

Form 3160-3
(March 2012)

UNORTHODOX
LOCATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs
HOBBS OCD

MAY 12 2014

APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

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

5. Lease Serial No.
SHLABHL: NMNM0392082A

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Hallertau 4 Federal #9H

9. API Well No.
30025 - 41878

10. Field and Pool, or Exploratory
JEANNE'S BS UPPER SHALE

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

4, 26S, 32E

12. County or Parish

13. State
NM

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. of COLORADO (162 683)

3a. Address

600 N. Marienfield St. Ste. 600 Midland Tx 79071

3b. Phone No. (include area code)

432-571-7800

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

At Surface 330 FNL & 2570 FEL

At proposed prod. Zone 330 FSL & 2570 FEL

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

Jal, NM is 29 miles to the east of location.

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
NMNM0392082A=1400.49 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.

1060' to #8H

19. Proposed Depth
Pilot Hole TD: N/A

13,599 MD 9,102 TVD

20. BLM/BIA Bond No. on File

NM2575; NMB000835

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

3304 GR

22. Approximate date work will start*

2/14/14

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)

Date

Title

Approved By (Signature)

Name (Printed/Typed)

Date

Title

FIELD MANAGER

Office CARLSBAD FIELD OFFICE

MAY - 6 2014

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to

conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United

States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

KA (Instructions on page 2)
05/28/14
MAY 28 2014 PM

Application to Drill
Hallertau 4 Federal #9H
 Cimarex Energy Co.
 UL: B, Sec. 4, 26S, 32E
 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 330 FNL & 2570 FEL
 BHL 330 FSL & 2570 FEL

2. Elevation Above Sea Level: 3,304' 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: 13,599 MD 9,102 TVD Pilot Hole TD: N/A

6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Rustler	1130	N/A
Salt	1350	N/A
Castille	2750	N/A
Base Last Salt	4280	N/A
Lamar	4520	N/A
Bell Canyon	4550	N/A
Cherry Canyon	5550	N/A
Brushy Canyon	6850	N/A
Bone Spring	8650	Hydrocarbons
U. Avalon (Leonard)	8700	Hydrocarbons
L. Avalon C	9050	Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth: 275'

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	1180	1180	17 1/2	13-3/8"	48.00	H-40	ST&C	New	509	8.3	1.45		3.40	56,640	49,463	6.51
Intermediate	0	4530	4530	12 1/4	9-5/8"	36.00	J-55	LT&C	New	2355	10.0		1.28	1.49	163,080	138,182	3.28
Production	0	8643	8643	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4044	9.0	1.56		1.91	154,734	133,473	2.53
Production	8643	13599	9102	8 3/4	5-1/2"	17.00	L-80	BT&C	New	4259	9.0	1.48		1.82	7,803	6,731	58.98

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
Hallertau 4 Federal #9H
 Cimarex Energy Co.
 UL: 2, Sec. 4, 26S, 32E
 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	750	1.75	13.50	1311	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	153	1.34	14.80	204	Class C + LCM, 6.32 gps water
	TOC: 0	85% Excess				Centralizers per Onshore Order 2.III.B.1f
Intermediate	Lead	1012	1.88	12.90	1901	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	265	1.34	14.80	354	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	80% Excess				
Production	Lead	497	2.40	11.90	1192	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1390	1.24	14.50	1723	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4330	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: 8,643' EOC: 9,395'

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.

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Co., NM

See COA
11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1180'	7.80 - 8.30	28	NC	FW Spud Mud
1180' to 4530'	9.50 - 10.00	30-32	NC	Brine Water
4530' to 13599'	8.50 - 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 4530 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: 4096 psi

Estimated BHT: 153°

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:

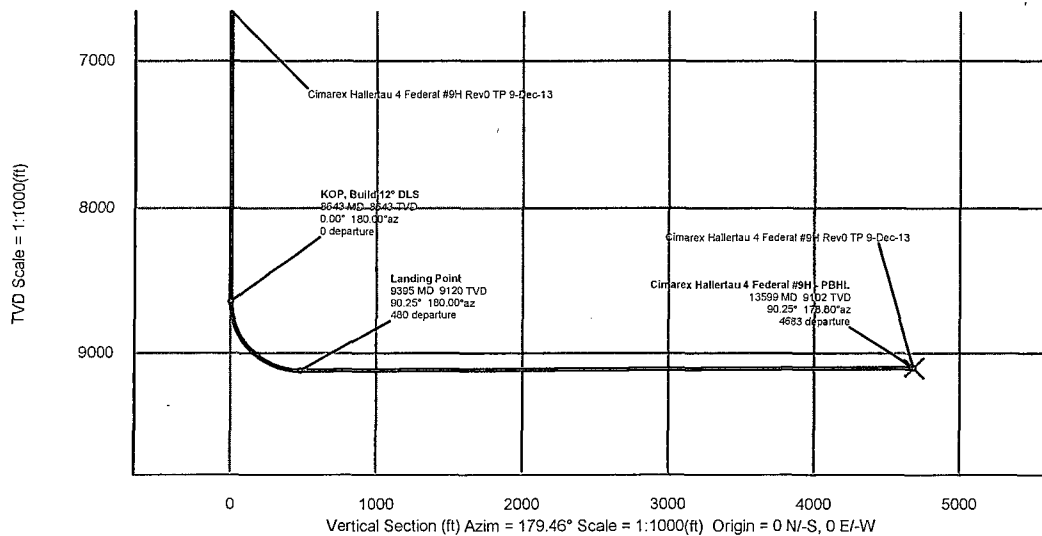
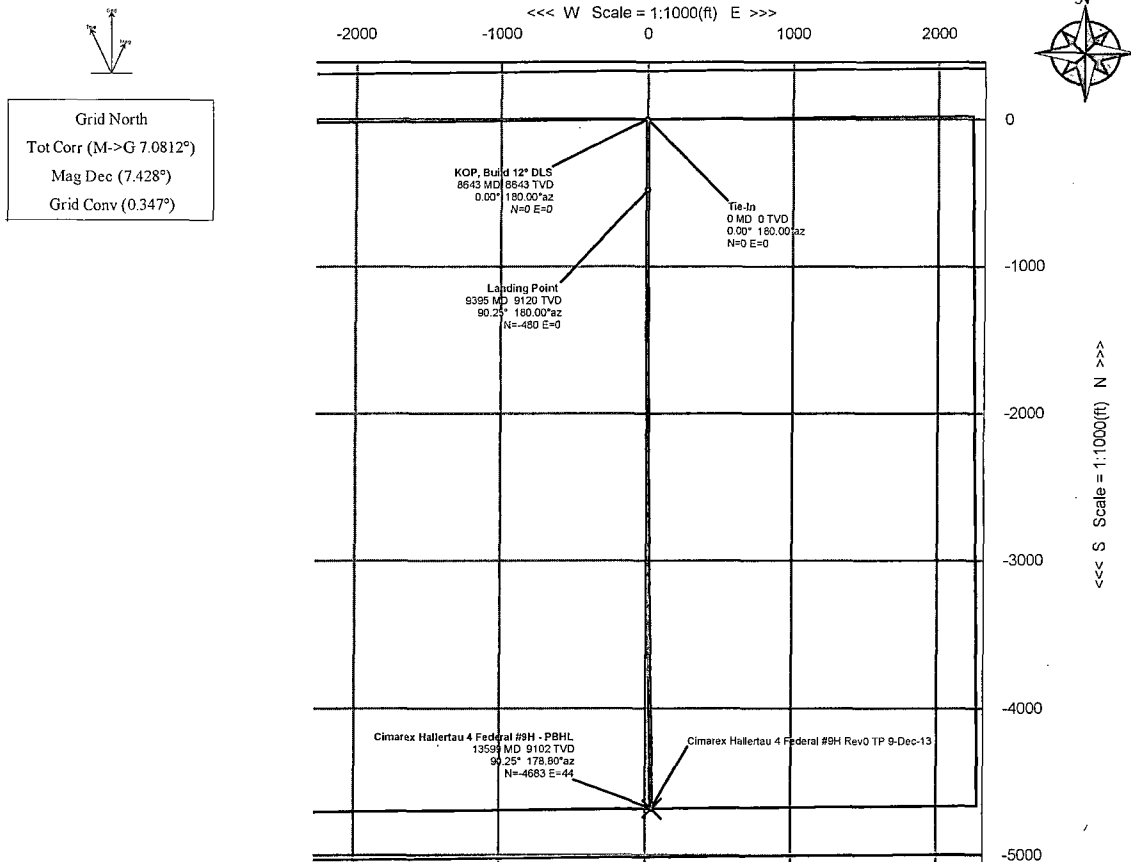
If production casing is run an additional 30 days will be required to complete and construct surface facilities.

L. Avalon C pay will be perforated and stimulated.

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



WELL	Hallertau 4 Federal #9H	FIELD	NM Lea County (NAD 83)	STRUCTURE	Cimarex Hallertau 4 Federal #9
Magnetic Parameters	Dip: 59.92° Model: BOGIM 2012	Date	December 03, 2013	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet Lat: N 32 4 43.456 Lon: W 103 49 47.210 Easting: 743758.70 NUS Grid Conv: 0.347° Scale Fact: 0.99995602
Miscellaneous	SPC: Hallertau 4 Federal #9H Plan: Cimarex Hallertau 4 Federal #9H	TVD Ref: Ground Level (3304 ft above MSL)	TVD Ref: Ground Level (3304 ft above MSL) Plan: Cimarex Hallertau 4 Federal #9H		



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In	0.00	0.00	180.00	0.00	0.00	0.00	0.00	
KOP, Build 12° DLS	8642.50	0.00	180.00	8642.50	0.00	0.00	0.00	0.00
Landing Point	9394.60	90.25	180.00	9120.00	479.53	-479.55	0.00	12.00
Cimarex Hallertau 4 Federal #9H - PBHL	13598.52	90.25	178.80	9102.00	4683.32	-4683.12	43.90	0.03

Cimarex Hallertau 4 Federal #9H Rev0 TP 9-Dec-13 Proposal Report
(Non-Def Plan)

Report Date:	December 09, 2013 - 03:03 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:		Vertical Section Azimuth:	179.463 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Hallertau 4 Federal #9H / Hallertau 4 Federal #9H	TVD Reference Datum:	Ground Level
Well:	Hallertau 4 Federal #9H	TVD Reference Elevation:	3304.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3304.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	7.428 °
Survey Name:	Cimarex Hallertau 4 Federal #9H Rev0 TP 9-Dec-13	Total Field Strength:	48225.147 nT
Survey Date:	December 09, 2013	Magnetic Dip Angle:	58.920 °
Tort / AHD / DDI / ERD Ratio:	91.442 ° / 4683.421 ft / 5.805 / 0.514	Declination Date:	December 09, 2013
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Declination Model:	BGM2012
Location Lat / Long:	N 32° 4' 43.45559", W 103° 40' 47.20963"	North Reference:	Grid North
Location Grid N/E Y/X:	N 392995.100 RUS, E 743759.700 RUS	Grid Convergence Used:	0.3471 °
CRS Grid Convergence Angle:	0.3471 °	Total Corr Mag North->Grid North:	7.0812 °
Grid Scale Factor:	0.99995602	Local Coord Referenced To:	Structure Reference Point

	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
Tie-In	0.00	0.00	180.00	0.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	N/A
	100.00	0.00	180.00	100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	200.00	0.00	180.00	200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	300.00	0.00	180.00	300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	400.00	0.00	180.00	400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	500.00	0.00	180.00	500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	600.00	0.00	180.00	600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	700.00	0.00	180.00	700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	800.00	0.00	180.00	800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	900.00	0.00	180.00	900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1000.00	0.00	180.00	1000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1100.00	0.00	180.00	1100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1200.00	0.00	180.00	1200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1300.00	0.00	180.00	1300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1400.00	0.00	180.00	1400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1500.00	0.00	180.00	1500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1600.00	0.00	180.00	1600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1700.00	0.00	180.00	1700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1800.00	0.00	180.00	1800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	1900.00	0.00	180.00	1900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2000.00	0.00	180.00	2000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2100.00	0.00	180.00	2100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2200.00	0.00	180.00	2200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2300.00	0.00	180.00	2300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2400.00	0.00	180.00	2400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2500.00	0.00	180.00	2500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2600.00	0.00	180.00	2600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2700.00	0.00	180.00	2700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2800.00	0.00	180.00	2800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	2900.00	0.00	180.00	2900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3000.00	0.00	180.00	3000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3100.00	0.00	180.00	3100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3200.00	0.00	180.00	3200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3300.00	0.00	180.00	3300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3400.00	0.00	180.00	3400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3500.00	0.00	180.00	3500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3600.00	0.00	180.00	3600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3700.00	0.00	180.00	3700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3800.00	0.00	180.00	3800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	3900.00	0.00	180.00	3900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4000.00	0.00	180.00	4000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4100.00	0.00	180.00	4100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4200.00	0.00	180.00	4200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4300.00	0.00	180.00	4300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4400.00	0.00	180.00	4400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4500.00	0.00	180.00	4500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4600.00	0.00	180.00	4600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4700.00	0.00	180.00	4700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4800.00	0.00	180.00	4800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	4900.00	0.00	180.00	4900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5000.00	0.00	180.00	5000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5100.00	0.00	180.00	5100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5200.00	0.00	180.00	5200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5300.00	0.00	180.00	5300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5400.00	0.00	180.00	5400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5500.00	0.00	180.00	5500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5600.00	0.00	180.00	5600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5700.00	0.00	180.00	5700.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5800.00	0.00	180.00	5800.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	5900.00	0.00	180.00	5900.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6000.00	0.00	180.00	6000.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6100.00	0.00	180.00	6100.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6200.00	0.00	180.00	6200.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6300.00	0.00	180.00	6300.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6400.00	0.00	180.00	6400.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6500.00	0.00	180.00	6500.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	6600.00	0.00	180.00	6600.00	0.00	0.00	0.00	392995.10	743759.70	N 32 4 43.46	W 103 40			

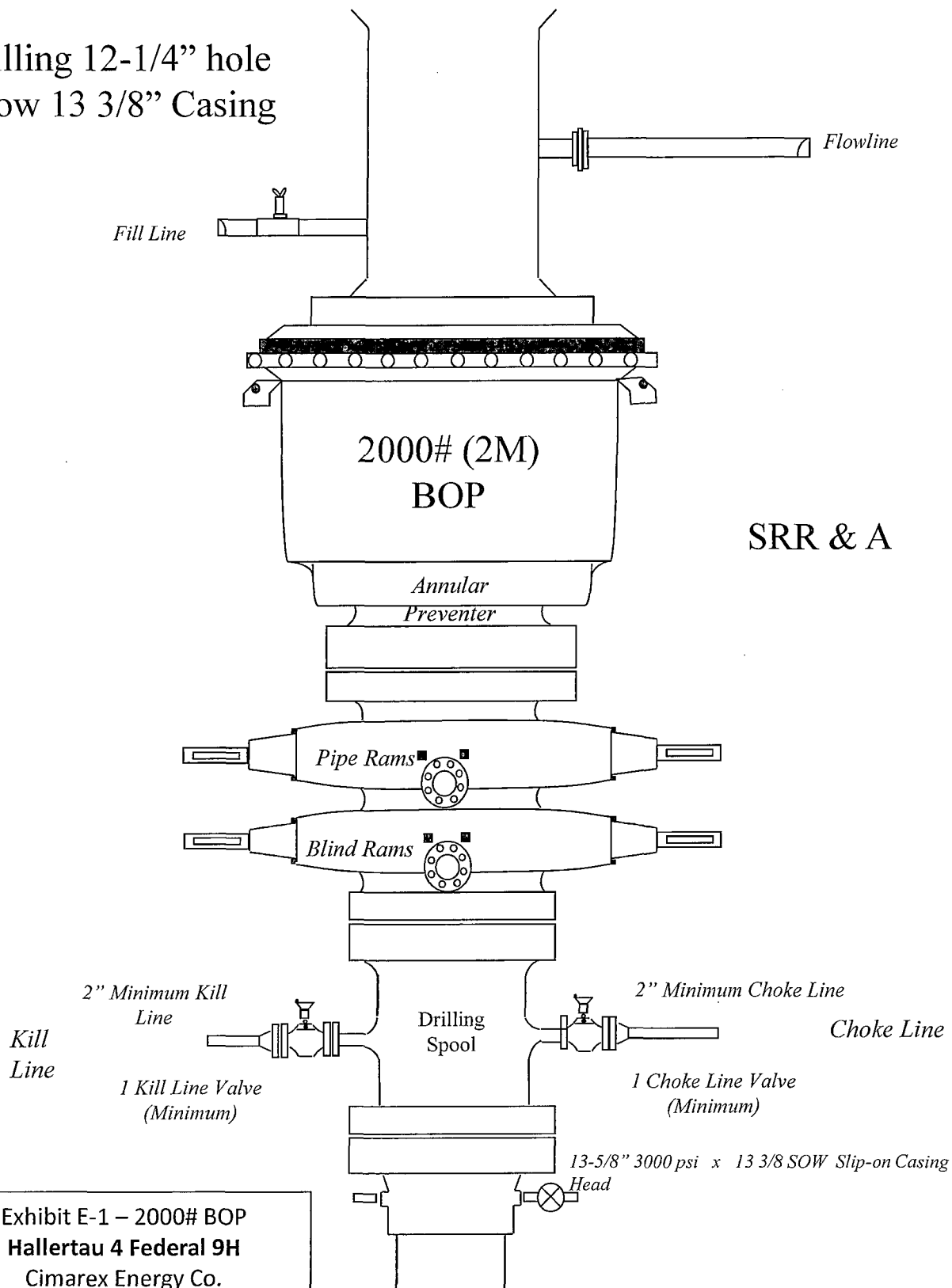
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (*/100ft)
	8000.00	0.00	180.00	8000.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8100.00	0.00	180.00	8100.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8200.00	0.00	180.00	8200.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8300.00	0.00	180.00	8300.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8400.00	0.00	180.00	8400.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8500.00	0.00	180.00	8500.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8600.00	0.00	180.00	8600.00	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8642.50	0.00	180.00	8642.50	0.00	0.00	0.00	392985.10	743759.70	N 32 4 43.46	W 103 40 47.21	0.00	0.00	0.00
	8700.00	6.90	180.00	8699.88	3.46	-3.46	0.00	392991.84	743759.70	N 32 4 43.42	W 103 40 47.21	3.46	180.00	12.00
	8800.00	18.80	180.00	8797.16	25.74	-25.74	0.00	392969.36	743759.70	N 32 4 43.20	W 103 40 47.21	25.74	180.00	12.00
KOP, Build 12" DLS	8900.00	30.90	180.00	8887.70	67.76	-67.76	0.00	392927.34	743759.70	N 32 4 42.79	W 103 40 47.21	67.76	180.00	12.00
	9000.00	42.90	180.00	8967.53	127.69	-127.69	0.00	392867.41	743759.70	N 32 4 42.19	W 103 40 47.22	127.69	180.00	12.00
	9100.00	54.90	180.00	9033.15	202.90	-202.91	0.00	392792.20	743759.70	N 32 4 41.45	W 103 40 47.22	202.91	180.00	12.00
	9200.00	66.89	180.00	9081.70	290.11	-290.12	0.00	392704.89	743759.70	N 32 4 40.58	W 103 40 47.23	290.12	180.00	12.00
	9300.00	78.89	180.00	9111.06	385.50	-385.52	0.00	392609.60	743759.70	N 32 4 39.64	W 103 40 47.24	385.52	180.00	12.00
	9394.60	90.25	180.00	9120.00	479.53	-479.55	0.00	392515.58	743759.70	N 32 4 38.71	W 103 40 47.24	479.55	180.00	12.00
	9400.00	90.25	180.00	9119.98	484.92	-484.94	0.00	392510.18	743759.70	N 32 4 38.66	W 103 40 47.24	484.94	180.00	0.03
	9500.00	90.25	179.97	9119.55	584.92	-584.94	0.03	392410.19	743759.73	N 32 4 37.67	W 103 40 47.25	584.94	180.00	0.03
	9600.00	90.25	179.94	9119.12	684.91	-684.94	0.10	392310.19	743759.80	N 32 4 36.68	W 103 40 47.26	684.94	179.99	0.03
	9700.00	90.25	179.91	9118.69	784.91	-784.94	0.23	392210.20	743759.93	N 32 4 35.69	W 103 40 47.26	784.94	179.98	0.03
Landing Point	9800.00	90.25	179.88	9118.27	884.90	-884.94	0.41	392110.20	743760.11	N 32 4 34.70	W 103 40 47.27	884.94	179.97	0.03
	9900.00	90.25	179.86	9117.84	984.90	-984.94	0.63	392010.21	743760.33	N 32 4 33.71	W 103 40 47.27	984.94	179.96	0.03
	10000.00	90.25	179.83	9117.41	1084.90	-1084.94	0.91	391910.21	743760.61	N 32 4 32.72	W 103 40 47.28	1084.94	179.95	0.03
	10100.00	90.25	179.80	9116.98	1184.89	-1184.93	1.24	391810.22	743760.94	N 32 4 31.73	W 103 40 47.28	1184.94	179.94	0.03
	10200.00	90.25	179.77	9116.56	1284.89	-1284.93	1.61	391710.23	743761.31	N 32 4 30.74	W 103 40 47.28	1284.93	179.93	0.03
	10300.00	90.25	179.74	9116.13	1384.89	-1384.93	2.04	391610.23	743761.74	N 32 4 29.75	W 103 40 47.28	1384.93	179.92	0.03
	10400.00	90.25	179.71	9115.70	1484.89	-1484.93	2.51	391510.24	743762.21	N 32 4 28.76	W 103 40 47.28	1484.93	179.90	0.03
	10500.00	90.25	179.69	9115.27	1584.89	-1584.93	3.04	391410.25	743762.74	N 32 4 27.77	W 103 40 47.29	1584.93	179.89	0.03
	10600.00	90.25	179.66	9114.84	1684.88	-1684.92	3.61	391310.25	743763.31	N 32 4 26.78	W 103 40 47.29	1684.93	179.88	0.03
	10700.00	90.25	179.63	9114.42	1784.88	-1784.92	4.23	391210.26	743763.93	N 32 4 25.79	W 103 40 47.29	1784.93	179.86	0.03
	10800.00	90.25	179.60	9113.99	1884.88	-1884.92	4.91	391110.27	743764.61	N 32 4 24.80	W 103 40 47.29	1884.92	179.85	0.03
	10900.00	90.25	179.57	9113.56	1984.88	-1984.91	5.63	391010.28	743765.33	N 32 4 23.81	W 103 40 47.28	1984.92	179.84	0.03
	11000.00	90.25	179.54	9113.13	2084.88	-2084.91	6.40	390910.29	743766.10	N 32 4 22.82	W 103 40 47.28	2084.92	179.82	0.03
	11100.00	90.25	179.51	9112.70	2184.88	-2184.91	7.23	390810.29	743766.92	N 32 4 21.84	W 103 40 47.28	2184.92	179.81	0.03
	11200.00	90.25	179.49	9112.28	2284.88	-2284.90	8.10	390710.30	743767.80	N 32 4 20.85	W 103 40 47.28	2284.92	179.80	0.03
	11300.00	90.25	179.46	9111.85	2384.88	-2384.90	9.02	390610.31	743768.72	N 32 4 19.86	W 103 40 47.27	2384.91	179.78	0.03
	11400.00	90.25	179.43	9111.42	2484.88	-2484.89	9.99	390510.32	743769.69	N 32 4 18.87	W 103 40 47.27	2484.91	179.77	0.03
	11500.00	90.25	179.40	9110.99	2584.87	-2584.88	11.01	390410.33	743770.71	N 32 4 17.88	W 103 40 47.26	2584.91	179.76	0.03
	11600.00	90.25	179.37	9110.56	2684.87	-2684.88	12.08	390310.35	743771.78	N 32 4 16.89	W 103 40 47.26	2684.91	179.74	0.03
	11700.00	90.25	179.34	9110.13	2784.87	-2784.87	13.20	390210.36	743772.90	N 32 4 15.90	W 103 40 47.25	2784.90	179.73	0.03
	11800.00	90.25	179.32	9109.71	2884.87	-2884.86	14.37	390110.37	743774.07	N 32 4 14.91	W 103 40 47.25	2884.90	179.71	0.03
	11900.00	90.25	179.29	9109.28	2984.87	-2984.85	15.59	390010.38	743775.29	N 32 4 13.92	W 103 40 47.24	2984.90	179.70	0.03
	12000.00	90.25	179.26	9108.85	3084.87	-3084.85	16.88	389910.40	743776.56	N 32 4 12.93	W 103 40 47.23	3084.89	179.69	0.03
	12100.00	90.25	179.23	9108.42	3184.87	-3184.84	18.18	389810.41	743777.88	N 32 4 11.94	W 103 40 47.22	3184.89	179.67	0.03
	12200.00	90.25	179.20	9107.99	3284.86	-3284.83	19.55	389710.43	743779.25	N 32 4 10.95	W 103 40 47.21	3284.88	179.66	0.03
	12300.00	90.25	179.17	9107.56	3384.86	-3384.81	20.97	389610.44	743780.67	N 32 4 9.96	W 103 40 47.20	3384.88	179.65	0.03
	12400.00	90.25	179.14	9107.14	3484.86	-3484.80	22.44	389510.46	743782.14	N 32 4 8.97	W 103 40 47.19	3484.88	179.63	0.03
	12500.00	90.25	179.12	9106.71	3584.86	-3584.79	23.96	389410.47	743783.66	N 32 4 7.98	W 103 40 47.18	3584.87	179.62	0.03
	12600.00	90.25	179.09	9106.28	3684.85	-3684.78	25.52	389310.49	743785.22	N 32 4 6.99	W 103 40 47.17	3684.87	179.60	0.03
	12700.00	90.25	179.06	9105.85	3784.85	-3784.76	27.14	389210.51	743786.84	N 32 4 6.00	W 103 40 47.16	3784.86	179.59	0.03
	12800.00	90.25	179.03	9105.42	3884.85	-3884.75	28.81	389110.53	743788.51	N 32 4 5.01	W 103 40 47.15	3884.86	179.58	0.03
	12900.00	90.25	179.00	9104.99	3984.84	-3984.73	30.53	389010.55	743790.22	N 32 4 4.02	W 103 40 47.14	3984.85	179.56	0.03
	13000.00	90.25	178.97	9104.57	4084.84	-4084.72	32.29	388910.57	743791.99	N 32 4 3.03	W 103 40 47.12	4084.84	179.55	0.03
	13100.00	90.25	178.95	9104.14	4184.83	-4184.70	34.11	388810.59	743793.81	N 32 4 2.05	W 103 40 47.11	4184.84	179.53	0.03
	13200.00	90.25	178.92	9103.71	4284.83	-4284.68	35.97	388710.62	743795.67	N 32 4 1.06	W 103 40 47.09	4284.83	179.52	0.03
	13300.00	90.25	178.89	9103.28	4384.82	-4384.66	37.89	388610.64	743797.59	N 32 4 0.07	W 103 40 47.08	4384.83	179.50	0.03
	13400.00	90.25	178.86	9102.85	4484.82	-4484.64	39.85	388510.67	743799.55	N 32 3 59.08	W 103 40 47.06	4484.82	179.49	0.03
	13500.00	90.25	178.83	9102.42	4584.81	-4584.62	41.87	388410.69	743801.57	N 32 3 58.09	W 103 40 47.05	4584.81	179.48	0.03
Cimarex Hallertau 4 Federal #9H - PBHL	13598.52	90.25	178.80	9102.00	4683.32	-4683.12	43.90	388312.20	743803.60	N 32 3 57.11	W 103 40 47.03	4683.32	179.48	0.03

Survey Type: Non-Def Plan

Survey Error Model: ISCVSA 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	13598.517	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hallertau 4 Federal #9H Rev0 TP

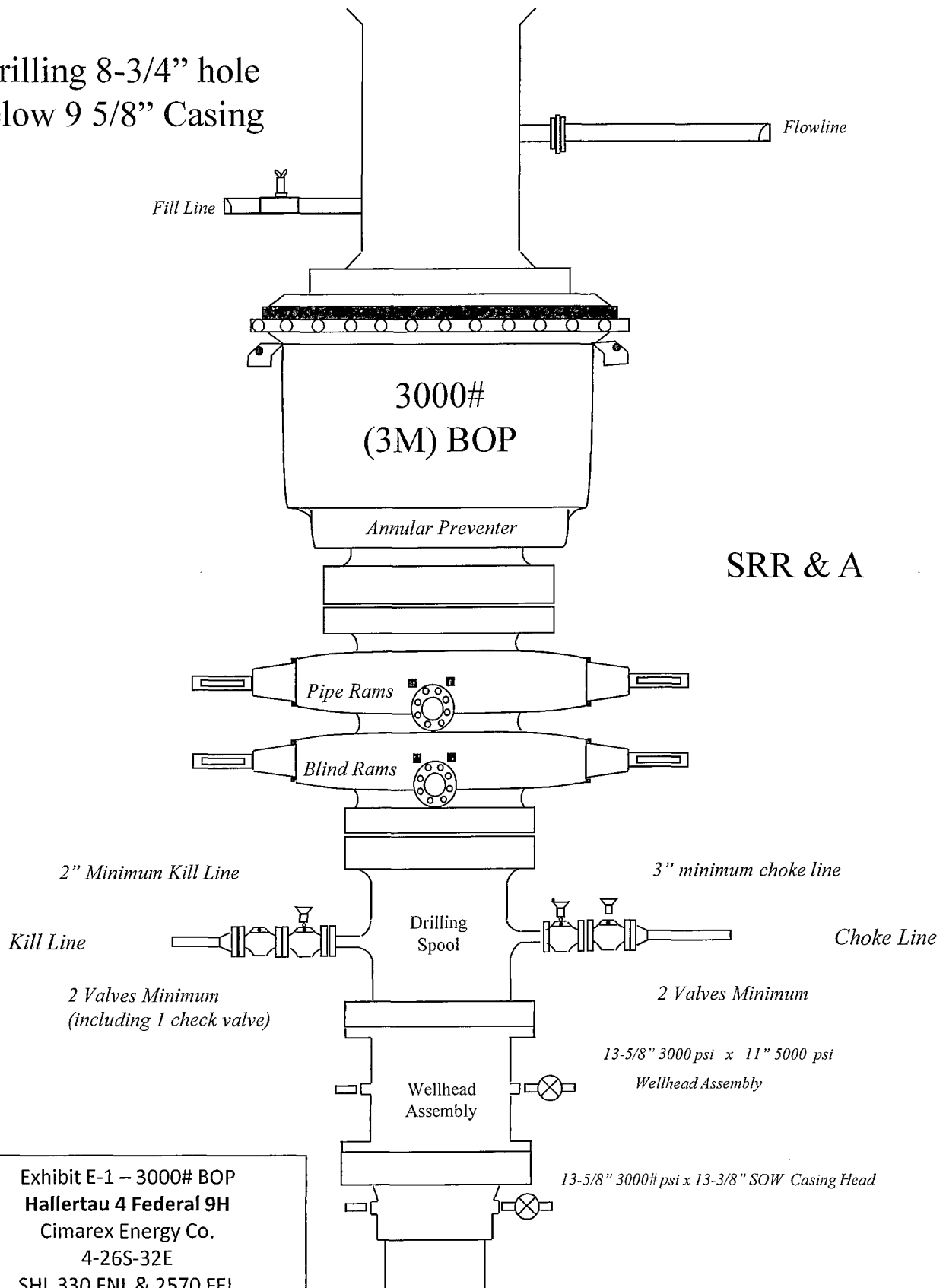
Drilling 12-1/4" hole
below 13 3/8" Casing



SRR & A

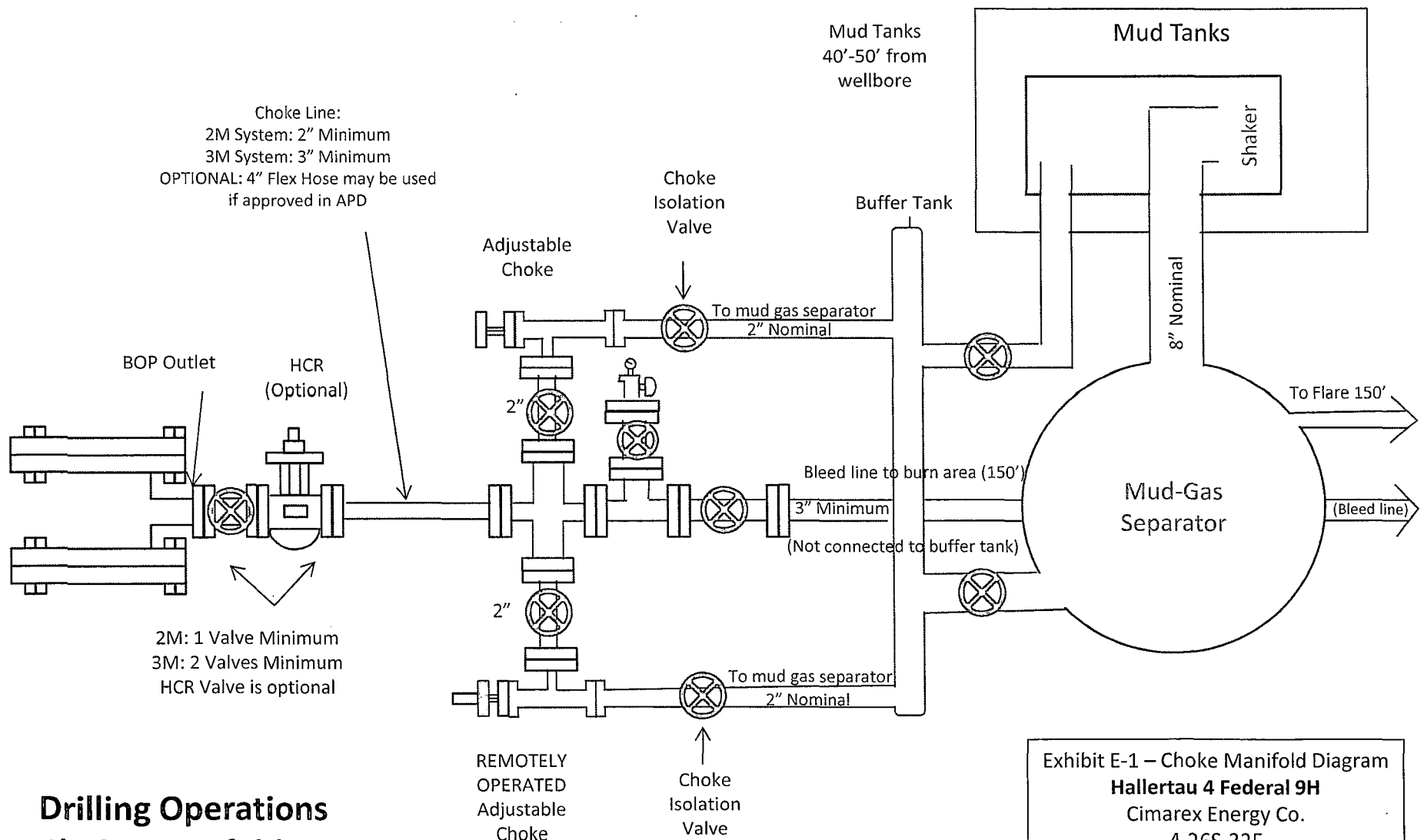
Exhibit E-1 – 2000# BOP
Hallertau 4 Federal 9H
Cimarex Energy Co.
4-26S-32E
SHL 330 FNL & 2570 FEL
BHL 330 FSL & 2570 FEL
Lea County, NM

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



SRR & A

Exhibit E-1 – 3000# BOP
Hallertau 4 Federal 9H
Cimarex Energy Co.
4-26S-32E
SHL 330 FNL & 2570 FEL
BHL 330 FSL & 2570 FEL
Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Hallertau 4 Federal 9H
Cimarex Energy Co.
4-26S-32E
SHL 330 FNL & 2570 FEL
BHL 330 FSL & 2570 FEL
Lea County, NM



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

Hose Specifications

Hose Type

C&K

Length

45'

I.D.

4"

O.D.

6.09"

Working Pressure

10000 PSI

Burst Pressure

Standard Safety Multiplier Applies

Verification

Type of Fittings

4 1/16 10K

Coupling Method

Swage

Final O.D.

6.25"

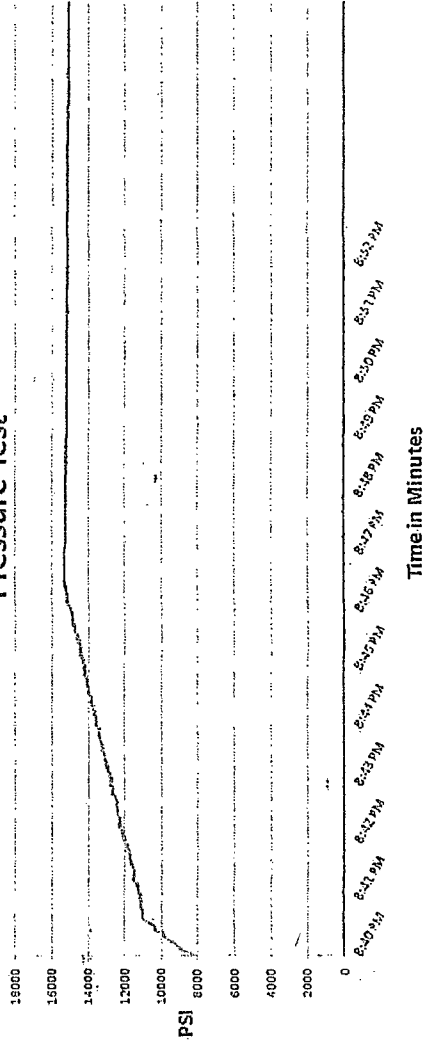
Hose Serial #

5544

Hose Assembly Serial #

79793

Pressure Test



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

Zac McConnell

Kim Thomas

Exhibit F-1 — Co-Flex Hose Hydrostatic Test

Hallertau 4 Federal 9H

Cimarex Energy Co.

4-26S-32E

SHL 330 FNL & 2570 FEL

BHL 330 FSL & 2570 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

TEST PRESSURE

BURST PRESSURE

10,000 PSI

15,000 PSI

0 PSI

COUPLINGS

Stem Part No.

OKC

OKC

Ferrule No.

OKC

OKC

Type of Coupling:

Swage-It

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE

ACTUAL BURST PRESSURE:

15 MIN.

0 PSI

Hose Assembly Serial Number:

79793

Hose Serial Number:

OKC

Comments:

Date:

3/8/2011

Tested:

A. John Samu.

Approved:

Exhibit F-2 -- Co-Flex Hose
Hallertau 4 Federal 9H
Cimarex Energy Co.
4-26S-32E
SHL 330 FNL & 2570 FEL
BHL 330 FSL & 2570 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 cerify 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>James Blacien</i>		3/8/2011



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
Hallertau 4 Federal 9H
Cimarex Energy Co.
4-26S-32E
SHL 330 FNL & 2570 FEL
BHL 330 FSL & 2570 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 – Co-Flex Hose
Hallertau 4 Federal 9H

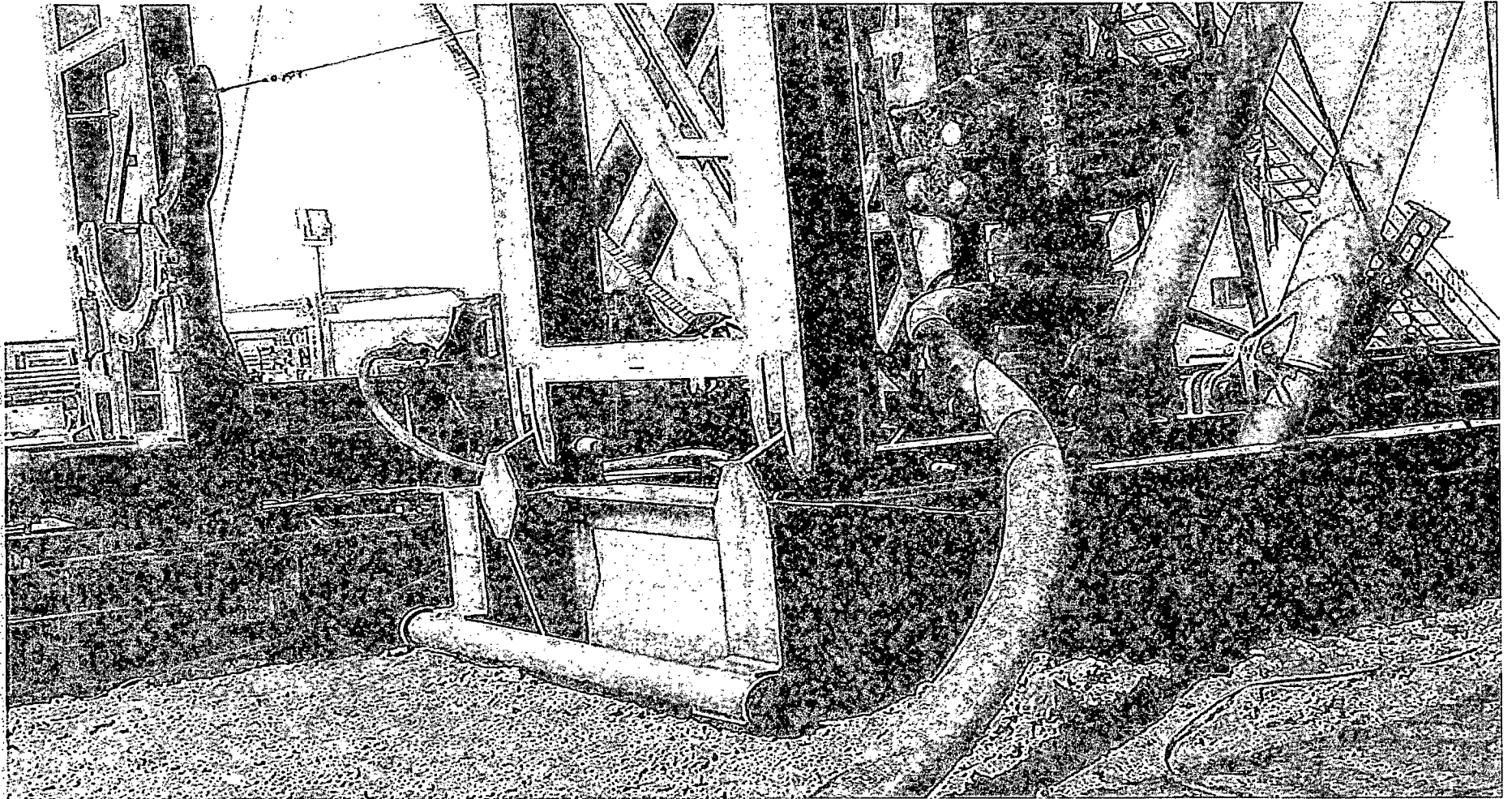
Cimarex Energy Co.

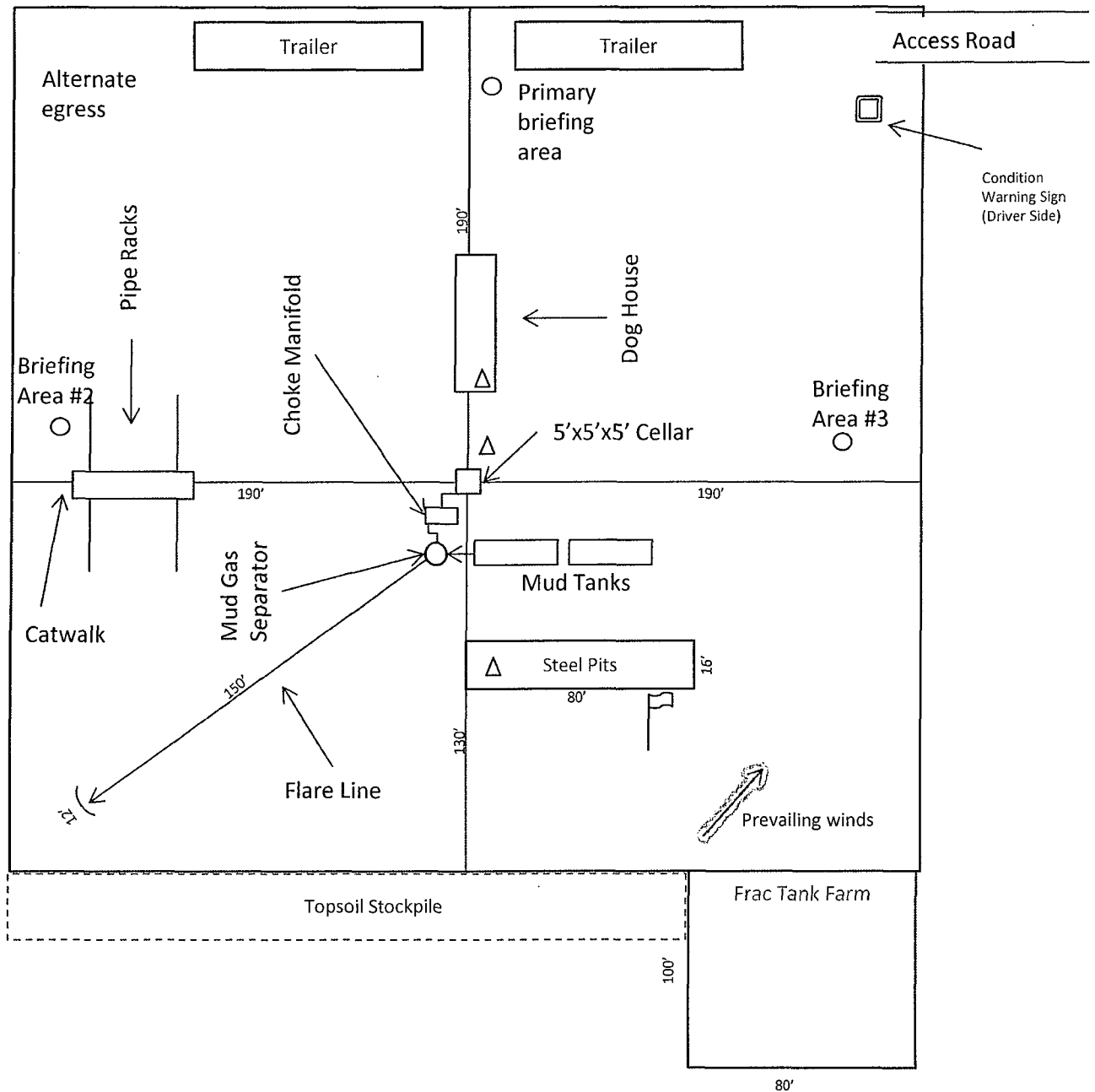
4-26S-32E

SHL 330 FNL & 2570 FEL

BHL 330 FSL & 2570 FEL

Lea County, NM





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



Exhibit D – Rig Diagram
Hallertau 4 Federal 9H
 Cimarex Energy Co.
 4-26S-32E
 SHL 330 FNL & 2570 FEL
 BHL 330 FSL & 2570 FEL
 Lea County, NM