	700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	800.00	0.00	2.51	800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	900.00	0.00	2.51	900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1000.00	0.00	2.51	1000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1100.00	0.00	2.51	1100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1200.00	0.00	2.51	1200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1300.00	0.00	2.51	1300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1400.00	0.00	2.51	1400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1500.00	0.00	2.51	1500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1600.00	0.00	2.51	1600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1700.00	0.00	2.51	1700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1800.00	0.00	2.51	1800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	1900.00	0.00	2.51	1900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2000.00	0.00	2.51	2000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2100.00	0.00	2.51	2100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2200.00	0.00	2.51	2200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2300.00	0.00	2.51	2300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2400.00	0.00	2.51	2400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2500.00	0.00	2.51	2500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2600.00	0.00	2.51	2600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2700.00	0.00	2.51	2700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	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	2.51	2800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	2900.00	0.00	2.51	2900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3000.00	0.00	2.51	3000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3100.00	0.00	2.51	3100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3200.00	0.00	2.51	3200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3300.00	0.00	2.51	3300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3400.00	0.00	2.51	3400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3500.00	0.00	2.51	3500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3600.00	0.00	2.51	3600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3700.00	0.00	2.51	3700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3800.00	0.00	2.51	3800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	3900.00	0.00	2.51	3900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4000.00	0.00	2.51	4000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4100.00	0.00	2.51	4100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4200.00	0.00	2.51	4200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4300.00	0.00	2.51	4300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4400.00	0.00	2.51	4400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4500.00	0.00	2.51	4500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4600.00	0.00	2.51	4600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4700.00	0.00	2.51	4700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4800.00	0.00	2.51	4800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	4900.00	0.00	2.51	4900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5000.00	0.00	2.51	5000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5100.00	0.00	2.51	5100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5200.00	0.00	2.51	5200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5300.00	0.00	2.51	5300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5400.00	0.00	2.51	5400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5500.00	0.00	2.51	5500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5600.00	0.00	2.51	5600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5700.00	0.00	2.51	5700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5800.00	0.00	2.51	5800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	5900.00	0.00	2.51	5900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6000.00	0.00	2.51	6000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6100.00	0.00	2.51	6100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6200.00	0.00	2.51	6200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6300.00	0.00	2.51	6300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6400.00	0.00	2.51	6400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6500.00	0.00	2.51	6500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6600.00	0.00	2.51	6600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6700.00	0.00	2.51	6700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6800.00	0.00	2.51	6800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	6900.00	0.00	2.51	6900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7000.00	0.00	2.51	7000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7100.00	0.00	2.51	7100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7200.00	0.00	2.51	7200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7300.00	0.00	2.51	7300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7400.00	0.00	2.51	7400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7500.00	0.00	2.51	7500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7600.00	0.00	2.51	7600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7700.00	0.00	2.51	7700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7800.00	0.00	2.51	7800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	7900.00	0.00	2.51	7900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8000.00	0.00	2.51	8000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8100.00	0.00	2.51	8100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8200.00	0.00	2.51	8200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	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	2.51	8300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8400.00	0.00	2.51	8400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8500.00	0.00	2.51	8500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8600.00	0.00	2.51	8600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8700.00	0.00	2.51	8700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8800.00	0.00	2.51	8800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	8900.00	0.00	2.51	8900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9000.00	0.00	2.51	9000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9100.00	0.00	2.51	9100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9200.00	0.00	2.51	9200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9300.00	0.00	2.51	9300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9400.00	0.00	2.51	9400.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9500.00	0.00	2.51	9500.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9600.00	0.00	2.51	9600.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9700.00	0.00	2.51	9700.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9800.00	0.00	2.51	9800.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	9900.00	0.00	2.51	9900.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	10000.00	0.00	2.51	10000.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	10100.00	0.00	2.51	10100.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	10200.00	0.00	2.51	10200.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	10300.00	0.00	2.51	10300.00	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
KOP - Build 12"/100ft DLS	10332.50	0.00	2.51	10332.50	0.00	0.00	0.00	591948.90	778240.50	N 32 37 29.86	W 103 33 49.84	0.00	0.00	0.00
	10400.00	8.10	2.51	10399.78	4.76	4.76	0.21	591953.66	778240.71	N 32 37 29.90	W 103 33 49.84	4.76	2.51	12.00
	10500.00	20.10	2.51	10496.59	29.08	29.05	1.27	591977.95	778241.77	N 32 37 30.14	W 103 33 49.83	29.08	2.51	12.00
	10600.00	32.10	2.51	10586.23	72.99	72.92	3.19	592021.81	778243.69	N 32 37 30.58	W 103 33 49.80	72.99	2.51	12.00
	10700.00	44.09	2.51	10664.78	134.57	134.44	5.89	592083.34	778246.39	N 32 37 31.19	W 103 33 49.76	134.57	2.51	12.00
	10800.00	56.09	2.51	10728.82	211.14	210.94	9.24	592159.83	778249.74	N 32 37 31.94	W 103 33 49.72	211.14	2.51	12.00
	10900.00	68.09	2.51	10775.54	299.35	299.06	13.09	592247.95	778253.59	N 32 37 32.81	W 103 33 49.66	299.35	2.51	12.00
	11000.00	80.09	2.51	10802.90	395.34	394.96	17.29	592343.85	778257.79	N 32 37 33.76	W 103 33 49.61	395.34	2.51	12.00
	11087.22	90.56	2.51	10810.00	482.15	481.69	21.09	592430.57	778261.59	N 32 37 34.62	W 103 33 49.56	482.15	2.51	12.00
	11100.00	90.56	2.51	10809.88	494.93	494.46	21.65	592443.34	778262.15	N 32 37 34.75	W 103 33 49.55	494.93	2.51	0.00
	11200.00	90.56	2.51	10808.91	594.93	594.36	26.02	592543.24	778266.52	N 32 37 35.73	W 103 33 49.49	594.93	2.51	0.00
	11300.00	90.56	2.51	10807.94	694.92	694.26	30.40	592643.14	778270.90	N 32 37 36.72	W 103 33 49.43	694.92	2.51	0.00
	11400.00	90.56	2.51	10806.97	794.92	794.16	34.77	592743.03	778275.27	N 32 37 37.71	W 103 33 49.37	794.92	2.51	0.00
	11500.00	90.56	2.51	10806.00	894.91	894.06	39.14	592842.93	778279.64	N 32 37 38.70	W 103 33 49.31	894.91	2.51	0.00
	11600.00	90.56	2.51	10805.03	994.91	993.96	43.52	592942.83	778284.02	N 32 37 39.69	W 103 33 49.25	994.91	2.51	0.00
	11700.00	90.56	2.51	10804.06	1094.90	1093.86	47.89	593042.72	778288.39	N 32 37 40.67	W 103 33 49.19	1094.90	2.51	0.00
	11800.00	90.56	2.51	10803.09	1194.90	1193.75	52.27	593142.62	778292.77	N 32 37 41.66	W 103 33 49.13	1194.90	2.51	0.00
	11900.00	90.56	2.51	10802.12	1294.89	1293.65	56.64	593242.52	778297.14	N 32 37 42.65	W 103 33 49.07	1294.89	2.51	0.00
	12000.00	90.56	2.51	10801.15	1394.89	1393.55	61.02	593342.41	778301.51	N 32 37 43.64	W 103 33 49.01	1394.89	2.51	0.00
	12100.00	90.56	2.51	10800.18	1494.88	1493.45	65.39	593442.31	778305.89	N 32 37 44.63	W 103 33 48.95	1494.88	2.51	0.00
	12200.00	90.56	2.51	10799.21	1594.88	1593.35	69.76	593542.21	778310.26	N 32 37 45.62	W 103 33 48.89	1594.88	2.51	0.00
	12300.00	90.56	2.51	10798.24	1694.87	1693.25	74.14	593642.10	778314.64	N 32 37 46.60	W 103 33 48.83	1694.87	2.51	0.00
	12400.00	90.56	2.51	10797.27	1794.87	1793.15	78.51	593742.00	778319.01	N 32 37 47.59	W 103 33 48.77	1794.87	2.51	0.00
	12500.00	90.56	2.51	10796.30	1894.87	1893.05	82.89	593841.90	778323.38	N 32 37 48.58	W 103 33 48.71	1894.87	2.51	0.00
	12600.00	90.56	2.51	10795.33	1994.86	1992.95	87.26	593941.79	778327.76	N 32 37 49.57	W 103 33 48.65	1994.86	2.51	0.00
	12700.00	90.56	2.51	10794.36	2094.86	2092.85	91.63	594041.69	778332.13	N 32 37 50.56	W 103 33 48.59	2094.86	2.51	0.00
	12800.00	90.56	2.51	10793.39	2194.85	2192.75	96.01	594141.59	778336.51	N 32 37 51.54	W 103 33 48.53	2194.85	2.51	0.00
	12900.00	90.56	2.51	10792.41	2294.85	2292.65	100.38	594241.48	778340.88	N 32 37 52.53	W 103 33 48.48	2294.85	2.51	0.00
	13000.00	90.56	2.51	10791.44	2394.84	2392.55	104.76	594341.38	778345.25	N 32 37 53.52	W 103 33 48.42	2394.84	2.51	0.00
	13100.00	90.56	2.51	10790.47	2494.84	2492.45	109.13	594441.28	778349.63	N 32 37 54.51	W 103 33 48.36	2494.84	2.51	0.00
	13200.00	90.56	2.51	10789.50	2594.83	2592.35	113.50	594541.17	778354.00	N 32 37 55.50	W 103 33 48.30	2594.83	2.51	0.00
	13300.00	90.56	2.51	10788.53	2694.83	2692.25	117.88	594641.07	778358.38	N 32 37 56.48	W 103 33 48.24	2694.83	2.51	0.00
	13400.00	90.56	2.51	10787.55	2794.82	2792.15	122.25	594740.97	778362.75	N 32 37 57.47	W 103 33 48.18	2794.82	2.51	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	90.56	2.51	10786.58	2894.82	2892.05	126.63	594840.86	778367.12	N 32 37 58.46	W 103 33 48.12	2894.82	2.51	0.00
	13600.00	90.56	2.51	10785.61	2994.81	2991.95	131.00	594940.76	778371.50	N 32 37 59.45	W 103 33 48.06	2994.81	2.51	0.00
	13700.00	90.56	2.51	10784.64	3094.81	3091.85	135.38	595040.66	778375.87	N 32 38 0.44	W 103 33 48.00	3094.81	2.51	0.00
	13800.00	90.56	2.51	10783.66	3194.80	3191.75	139.75	595140.55	778380.25	N 32 38 1.43	W 103 33 47.94	3194.80	2.51	0.00
	13900.00	90.56	2.51	10782.69	3294.80	3291.65	144.12	595240.45	778384.62	N 32 38 2.41	W 103 33 47.88	3294.80	2.51	0.00
	14000.00	90.56	2.51	10781.72	3394.79	3391.55	148.50	595340.35	778388.99	N 32 38 3.40	W 103 33 47.82	3394.79	2.51	0.00
	14100.00	90.56	2.51	10780.74	3494.79	3491.44	152.87	595440.24	778393.37	N 32 38 4.39	W 103 33 47.76	3494.79	2.51	0.00
	14200.00	90.56	2.51	10779.77	3594.79	3591.34	157.25	595540.14	778397.74	N 32 38 5.38	W 103 33 47.70	3594.79	2.51	0.00
	14300.00	90.56	2.51	10778.80	3694.78	3691.24	161.62	595640.04	778402.12	N 32 38 6.37	W 103 33 47.64	3694.78	2.51	0.00
	14400.00	90.56	2.51	10777.82	3794.78	3791.14	166.00	595739.93	778406.49	N 32 38 7.35	W 103 33 47.58	3794.78	2.51	0.00
	14500.00	90.56	2.51	10776.85	3894.77	3891.04	170.37	595839.83	778410.87	N 32 38 8.34	W 103 33 47.52	3894.77	2.51	0.00
	14600.00	90.56	2.51	10775.87	3994.77	3990.94	174.75	595939.73	778415.24	N 32 38 9.33	W 103 33 47.46	3994.77	2.51	0.00
	14700.00	90.56	2.51	10774.90	4094.76	4090.84	179.12	596039.62	778419.61	N 32 38 10.32	W 103 33 47.40	4094.76	2.51	0.00
	14800.00	90.56	2.51	10773.93	4194.76	4190.74	183.49	596139.52	778423.99	N 32 38 11.31	W 103 33 47.34	4194.76	2.51	0.00
	14900.00	90.56	2.51	10772.95	4294.75	4290.64	187.87	596239.42	778428.36	N 32 38 12.29	W 103 33 47.28	4294.75	2.51	0.00
	15000.00	90.56	2.51	10771.98	4394.75	4390.54	192.24	596339.31	778432.74	N 32 38 13.28	W 103 33 47.22	4394.75	2.51	0.00
	15100.00	90.56	2.51	10771.00	4494.74	4490.44	196.62	596439.21	778437.11	N 32 38 14.27	W 103 33 47.16	4494.74	2.51	0.00
	15200.00	90.56	2.51	10770.03	4594.74	4590.34	200.99	596539.11	778441.49	N 32 38 15.26	W 103 33 47.10	4594.74	2.51	0.00
Cimarex Cordoniz 28 Federal Com #5H PBHL	15202.59	90.56	2.51	10770.00	4597.33	4592.93	201.11	596541.70	778441.60	N 32 38 15.28	W 103 33 47.10	4597.33	2.51	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 #5H
	10332.500	15202.595	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Cordoniz 28 Federal Com #5H

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

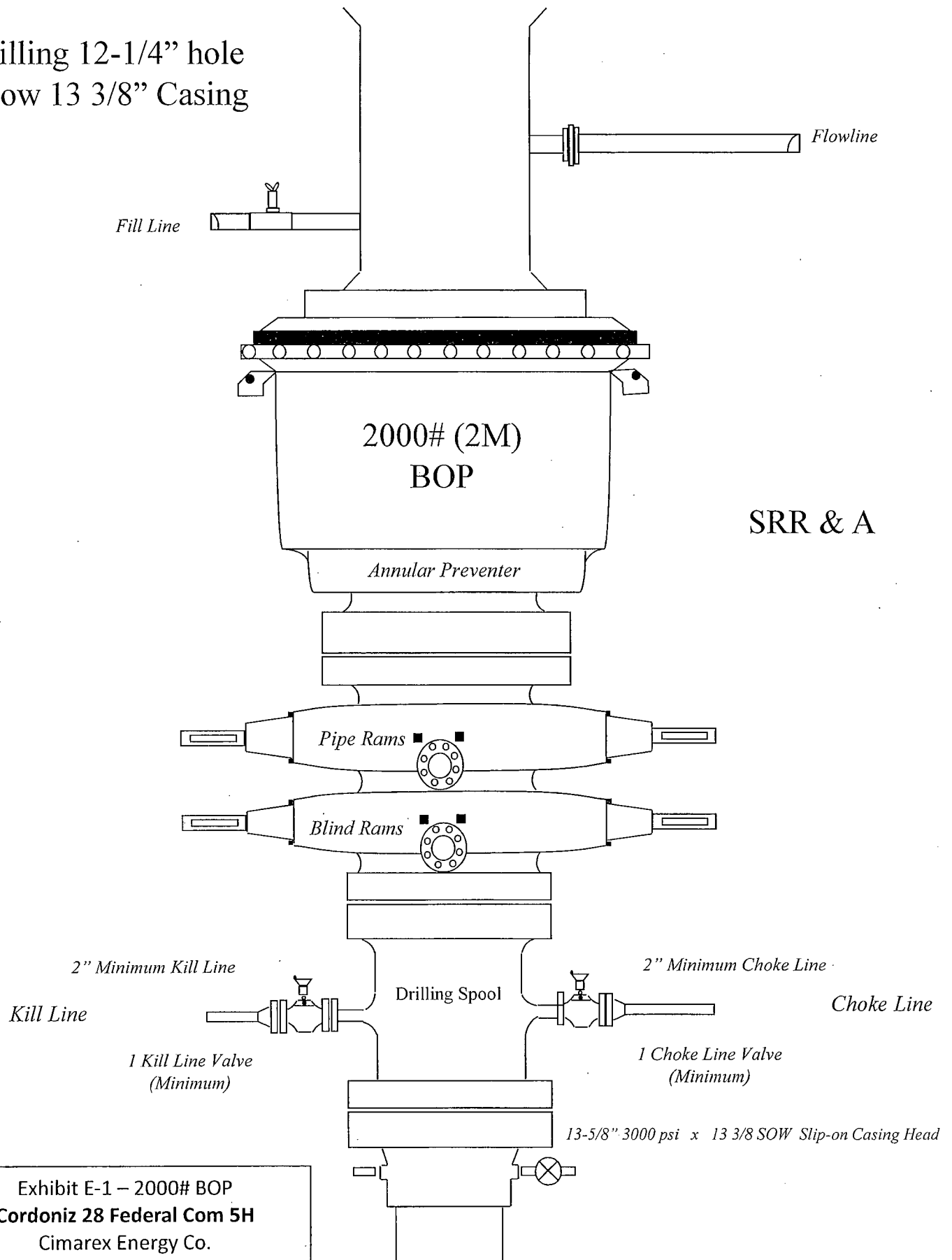
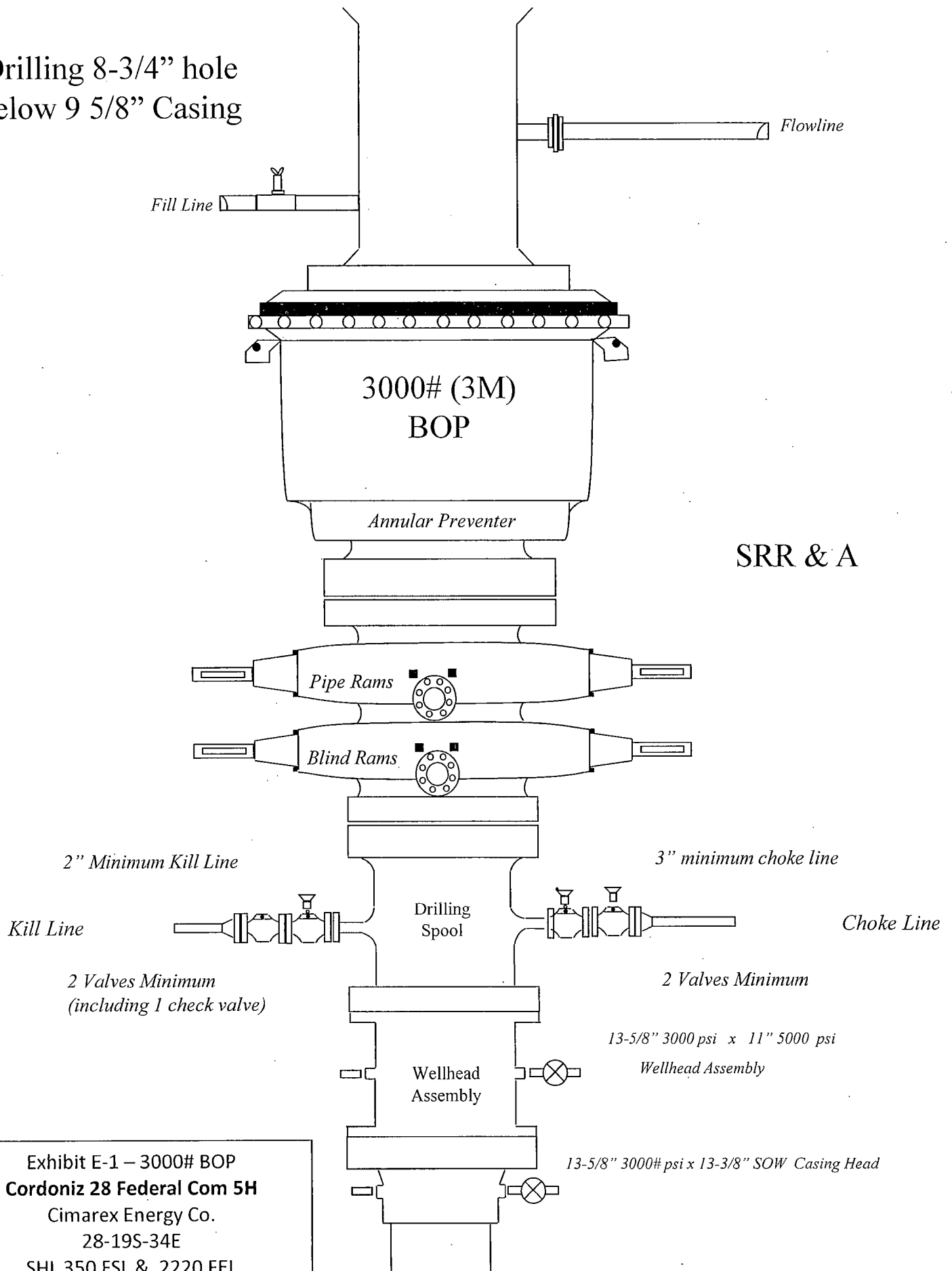


Exhibit E-1 – 2000# BOP
Cordoniz 28 Federal Com 5H
Cimarex Energy Co.
28-19S-34E
SHL 350 FSL & 2220 FEL
BHL 330 FNL & 1980 FEL
Lea County, NM

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



SRR & A

Exhibit E-1 – 3000# BOP
Cordoniz 28 Federal Com 5H
Cimarex Energy Co.
28-19S-34E
SHL 350 FSL & 2220 FEL
BHL 330 FNL & 1980 FEL
Lea County, NM

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

BOP Outlet

HCR
 (Optional)

2M: 1 Valve Minimum
 3M: 2 Valves Minimum
 HCR Valve is optional

Adjustable
 Choke

Choke
 Isolation
 Valve

Buffer Tank

Mud Tanks
 40'-50' from
 wellbore

Mud Tanks

Shaker

8" Nominal

To Flare 150'

Mud-Gas
 Separator

(Bleed line)

Bleed line to burn area (150')

3" Minimum
 (Not connected to buffer tank)

To mud gas separator
 2" Nominal

Choke
 Isolation
 Valve

REMOTELY
 OPERATED
 Adjustable
 Choke

Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Cordoniz 28 Federal Com 5H
 Cimarex Energy Co.
 28-19S-34E
 SHL 350 FSL & 2220 FEL
 BHL 330 FNL & 1980 FEL
 Lea County, NM

Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Cordoniz 28 Federal Com 5H

Cimarex Energy Co.

28-19S-34E

SHL 350 FSL & 2220 FEL

BHL 330 FNL & 1980 FEL

Lea County, NM



Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer: Oderco Inc		P.O. Number: 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 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE 0 PSI	
COUPLINGS			
Stem Part No. OKC OKC		Ferrule No. OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date: 3/8/2011	Tested: <i>A. Jaime Garcia</i>	Approved: <i>[Signature]</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

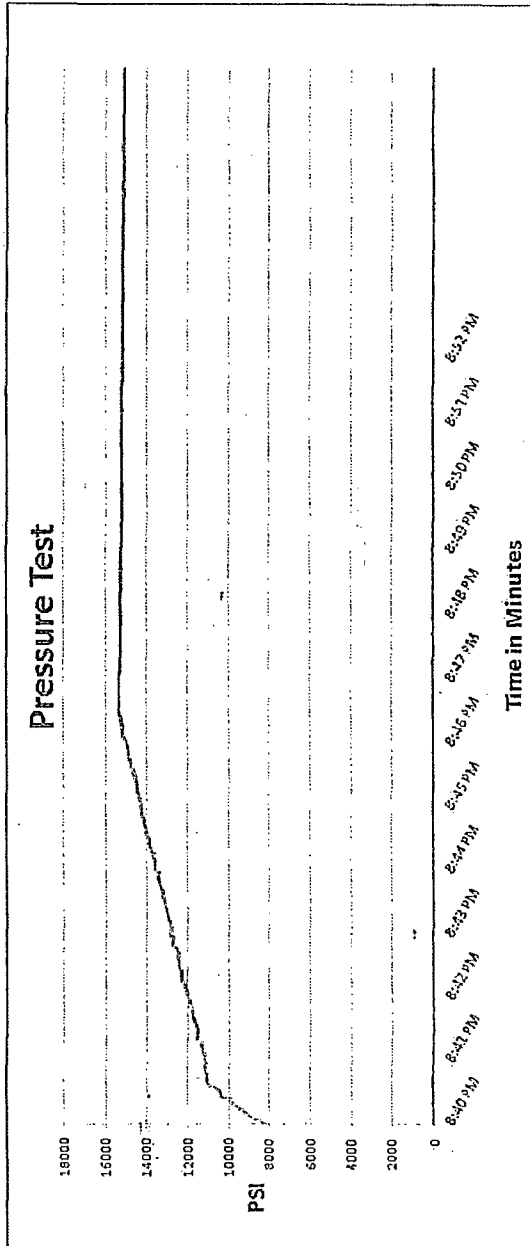
Hose Specifications

Hose Type C&K
I.D. 4"
Working Pressure 10000 PSI
Length 45'
O.D. 6.09"
Burst Pressure Standard Safety Multiplier Applies

Verification

Type of Fitting 41/16 10K
Coupling Method Swage
Dia Size 6.38"
Final O.D. 6.25"
Hose Serial # 5544
Hose Assembly Serial # 79783

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
Cordoniz 28 Federal Com 5H
Cimarex Energy Co.
28-19S-34E
SHL 350 FSL & 2220 FEL
BHL 330 FNL & 1980 FEL
Lea County, NM



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure

Peak Pressure
15083 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 5H
Cimarex Energy Co.
28-19S-34E
SHL 350 FSL & 2220 FEL
BHL 330 FNL & 1980 FEL
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 5H

Cimarex Energy Co.
28-19S-34E
SHL 350 FSL & 2220 FEL
BHL 330 FNL & 1980 FEL
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 Gordon</i>		3/8/2011

Exhibit F – Co-Flex Hose
Cordoniz 28 Federal Com 5H

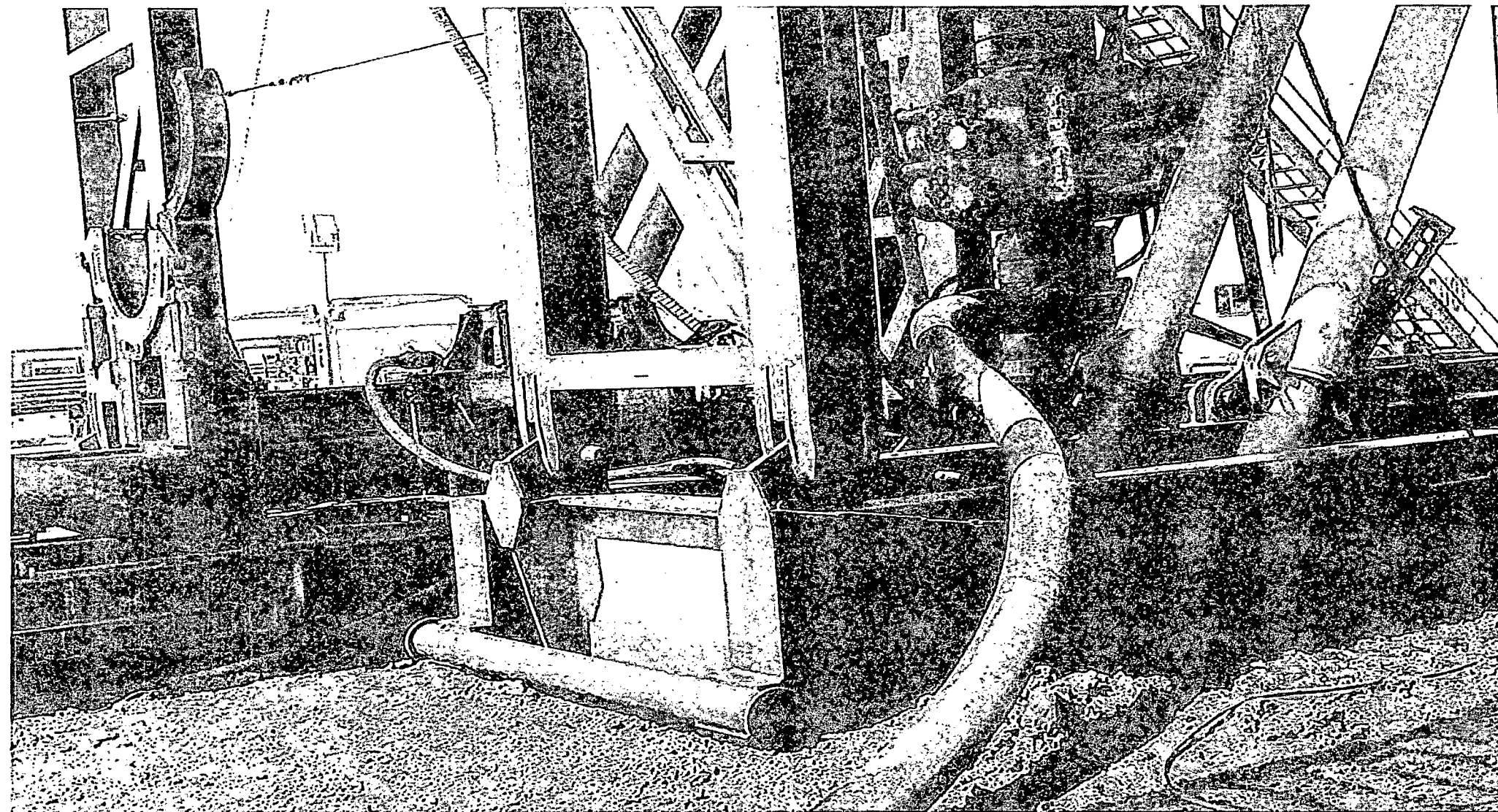
Cimarex Energy Co.

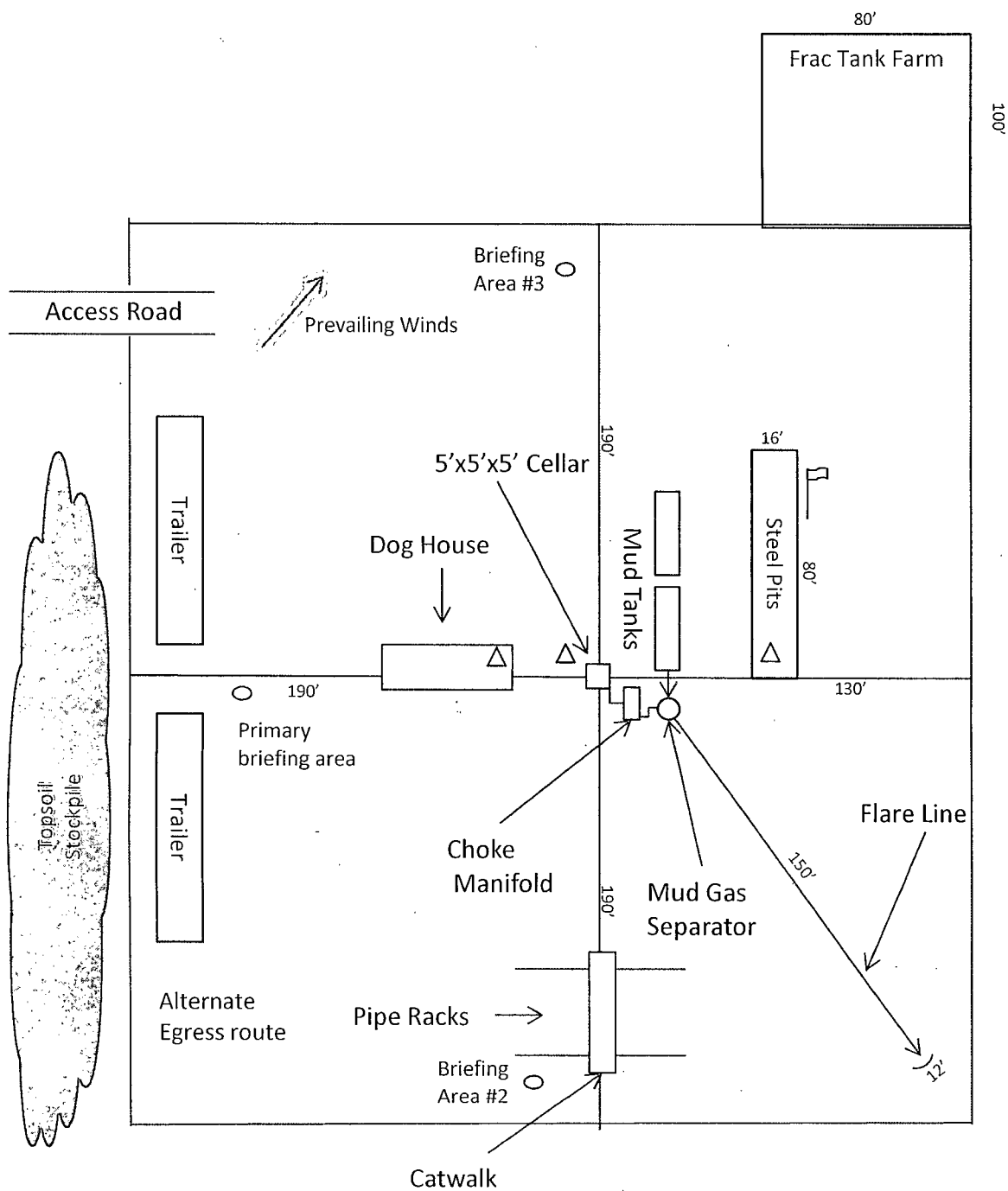
28-19S-34E

SHL 350 FSL & 2220 FEL

BHL 330 FNL & 1980 FEL

Lea County, NM





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



Exhibit D – Rig Diagram
Cordoniz 28 Federal Com 5H
 Cimarex Energy Co.
 28-19S-34E
 SHL 350 FSL & 2220 FEL
 BHL 330 FNL & 1980 FEL
 Lea County, NM