

Form 3160-3
(March 2012)Split Estate
OCD HobbsFORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHLABHL: NM089425
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Cimarex Energy Co. <i>OK COLORADO 162683</i>		7. If Unit or CA Agreement, Name and No. NM71019X
3a. Address 600 N. Marienfield St. Ste. 600 Midland Tx 79071	3b. Phone No. (include area code) 432-571-7800	8. Lease Name and Well No. <i>300946</i> Red Hills Unit 30H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330' FNL & 2200' FWL At proposed prod. Zone 330' FSL & 2200' FWL Bone Spring		9. API Well No. 30025 <i>42331</i>
14. Distance in miles and direction from nearest town or post office* Approximately 30 miles northwest of Jal, NM		10. Field and Pool, or Exploratory Wildcat Bone Spring <i>9779V</i>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'		11. Sec., T. R. M. or Blk. and Survey and Area 4, 26S, 33E
16. No of acres in lease NM089425=600.00 acres		12. County or Parish Lea
17. Spacing Unit dedicated to this well 160.00		13. State NM
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 1305	19. Proposed Depth Pilot Hole TD: 10,300 13,664 MD 9,250 TVD	20. BLM/BIA Bond No. on File NM2575; NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3341 GR	22. Approximate date work will start* 5/15/14	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 | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Paula Brunson</i>	Name (Printed/Typed) Paula Brunson	Date 3/14/14
Title Regulatory Compliance		
Approved By (Signature) <i>Steve Caffey</i>	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date DEC 1 2014
Title FIELD MANAGER		

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)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL
DEC 10 2014

Application to Drill
Red Hills Unit 30H
 Cimarex Energy Co.
 UL: C, Sec. 4, 26S, 33E
 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 330' FNL & 2200' FWL
 BHL 330' FSL & 2200' FWL

2. Elevation Above Sea Level: 3,341' 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: 13,664 MD 9,250 TVD Pilot Hole TD: 10,300

6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Rustler	995	N/A
Salt	1140	N/A
Castille	3380	N/A
Lamar	4900	N/A
Bell Canyon	4945	N/A
Cherry Canyon	6190	N/A
Brushy Canyon	7485	N/A
Bone Spring	9045	Hydrocarbons
U. Avalon (Leonard)	9080	Hydrocarbons
L. Avalon	9680	Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth: 180'

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	1050	1050	17 1/2	13-3/8"	48.00	H-40	ST&C	New	453	8.3	1.63		3.82	50,400	44,013	7.32
Intermediate	0	4920	4920	12 1/4	9-5/8"	40.00	J-55	LT&C	New	2558	10.0		1.44	1.54	196,800	166,754	3.12
Production	0	8773	8773	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4105	9.0	1.53		1.89	157,250	135,643	2.49
Production	8773	13664	9250	8 3/4	5-1/2"	17.00	L-80	BT&C	New	4329	9.0	1.45		1.79	8,109	6,995	56.76

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
Red Hills Unit 30H
 Cimarex Energy Co.
 UL: C, Sec. 4, 26S, 33E
 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	500	1.75	13.50	875	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	136	1.34	14.80	182	Class C + LCM, 6.32 gps water
	TOC: 0	45% Excess		Centralizers per Onshore Order 2.III.B.1f		
Intermediate	Lead	897	1.88	12.90	1685	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	288	1.34	14.80	385	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	44% Excess				
Production	Lead	463	2.40	11.90	1110	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1209	1.24	14.50	1498	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4720	16% 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: 10,300' KOP: 8,773' EOC: 9,523'

Set OH mechanical whipstock w/ 1477 ft of 2.875 tubing and pump 30 bbls of Mudpush @ 12 ppg, followed by 678 sks Type H cement, dispersant 0.080 gals/sk, retarder 0.045 gals/sk @ 17.50 ppg, 0.94 cuft/sk, & 0% excess from pilot hole TD to KOP. KO lateral and drill through the curve to TD. Run production csg to TD and 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.

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1050'	7.80 - 8.30	28	NC	FW Spud Mud
1050' to 4920'	9.50 - 10.00	30-32	NC	Brine Water
4920' to 13664'	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 4920 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:

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: 4635 psi

Estimated BHT: 154°

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 pay will be perforated and stimulated.

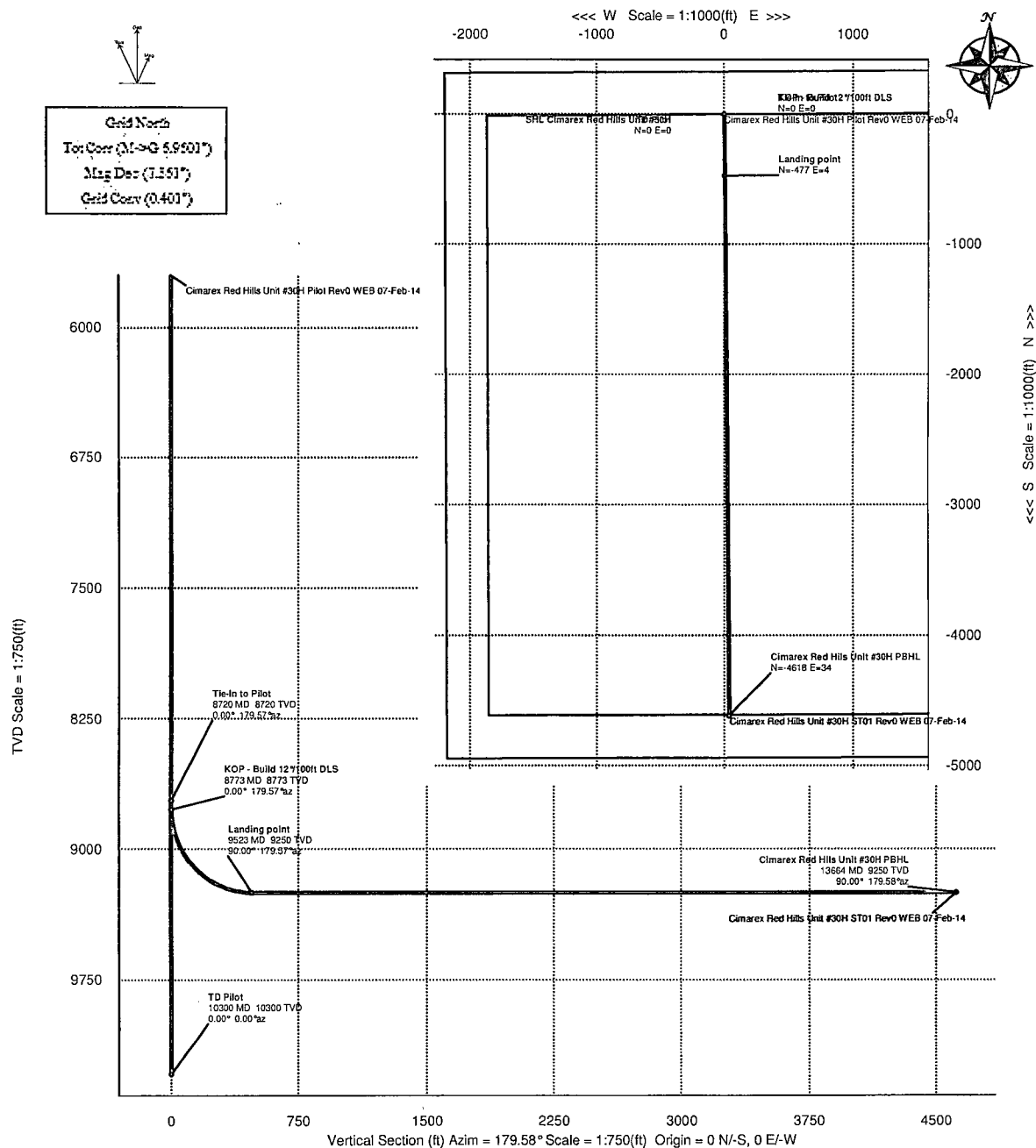
The proposed well will be tested and potential as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL	Red Hills Unit #30H	FIELD	NM Lea County (NAD 83)	STRUCTURE	TBD
Magnetic Parameters Model: BOGIM 2013 Dip: 59.870° Date: February 07, 2014 Surface Location: Lat: N 32 43.863 Easting: 93250.80 915 NAD83 New Mexico State Plane, Eastern Zone, US Foot Grid Conv: 0.401° Miscellaneous: Red Hills Unit #30H TVD Ref: Ground level (3341.8 above MSL) Plan: 8701 Rev0 WEB 07-Feb-14 Rev Date: February 07, 2014					



Critical Points

Critical Point MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In to Pilot 8720.00	0.00	179.58	8720.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS 8772.50	0.00	179.58	8772.50	0.00	0.00	0.00	0.00
Landing point 9522.56	90.00	179.58	9250.00	477.50	-477.49	3.54	12.00
Cimarex Red Hills Unit #30H PBHL 13663.52	90.00	179.58	9250.00	4618.47	-4618.34	34.20	0.00



Cimarex Red Hills Unit #30H ST01 Rev0 WEB 07-Feb-14 Proposal Report **100' Interpolated** (Non-Def Plan)



Report Date: February 07, 2014 - 01:02 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills Unit #30H / Cimarex Red Hills Unit #30H
Well: Cimarex Red Hills Unit #30H
Borehole: ST01 Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #30H ST01 Rev0 WEB 07-Feb-14
Survey Date: February 07, 2014
Tort / AHD / DDI / ERD Ratio: 90.002 ° / 4618.467 ft / 5.788 / 0.499
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 4' 43.96344", W 103° 34' 43.24688"
Location Grid N/E Y/X: N 393250.800 ftUS, E 775073.600 ftUS
CRS Grid Convergence Angle: 0.4008 °
Grid Scale Factor: 0.99997166

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.576 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3341.000 ft above MSL
Seabed / Ground Elevation: 3341.000 ft above MSL
Magnetic Declination: 7.361 °
Total Gravity Field Strength: 998.4813mgn (9.80665 Based)
Total Magnetic Field Strength: 48245.030 nT
Magnetic Dip Angle: 59.970 °
Declination Date: February 07, 2014
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.4008 °
Total Corr Mag North->Grid North: 6.9601 °
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 Red Hills Unit #30H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	N/A
	100.00	0.00	179.58	100.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	200.00	0.00	179.58	200.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	300.00	0.00	179.58	300.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	400.00	0.00	179.58	400.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	500.00	0.00	179.58	500.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	600.00	0.00	179.58	600.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	700.00	0.00	179.58	700.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	800.00	0.00	179.58	800.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	900.00	0.00	179.58	900.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1000.00	0.00	179.58	1000.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1100.00	0.00	179.58	1100.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1200.00	0.00	179.58	1200.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1300.00	0.00	179.58	1300.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1400.00	0.00	179.58	1400.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1500.00	0.00	179.58	1500.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1600.00	0.00	179.58	1600.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1700.00	0.00	179.58	1700.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1800.00	0.00	179.58	1800.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	1900.00	0.00	179.58	1900.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2000.00	0.00	179.58	2000.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2100.00	0.00	179.58	2100.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2200.00	0.00	179.58	2200.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2300.00	0.00	179.58	2300.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2400.00	0.00	179.58	2400.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2500.00	0.00	179.58	2500.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2600.00	0.00	179.58	2600.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2700.00	0.00	179.58	2700.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2800.00	0.00	179.58	2800.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	2900.00	0.00	179.58	2900.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00

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Comments	MD (ft)	Incl (°)	Azím 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)
Tie-In to Pilot KOP - Build 12"/100ft DLS	8500.00	0.00	179.58	8500.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	8600.00	0.00	179.58	8600.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	8700.00	0.00	179.58	8700.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	8720.00	0.00	179.58	8720.00	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
	8772.50	0.00	179.58	8772.50	0.00	0.00	0.00	393250.80	775073.60	N 32 4 43.96	W 103 34 43.25	0.00	0.00	0.00
Landing point	8800.00	3.30	179.58	8799.98	0.79	-0.79	0.01	393250.01	775073.61	N 32 4 43.96	W 103 34 43.25	0.79	179.58	12.00
	8900.00	15.30	179.58	8898.49	16.92	-16.92	0.13	393233.88	775073.73	N 32 4 43.80	W 103 34 43.25	16.92	179.58	12.00
	9000.00	27.30	179.58	8991.49	53.18	-53.18	0.39	393197.63	775073.99	N 32 4 43.44	W 103 34 43.25	53.18	179.58	12.00
	9100.00	39.30	179.58	9074.92	107.98	-107.97	0.80	393142.83	775074.40	N 32 4 42.89	W 103 34 43.25	107.98	179.58	12.00
	9200.00	51.30	179.58	9145.14	178.92	-178.92	1.33	393071.89	775074.93	N 32 4 42.19	W 103 34 43.25	178.92	179.58	12.00
	9300.00	63.30	179.58	9199.07	262.92	-262.91	1.95	392987.90	775075.55	N 32 4 41.36	W 103 34 43.25	262.92	179.58	12.00
	9400.00	75.29	179.58	9234.36	356.29	-356.28	2.64	392894.53	775076.24	N 32 4 40.44	W 103 34 43.25	356.29	179.58	12.00
	9500.00	87.29	179.58	9249.47	454.95	-454.94	3.37	392795.87	775076.97	N 32 4 39.46	W 103 34 43.24	454.95	179.58	12.00
	9522.56	90.00	179.58	9250.00	477.50	-477.49	3.54	392773.33	775077.14	N 32 4 39.24	W 103 34 43.24	477.50	179.58	12.00
	9600.00	90.00	179.58	9250.00	554.94	-554.93	4.12	392695.89	775077.72	N 32 4 38.47	W 103 34 43.24	554.94	179.58	0.00
	9700.00	90.00	179.58	9250.00	654.94	-654.93	4.86	392595.89	775078.46	N 32 4 37.48	W 103 34 43.24	654.94	179.58	0.00
	9800.00	90.00	179.58	9250.00	754.94	-754.92	5.60	392495.90	775079.20	N 32 4 36.49	W 103 34 43.24	754.94	179.58	0.00
	9900.00	90.00	179.58	9250.00	854.94	-854.92	6.34	392395.90	775079.94	N 32 4 35.50	W 103 34 43.24	854.94	179.58	0.00
	10000.00	90.00	179.58	9250.00	954.94	-954.92	7.08	392295.91	775080.68	N 32 4 34.51	W 103 34 43.24	954.94	179.58	0.00
	10100.00	90.00	179.58	9250.00	1054.94	-1054.92	7.82	392195.92	775081.42	N 32 4 33.52	W 103 34 43.24	1054.94	179.58	0.00
	10200.00	90.00	179.58	9250.00	1154.94	-1154.91	8.57	392095.92	775082.17	N 32 4 32.53	W 103 34 43.24	1154.94	179.58	0.00
	10300.00	90.00	179.58	9250.00	1254.94	-1254.91	9.31	391995.93	775082.91	N 32 4 31.55	W 103 34 43.24	1254.94	179.58	0.00
	10400.00	90.00	179.58	9250.00	1354.94	-1354.91	10.05	391895.93	775083.65	N 32 4 30.56	W 103 34 43.24	1354.94	179.58	0.00
	10500.00	90.00	179.58	9250.00	1454.94	-1454.90	10.79	391795.94	775084.39	N 32 4 29.57	W 103 34 43.24	1454.94	179.58	0.00
	10600.00	90.00	179.58	9250.00	1554.94	-1554.90	11.53	391695.95	775085.13	N 32 4 28.58	W 103 34 43.24	1554.94	179.58	0.00
	10700.00	90.00	179.58	9250.00	1654.94	-1654.90	12.27	391595.95	775085.87	N 32 4 27.59	W 103 34 43.24	1654.94	179.58	0.00
	10800.00	90.00	179.58	9250.00	1754.94	-1754.90	13.01	391495.96	775086.61	N 32 4 26.60	W 103 34 43.24	1754.94	179.58	0.00
	10900.00	90.00	179.58	9250.00	1854.94	-1854.89	13.75	391395.96	775087.35	N 32 4 25.61	W 103 34 43.24	1854.94	179.58	0.00
	11000.00	90.00	179.58	9250.00	1954.94	-1954.89	14.49	391295.97	775088.09	N 32 4 24.62	W 103 34 43.24	1954.94	179.58	0.00
	11100.00	90.00	179.58	9250.00	2054.94	-2054.89	15.23	391195.97	775088.83	N 32 4 23.63	W 103 34 43.24	2054.94	179.58	0.00
	11200.00	90.00	179.58	9250.00	2154.94	-2154.89	15.98	391095.98	775089.57	N 32 4 22.64	W 103 34 43.24	2154.94	179.58	0.00
	11300.00	90.00	179.58	9250.00	2254.94	-2254.88	16.72	390995.99	775090.32	N 32 4 21.65	W 103 34 43.24	2254.94	179.58	0.00
	11400.00	90.00	179.58	9250.00	2354.94	-2354.88	17.46	390895.99	775091.06	N 32 4 20.66	W 103 34 43.24	2354.94	179.58	0.00
	11500.00	90.00	179.58	9250.00	2454.94	-2454.88	18.20	390796.00	775091.80	N 32 4 19.67	W 103 34 43.23	2454.94	179.58	0.00
	11600.00	90.00	179.58	9250.00	2554.94	-2554.87	18.94	390696.00	775092.54	N 32 4 18.68	W 103 34 43.23	2554.94	179.58	0.00
	11700.00	90.00	179.58	9250.00	2654.94	-2654.87	19.68	390596.01	775093.28	N 32 4 17.69	W 103 34 43.23	2654.94	179.58	0.00
	11800.00	90.00	179.58	9250.00	2754.94	-2754.87	20.42	390496.01	775094.02	N 32 4 16.70	W 103 34 43.23	2754.94	179.58	0.00
	11900.00	90.00	179.58	9250.00	2854.94	-2854.87	21.16	390396.02	775094.76	N 32 4 15.71	W 103 34 43.23	2854.94	179.58	0.00
	12000.00	90.00	179.58	9250.00	2954.94	-2954.86	21.90	390296.03	775095.50	N 32 4 14.72	W 103 34 43.23	2954.94	179.58	0.00
	12100.00	90.00	179.58	9250.00	3054.94	-3054.86	22.64	390196.03	775096.24	N 32 4 13.73	W 103 34 43.23	3054.94	179.58	0.00
	12200.00	90.00	179.58	9250.00	3154.94	-3154.86	23.38	390096.04	775096.98	N 32 4 12.74	W 103 34 43.23	3154.94	179.58	0.00
	12300.00	90.00	179.58	9250.00	3254.94	-3254.86	24.12	389996.04	775097.72	N 32 4 11.75	W 103 34 43.23	3254.94	179.58	0.00
	12400.00	90.00	179.58	9250.00	3354.94	-3354.85	24.86	389896.05	775098.46	N 32 4 10.76	W 103 34 43.23	3354.94	179.58	0.00
	12500.00	90.00	179.58	9250.00	3454.94	-3454.85	25.60	389796.05	775099.20	N 32 4 9.78	W 103 34 43.23	3454.94	179.58	0.00
	12600.00	90.00	179.58	9250.00	3554.94	-3554.85	26.34	389696.06	775099.94	N 32 4 8.79	W 103 34 43.23	3554.94	179.58	0.00
	12700.00	90.00	179.58	9250.00	3654.94	-3654.84	27.08	389596.07	775100.68	N 32 4 7.80	W 103 34 43.23	3654.94	179.58	0.00
	12800.00	90.00	179.58	9250.00	3754.94	-3754.84	27.82	389496.07	775101.42	N 32 4 6.81	W 103 34 43.23	3754.94	179.58	0.00
	12900.00	90.00	179.58	9250.00	3854.94	-3854.84	28.56	389396.08	775102.16	N 32 4 5.82	W 103 34 43.23	3854.94	179.58	0.00
	13000.00	90.00	179.58	9250.00	3954.94	-3954.84	29.30	389296.08	775102.90	N 32 4 4.83	W 103 34 43.23	3954.94	179.58	0.00
	13100.00	90.00	179.58	9250.00	4054.94	-4054.83	30.04	389196.09	775103.63	N 32 4 3.84	W 103 34 43.23	4054.94	179.58	0.00
	13200.00	90.00	179.58	9250.00	4154.94	-4154.83	30.77	389096.10	775104.37	N 32 4 2.85	W 103 34 43.23	4154.94	179.58	0.00
	13300.00	90.00	179.58	9250.00	4254.94	-4254.83	31.51	388996.10	775105.11	N 32 4 1.86	W 103 34 43.23	4254.94	179.58	0.00
	13400.00	90.00	179.58	9250.00	4354.94	-4354.83	32.25	388896.11	775105.85	N 32 4 0.87	W 103 34 43.23	4354.94	179.58	0.00
	13500.00	90.00	179.58	9250.00	4454.94	-4454.82	32.99	388796.11	775106.59	N 32 3 59.88	W 103 34 43.23	4454.94	179.58	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)
	13600.00	90.00	179.58	9250.00	4554.94	-4554.82	33.73	388696.12	775107.33	N 32 3 58.89	W 103 34 43.23	4554.94	179.58	0.00
Cimarex Red Hills Unit #30H PBHL	13663.52	90.00	179.58	9250.00	4618.47	-4618.34	34.20	388632.60	775107.80	N 32 3 58.26	W 103 34 43.22	4618.47	179.58	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	8720.000	1/100.000	30.000	30.000	SLB_MWD-POOR	Pilot Borehole / Cimarex Red Hills Unit #30H Pilot Rev0 WEB 07-
	8720.000	13663.522	1/100.000	30.000	30.000	SLB_MWD-STD	ST01 Borehole / Cimarex Red Hills Unit #30H ST01 Rev0 WEB

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

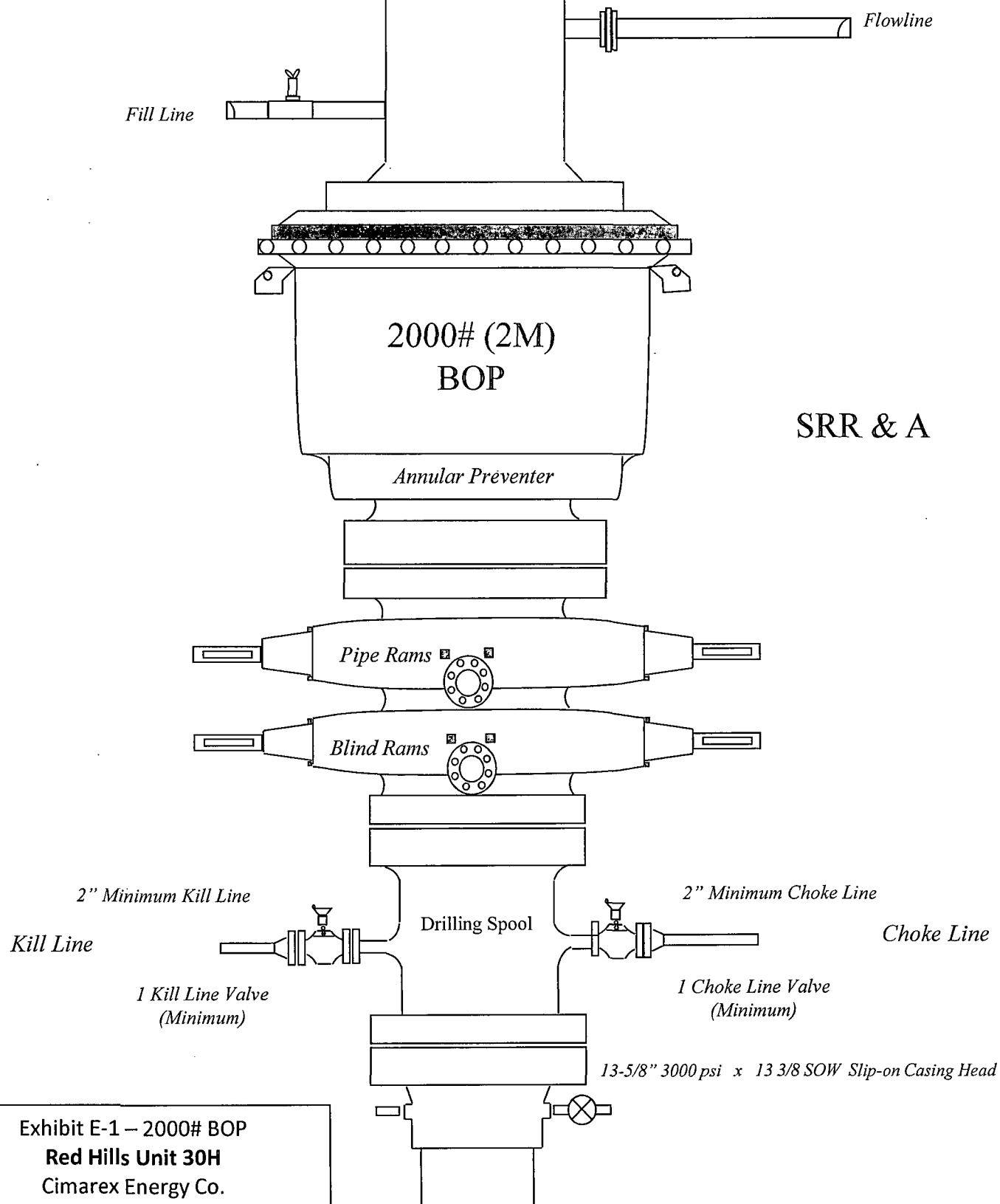


Exhibit E-1 – 2000# BOP
Red Hills Unit 30H
Cimarex Energy Co.
Sec. 4-26S-33E
SHL 330' FNL & 2200' FWL
BHL 330' FSL & 2200' FWL
Lea County, NM

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

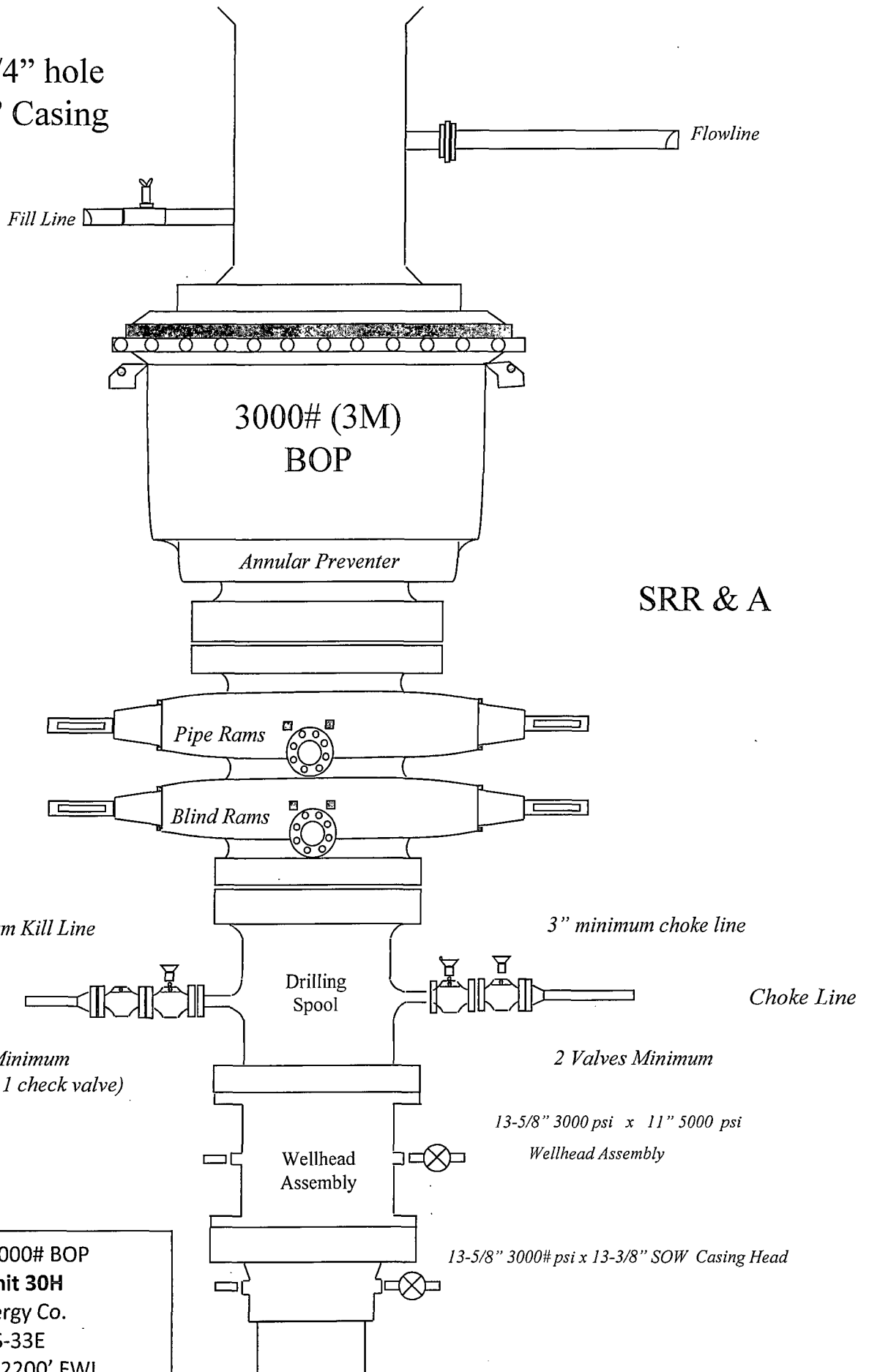


Exhibit E-1 – 3000# BOP

Red Hills Unit 30H

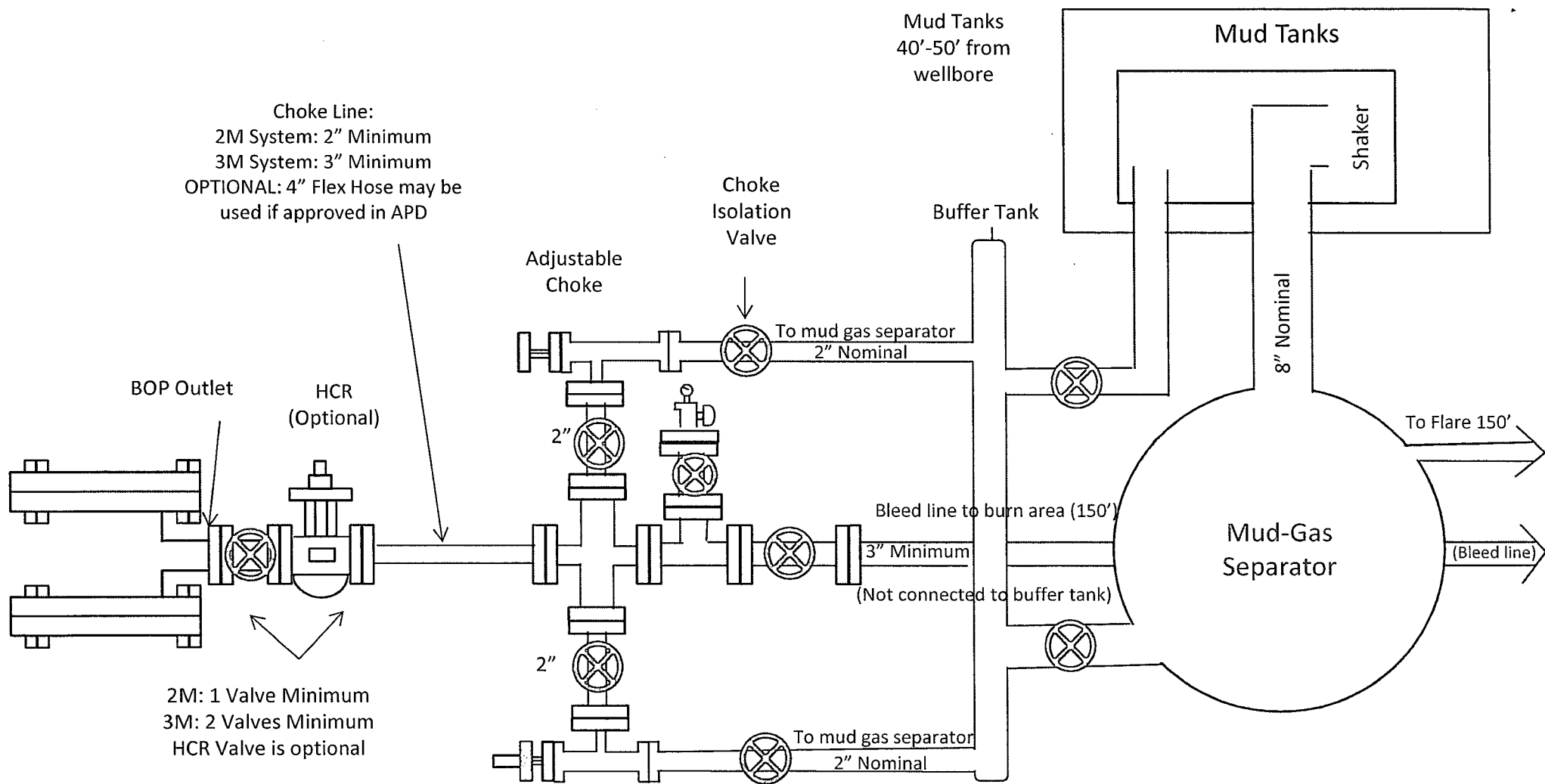
Cimarex Energy Co.

Sec. 4-26S-33E

SHL 330' FNL & 2200' FWL

BHL 330' FSL & 2200' FWL

Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Red Hills Unit 30H
Cimarex Energy Co.
Sec. 4-26S-33E
SHL 330' FNL & 2200' FWL
BHL 330' FSL & 2200' FWL
Lea County, NM

Exhibit F – Co-Flex Hose

Red Hills Unit 30H

Cimarex Energy Co.

Sec. 4-26S-33E

SHL 330' FNL & 2200' FWL

BHL 330' FSL & 2200' FWL

Lea County, NM

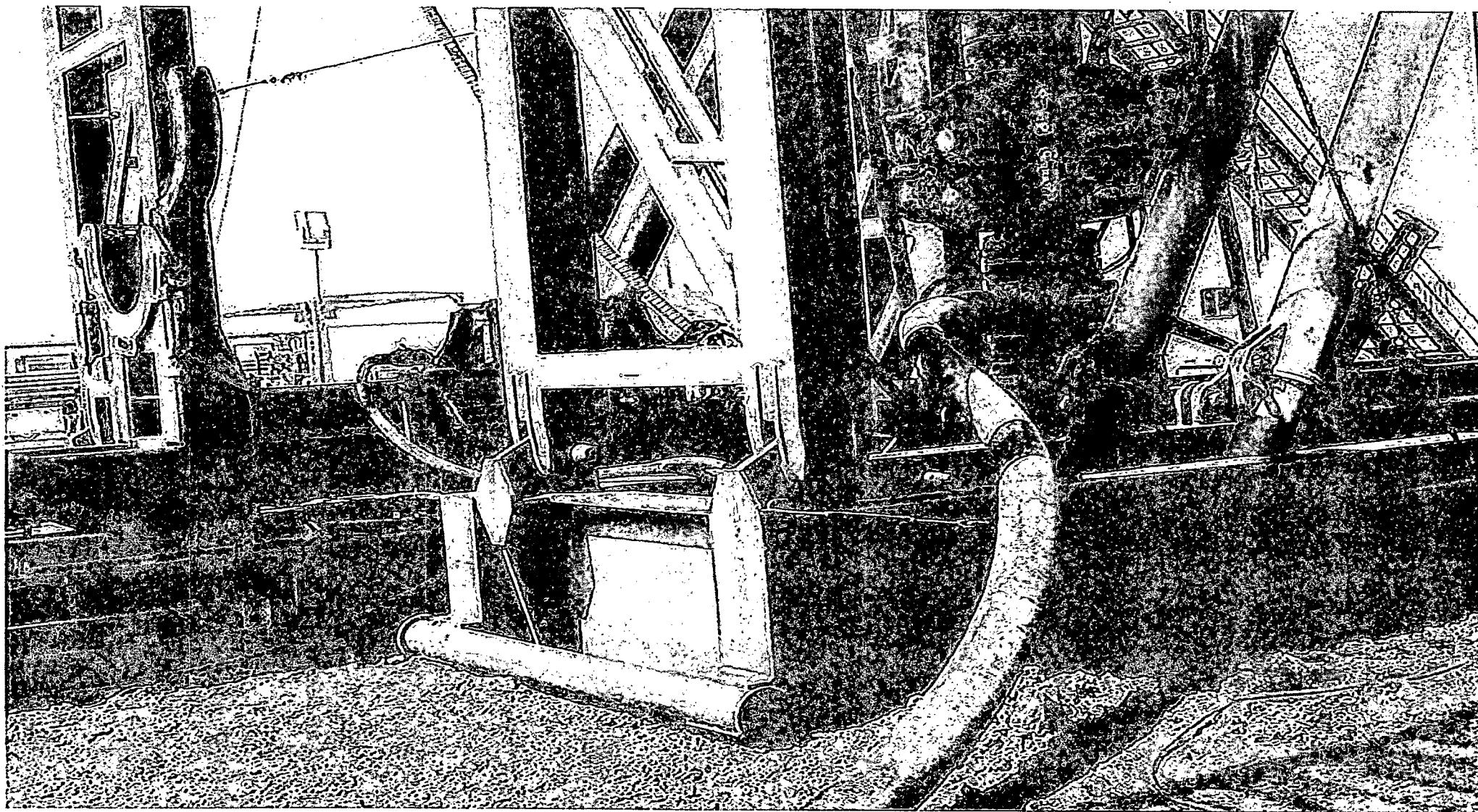


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Red Hills Unit 30H

Cimarex Energy Co.

Sec. 4-26S-33E

SHL 330' FNL & 2200' FWL

BHL 330' FSL & 2200' FWL

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. James Jones</i>		Approved: <i>[Signature]</i>

Joseph Smith

Exhibit F-2 – Co-Flex Hose
Red Hills Unit 30H
Cimarex Energy Co.
Sec. 4-26S-33E
SHL 330' FNL & 2200' FWL
BHL 330' FSL & 2200' FWL
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

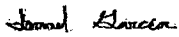
Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640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

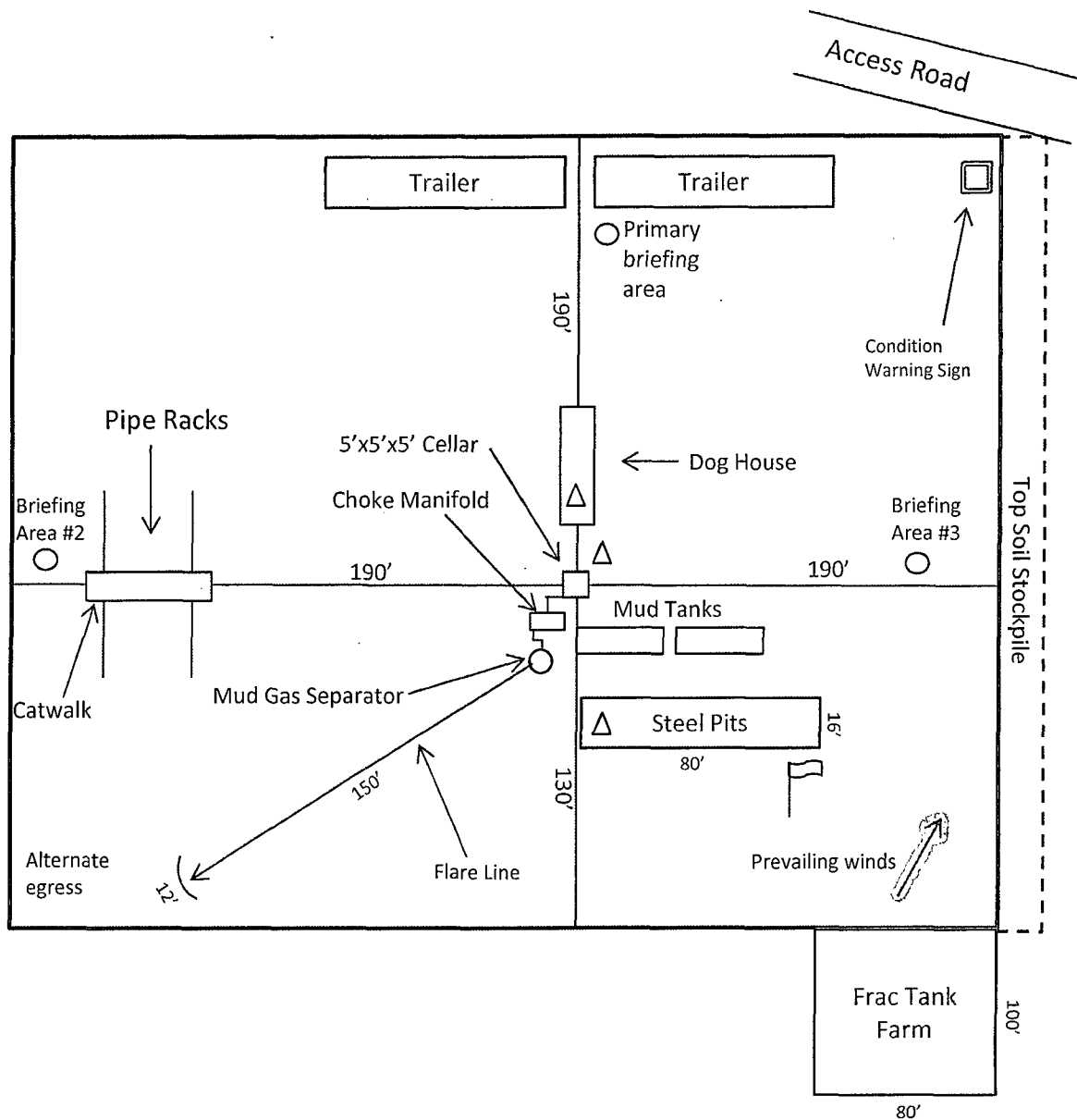


Exhibit F -3- Co-Flex Hose
Red Hills Unit 30H
Cimarex Energy Co.
Sec. 4-26S-33E
SHL 330' FNL & 2200' FWL
BHL 330' FSL & 2200' FWL
Lea County, NM

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)



Wind Direction Indicators
(wind sock or streamers)



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



Briefing Areas

N



Exhibit D – Rig Layout Diagram

Red Hills Unit 30H

Cimarex Energy Co.

Sec. 4-26S-33E

SHL 330' FNL & 2200' FWL

BHL 330' FSL & 2200' FWL

Lea County, NM