

14-649

OCD Hobbs

Form 3160-3
(March 2012)FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

Split Estate

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

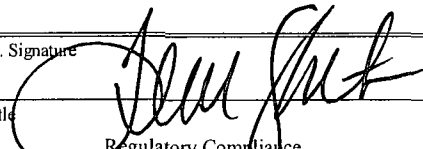
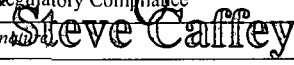
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No. Red Hills Unit - NM071019X	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. 300543 Red Hills Unit 22H	
2. Name of Operator Cimarex Energy Co. OF COLORADO 162687 HOBBS OCD		9. API Well No. 30025 42328	
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 160 FNL & 1310 FWL At proposed prod. Zone 330 FSL & 440 FWL Bone Spring RECEIVED		10. Field and Pool, or Exploratory 97994 Bone Spring Wildcat	
14. Distance in miles and direction from nearest town or post office* Jal, NM is approx 31 miles to the southeast of location.		11. Sec., T. R. M. or Blk. and Survey and Area 5, 26S, 33E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 160'		16. No of acres in lease Private=0.00 acres NM0106040A=240.00 acres NM0160973=1238.72 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. 20' to #23	
19. Proposed Depth Pilot Hole TD: N/A 14,750 MD 9,875 TVD		20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3379 GR		22. Approximate date work will start* 7/1/14	
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 	Name (Printed/Typed) Terri Stathem	Date 3/21/14
Title Regulatory Compliance		
Approved By (Signature) 	Name (Printed/Typed) Steve Caffey	Date DEC 1 2014
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL
DEC 10 2014

*(Instructions on page 2)

Application to Drill
Red Hills Unit 22H
 Cimarex Energy Co.
 UL: D, Sec. 5, 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 160 FNL & 1310 FWL
 BHL 330 FSL & 440 FWL

2. Elevation Above Sea Level: 3,379' 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: 14,750 MD 9,875 TVD Pilot Hole TD: N/A

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	1045	950	17 1/2	13-3/8"	48.00	H-40	ST&C	New	478	8.8	1.55		3.62	50,160	43,421	7.42
Intermediate	0	4920	4850	12 1/4	9-5/8"	36.00	J-55	LT&C	New	2583	10.1		1.17	1.36	177,120	149,808	3.02
Production	0	9245	9245	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4422	9.2	1.42		1.75	167,875	144,295	2.34
Production	9245	14750	9875	8 3/4	5-1/2"	17.00	L-80	BT&C	New	4724	9.2	1.33		1.64	10,710	9,206	43.13

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 22H
Cimarex Energy Co.
UL: D, Sec. 5, 26S, 33E
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8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.80 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.80 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: 10.10 ppg.
	Collapse	A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.10 ppg mud gradient. During the running of the casing, the operator will stop and fill the casing as need to ensure it does not collapse.
	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: 9.20 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.20 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	498	1.75	13.50	871	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	136	1.34	14.80	181	Class C + LCM, 6.320 gps water
	TOC: 0		45% Excess		Centralizers per Onshore Order 2.III.B.1f	
Intermediate	Lead	897	1.88	12.90	1686	35:65 (Poz:C) + Salt + Bentonite + LCM + Retarder, 9.650 gps water
	Tail	288	1.34	14.80	385	Class C + Retarder + LCM, 6.320 gps water
	TOC: 0		44% Excess			
Production	Lead	525	2.40	11.90	1259	35:65 (poz:H) + Salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.800 gps water
	Tail	1284	1.30	14.50	1669	50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + Expanding Agent + Retarder + Antifoam, 5.790 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: No Pilot KOP: 9,245' EOC: 10,435'

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

10. Pressure Control Equipment:

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

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

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

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

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LEA Co., NM

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1045'	8.30 - 8.80	28	NC	FW Spud Mud
1045' to 4920'	9.60 - 10.10	30-32	NC	Brine Water
4920' to 14750'	8.70 - 9.20	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: 4444 psi

Estimated BHT: 159°

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.

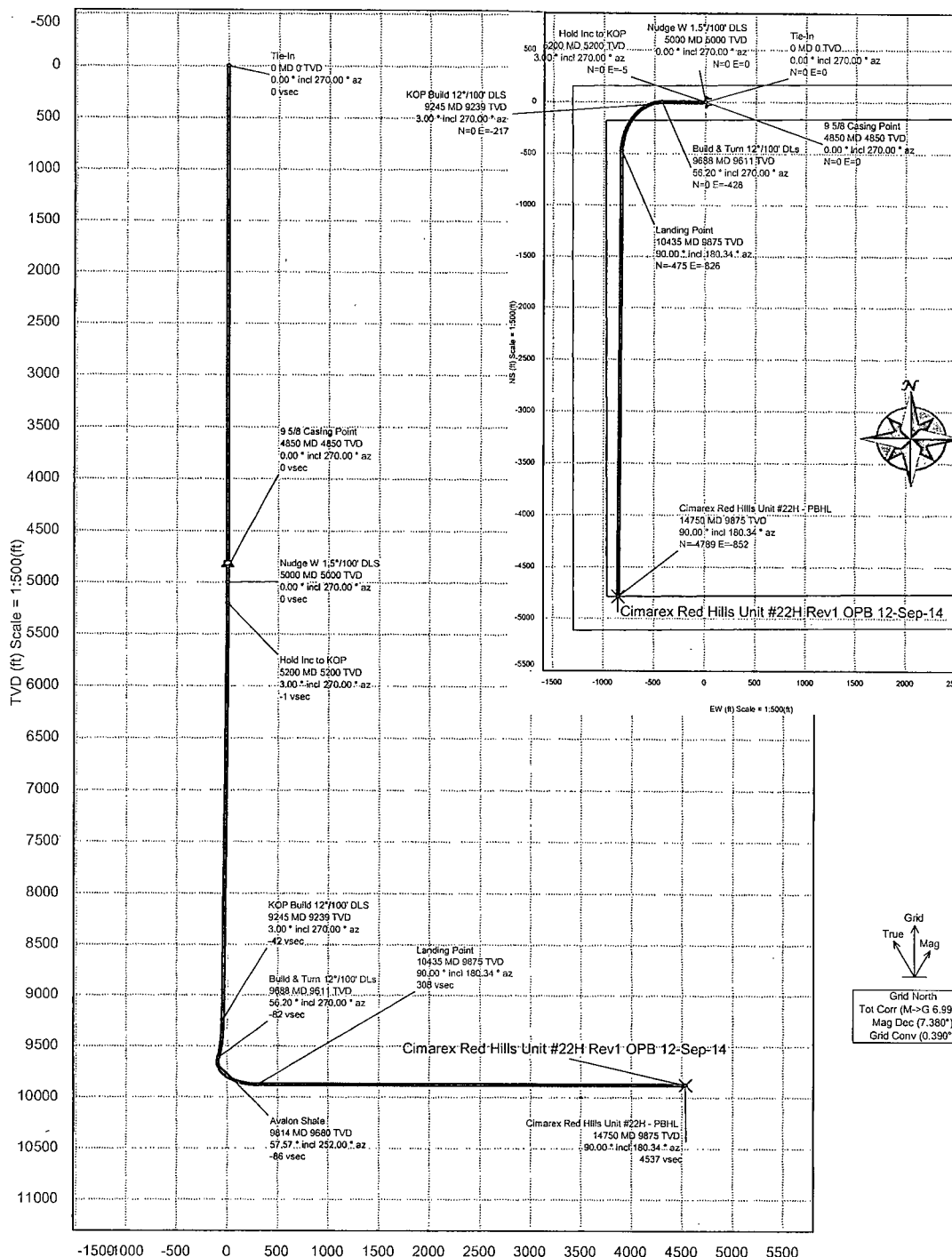
15. Other Facets of Operations:

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 potentialized as **Oil**

Borehole:	Well:	Field:	Structure:
Original Borehole	Red Hills Unit #22H	NM Lea County	TBD
Gravity & Magnetic Parameters Model: BGGM 2013 Dip: 59.969° Date: 08-Jan-2014 MagDec: 7.38° FS: 48252.178mT Gravity FS: 998.685mg (9.80665 Based)			
Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet Lat: N 32 4 45.70 Northing: 393383.4ftUS Grid Conv: 0.3902° Lon: W 103 35 55.06 Easting: 768893.7ftUS Scale Fact: 0.9999684			
Miscellaneous Slot: Red Hills Unit #22H Plan: Rev1 OPB 12-Sep-14 TVD Ref: Ground Level (3379ft above MSL)			



Vertical Section (ft) Azim = 168.93° Scale = 1:500(ft) Origin = 0N/-S, 0E/-W

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(-)/S(+)	E(-)/W(+)	DLS
Tie-In	0.00	0.00	270.00	0.00	0.00	0.00	0.00	0.00
9 5/8 Casing Point	4850.00	0.00	270.00	4850.00	0.00	0.00	0.00	0.00
Nudge W 1.57'100' DLS	5000.00	0.00	270.00	5000.00	0.00	0.00	0.00	0.00
Hold Inc to KOP	5200.00	3.00	270.00	5199.91	0.92	0.00	-5.23	1.50
KOP Build 12'100' DLS	9244.63	3.00	270.00	9239.00	37.97	0.00	-216.91	0.00
Build & Turn 12'100' DLS	9687.97	56.20	270.00	9610.78	74.94	0.00	-428.11	12.00
Avalon Shale	9813.94	57.57	252.00	9880.00	109.33	-16.53	-531.62	12.00
Landing Point	10435.39	90.00	180.34	9875.00	612.16	-474.98	-825.65	12.00
Cimarex Red Hills Unit #22H - PBHL	14749.87	90.00	180.34	9875.00	4864.47	-4789.36	-851.53	0.00



Cimarex Red Hills Unit #22H Rev1 OPB 12-Sep-14 Proposal Report 100' Interpolated (Non-Def Plan)



Report Date: September 12, 2014 - 10:03 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Red Hills Unit #22H
Well: Red Hills Unit #22H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills Unit #22H Rev1 OPB 12-Sep-14
Survey Date: September 12, 2014

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 190.082 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3379.000 ft above MSL
Seabed / Ground Elevation: 3379.000 ft above MSL
Magnetic Declination: 7.380 °
Total Gravity Field Strength: 998.6855mgn (9.80665 Based)
Gravity Model: DOX

Tort / AHD / DDI / ERD Ratio: 145.916 ° / 5428.516 ft / 6.073 / 0.550

Total Magnetic Field Strength: 48252.178 nT

Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet

Magnetic Dip Angle: 59.969 °

Location Lat / Long: N 32° 4' 45.69771", W 103° 35' 55.06124"

Declination Date: January 08, 2014

Location Grid N/E Y/X: N 393383.400 ftUS, E 768893.700 ftUS

Magnetic Declination Model: BGGM 2013

CRS Grid Convergence Angle: 0.3902 °

North Reference: Grid North

Grid Scale Factor: 0.9999684

Grid Convergence Used: 0.3902 °

Version / Patch: 2.7.1043.0

Total Corr Mag North->Grid North: 6.9895 °

Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
Tie-In	0.00	0.00	270.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	270M
	100.00	0.00	270.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	200.00	0.00	270.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	300.00	0.00	270.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	400.00	0.00	270.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	500.00	0.00	270.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	600.00	0.00	270.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	700.00	0.00	270.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	800.00	0.00	270.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	900.00	0.00	270.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1000.00	0.00	270.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1100.00	0.00	270.00	1100.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1200.00	0.00	270.00	1200.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1300.00	0.00	270.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1400.00	0.00	270.00	1400.00	0.00	0.00	0.00	0.00	0.00	0.00	270M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	1500.00	0.00	270.00	1500.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1600.00	0.00	270.00	1600.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1700.00	0.00	270.00	1700.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1800.00	0.00	270.00	1800.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	1900.00	0.00	270.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2000.00	0.00	270.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2100.00	0.00	270.00	2100.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2200.00	0.00	270.00	2200.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2300.00	0.00	270.00	2300.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2400.00	0.00	270.00	2400.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2500.00	0.00	270.00	2500.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2600.00	0.00	270.00	2600.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2700.00	0.00	270.00	2700.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2800.00	0.00	270.00	2800.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	2900.00	0.00	270.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3000.00	0.00	270.00	3000.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3100.00	0.00	270.00	3100.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3200.00	0.00	270.00	3200.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3300.00	0.00	270.00	3300.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3400.00	0.00	270.00	3400.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3500.00	0.00	270.00	3500.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3600.00	0.00	270.00	3600.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3700.00	0.00	270.00	3700.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3800.00	0.00	270.00	3800.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	3900.00	0.00	270.00	3900.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4000.00	0.00	270.00	4000.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4100.00	0.00	270.00	4100.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4200.00	0.00	270.00	4200.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4300.00	0.00	270.00	4300.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4400.00	0.00	270.00	4400.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4500.00	0.00	270.00	4500.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4600.00	0.00	270.00	4600.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4700.00	0.00	270.00	4700.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4800.00	0.00	270.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
9 5/8 Casing Point	4850.00	0.00	270.00	4850.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	4900.00	0.00	270.00	4900.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
Nudge W 1.5°/100' DLS	5000.00	0.00	270.00	5000.00	0.00	0.00	0.00	0.00	0.00	0.00	270M
	5100.00	1.50	270.00	5099.99	0.23	0.00	-1.31	1.31	270.00	1.50	270M
Hold Inc to KOP	5200.00	3.00	270.00	5199.91	0.92	0.00	-5.23	5.23	270.00	1.50	270M
	5300.00	3.00	270.00	5299.77	1.83	0.00	-10.47	10.47	270.00	0.00	270M
	5400.00	3.00	270.00	5399.63	2.75	0.00	-15.70	15.70	270.00	0.00	270M

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	5500.00	3.00	270.00	5499.50	3.66	0.00	-20.94	20.94	270.00	0.00	270M
	5600.00	3.00	270.00	5599.36	4.58	0.00	-26.17	26.17	270.00	0.00	270M
	5700.00	3.00	270.00	5699.22	5.50	0.00	-31.40	31.40	270.00	0.00	270M
	5800.00	3.00	270.00	5799.09	6.41	0.00	-36.64	36.64	270.00	0.00	270M
	5900.00	3.00	270.00	5898.95	7.33	0.00	-41.87	41.87	270.00	0.00	270M
	6000.00	3.00	270.00	5998.81	8.25	0.00	-47.10	47.10	270.00	0.00	270M
	6100.00	3.00	270.00	6098.68	9.16	0.00	-52.34	52.34	270.00	0.00	270M
	6200.00	3.00	270.00	6198.54	10.08	0.00	-57.57	57.57	270.00	0.00	270M
	6300.00	3.00	270.00	6298.40	10.99	0.00	-62.80	62.80	270.00	0.00	270M
	6400.00	3.00	270.00	6398.26	11.91	0.00	-68.04	68.04	270.00	0.00	270M
	6500.00	3.00	270.00	6498.13	12.83	0.00	-73.27	73.27	270.00	0.00	270M
	6600.00	3.00	270.00	6597.99	13.74	0.00	-78.51	78.51	270.00	0.00	270M
	6700.00	3.00	270.00	6697.85	14.66	0.00	-83.74	83.74	270.00	0.00	270M
	6800.00	3.00	270.00	6797.72	15.57	0.00	-88.97	88.97	270.00	0.00	270M
	6900.00	3.00	270.00	6897.58	16.49	0.00	-94.21	94.21	270.00	0.00	270M
	7000.00	3.00	270.00	6997.44	17.41	0.00	-99.44	99.44	270.00	0.00	270M
	7100.00	3.00	270.00	7097.30	18.32	0.00	-104.67	104.67	270.00	0.00	270M
	7200.00	3.00	270.00	7197.17	19.24	0.00	-109.91	109.91	270.00	0.00	270M
	7300.00	3.00	270.00	7297.03	20.16	0.00	-115.14	115.14	270.00	0.00	270M
	7400.00	3.00	270.00	7396.89	21.07	0.00	-120.37	120.37	270.00	0.00	270M
	7500.00	3.00	270.00	7496.76	21.99	0.00	-125.61	125.61	270.00	0.00	270M
	7600.00	3.00	270.00	7596.62	22.90	0.00	-130.84	130.84	270.00	0.00	270M
	7700.00	3.00	270.00	7696.48	23.82	0.00	-136.07	136.07	270.00	0.00	270M
	7800.00	3.00	270.00	7796.35	24.74	0.00	-141.31	141.31	270.00	0.00	270M
	7900.00	3.00	270.00	7896.21	25.65	0.00	-146.54	146.54	270.00	0.00	270M
	8000.00	3.00	270.00	7996.07	26.57	0.00	-151.78	151.78	270.00	0.00	270M
	8100.00	3.00	270.00	8095.93	27.48	0.00	-157.01	157.01	270.00	0.00	270M
	8200.00	3.00	270.00	8195.80	28.40	0.00	-162.24	162.24	270.00	0.00	270M
	8300.00	3.00	270.00	8295.66	29.32	0.00	-167.48	167.48	270.00	0.00	270M
	8400.00	3.00	270.00	8395.52	30.23	0.00	-172.71	172.71	270.00	0.00	270M
	8500.00	3.00	270.00	8495.39	31.15	0.00	-177.94	177.94	270.00	0.00	270M
	8600.00	3.00	270.00	8595.25	32.07	0.00	-183.18	183.18	270.00	0.00	270M
	8700.00	3.00	270.00	8695.11	32.98	0.00	-188.41	188.41	270.00	0.00	270M
	8800.00	3.00	270.00	8794.97	33.90	0.00	-193.64	193.64	270.00	0.00	270M
	8900.00	3.00	270.00	8894.84	34.81	0.00	-198.88	198.88	270.00	0.00	270M
	9000.00	3.00	270.00	8994.70	35.73	0.00	-204.11	204.11	270.00	0.00	270M
	9100.00	3.00	270.00	9094.56	36.65	0.00	-209.35	209.35	270.00	0.00	270M
	9200.00	3.00	270.00	9194.43	37.56	0.00	-214.58	214.58	270.00	0.00	270M
KOP Build 12°/100' DLS	9244.63	3.00	270.00	9239.00	37.97	0.00	-216.91	216.91	270.00	0.00	270M
	9300.00	9.64	270.00	9294.00	39.04	0.00	-223.01	223.01	270.00	12.00	HS
	9400.00	21.64	270.00	9390.12	43.75	0.00	-249.92	249.92	270.00	12.00	HS
	9500.00	33.64	270.00	9478.54	51.86	0.00	-296.24	296.24	270.00	12.00	HS
	9600.00	45.64	270.00	9555.40	63.00	0.00	-359.92	359.92	270.00	12.00	HS

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
Build & Turn 12°/100' DLs	9687.97	56.20	270.00	9610.78	74.94	0.00	-428.11	428.11	270.00	12.00	89.81L
Avalon Shale	9700.00	56.22	268.26	9617.47	76.84	-0.15	-438.11	438.11	269.98	12.00	88.84L
	9800.00	57.29	253.96	9672.49	103.98	-13.09	-520.38	520.55	268.56	12.00	80.97L
	9813.94	57.57	252.00	9680.00	109.33	-16.53	-531.62	531.87	268.22	12.00	79.92L
	9900.00	59.93	240.23	9724.76	150.40	-46.32	-598.66	600.45	265.58	12.00	73.79L
	10000.00	63.90	227.38	9771.99	214.09	-98.41	-669.51	676.71	261.64	12.00	67.72L
Landing Point	10100.00	68.93	215.48	9812.10	292.24	-167.06	-729.85	748.73	257.11	12.00	62.94L
	10200.00	74.73	204.41	9843.36	381.45	-249.28	-777.04	816.04	252.21	12.00	59.47L
	10300.00	81.04	193.96	9864.39	477.82	-341.47	-809.00	878.11	247.12	12.00	57.27L
	10400.00	87.64	183.88	9874.27	577.12	-439.61	-824.35	934.24	241.93	12.00	56.27L
	10435.39	90.00	180.34	9875.00	612.16	-474.96	-825.65	952.51	240.09	12.00	90R
	10500.00	90.00	180.34	9875.00	675.83	-539.57	-826.03	986.64	236.85	0.00	90R
	10600.00	90.00	180.34	9875.00	774.39	-639.56	-826.63	1045.16	232.27	0.00	90R
	10700.00	90.00	180.34	9875.00	872.95	-739.56	-827.23	1109.62	228.20	0.00	90R
	10800.00	90.00	180.34	9875.00	971.51	-839.56	-827.83	1179.05	224.60	0.00	90R
	10900.00	90.00	180.34	9875.00	1070.07	-939.56	-828.43	1252.62	221.40	0.00	90R
	11000.00	90.00	180.34	9875.00	1168.63	-1039.56	-829.03	1329.65	218.57	0.00	90R
	11100.00	90.00	180.34	9875.00	1267.19	-1139.56	-829.63	1409.56	216.06	0.00	90R
	11200.00	90.00	180.34	9875.00	1365.75	-1239.55	-830.23	1491.90	213.81	0.00	90R
	11300.00	90.00	180.34	9875.00	1464.31	-1339.55	-830.83	1576.28	211.81	0.00	90R
	11400.00	90.00	180.34	9875.00	1562.86	-1439.55	-831.43	1662.40	210.01	0.00	90R
	11500.00	90.00	180.34	9875.00	1661.42	-1539.55	-832.02	1749.99	208.39	0.00	90R
	11600.00	90.00	180.34	9875.00	1759.98	-1639.55	-832.62	1838.85	206.92	0.00	90R
	11700.00	90.00	180.34	9875.00	1858.54	-1739.54	-833.22	1928.80	205.59	0.00	90R
	11800.00	90.00	180.34	9875.00	1957.10	-1839.54	-833.82	2019.70	204.38	0.00	90R
	11900.00	90.00	180.34	9875.00	2055.66	-1939.54	-834.42	2111.42	203.28	0.00	90R
	12000.00	90.00	180.34	9875.00	2154.22	-2039.54	-835.02	2203.86	202.27	0.00	90R
	12100.00	90.00	180.34	9875.00	2252.78	-2139.54	-835.62	2296.93	201.33	0.00	90R
	12200.00	90.00	180.34	9875.00	2351.34	-2239.54	-836.22	2390.56	200.48	0.00	90R
	12300.00	90.00	180.34	9875.00	2449.90	-2339.53	-836.82	2484.69	199.68	0.00	90R
	12400.00	90.00	180.34	9875.00	2548.46	-2439.53	-837.42	2579.26	198.95	0.00	90R
	12500.00	90.00	180.34	9875.00	2647.01	-2539.53	-838.02	2674.23	198.26	0.00	90R
	12600.00	90.00	180.34	9875.00	2745.57	-2639.53	-838.62	2769.55	197.63	0.00	90R
	12700.00	90.00	180.34	9875.00	2844.13	-2739.53	-839.22	2865.19	197.03	0.00	90R
	12800.00	90.00	180.34	9875.00	2942.69	-2839.53	-839.82	2961.11	196.48	0.00	90R
	12900.00	90.00	180.34	9875.00	3041.25	-2939.52	-840.42	3057.30	195.96	0.00	90R
	13000.00	90.00	180.34	9875.00	3139.81	-3039.52	-841.02	3153.73	195.47	0.00	90R
	13100.00	90.00	180.34	9875.00	3238.37	-3139.52	-841.62	3250.37	195.01	0.00	90R
	13200.00	90.00	180.34	9875.00	3336.93	-3239.52	-842.22	3347.21	194.57	0.00	90R
	13300.00	90.00	180.34	9875.00	3435.49	-3339.52	-842.82	3444.23	194.16	0.00	90R
	13400.00	90.00	180.34	9875.00	3534.05	-3439.51	-843.42	3541.41	193.78	0.00	90R
	13500.00	90.00	180.34	9875.00	3632.61	-3539.51	-844.02	3638.75	193.41	0.00	90R

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	13600.00	90.00	180.34	9875.00	3731.17	-3639.51	-844.62	3736.23	193.07	0.00	90R
	13700.00	90.00	180.34	9875.00	3829.73	-3739.51	-845.22	3833.84	192.74	0.00	90R
	13800.00	90.00	180.34	9875.00	3928.28	-3839.51	-845.82	3931.57	192.42	0.00	90R
	13900.00	90.00	180.34	9875.00	4026.84	-3939.51	-846.42	4029.41	192.13	0.00	90R
	14000.00	90.00	180.34	9875.00	4125.40	-4039.50	-847.02	4127.35	191.84	0.00	90R
	14100.00	90.00	180.34	9875.00	4223.96	-4139.50	-847.62	4225.39	191.57	0.00	90R
	14200.00	90.00	180.34	9875.00	4322.52	-4239.50	-848.22	4323.52	191.31	0.00	90R
	14300.00	90.00	180.34	9875.00	4421.08	-4339.50	-848.83	4421.74	191.07	0.00	90R
	14400.00	90.00	180.34	9875.00	4519.64	-4439.50	-849.43	4520.03	190.83	0.00	90R
	14500.00	90.00	180.34	9875.00	4618.20	-4539.49	-850.03	4618.39	190.61	0.00	90R
	14600.00	90.00	180.34	9875.00	4716.76	-4639.49	-850.63	4716.83	190.39	0.00	90R
	14700.00	90.00	180.34	9875.00	4815.32	-4739.49	-851.23	4815.33	190.18	0.00	90R
Cimarex Red Hills Unit #22H - PBHL	14749.87	90.00	180.34	9875.00	4864.47	-4789.36	-851.53	4864.47	190.08	0.00	

Survey Type: Non-Def Plan

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	14749.871	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex Red Hills Unit #22H Rev1 OPB 12-Sep-

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

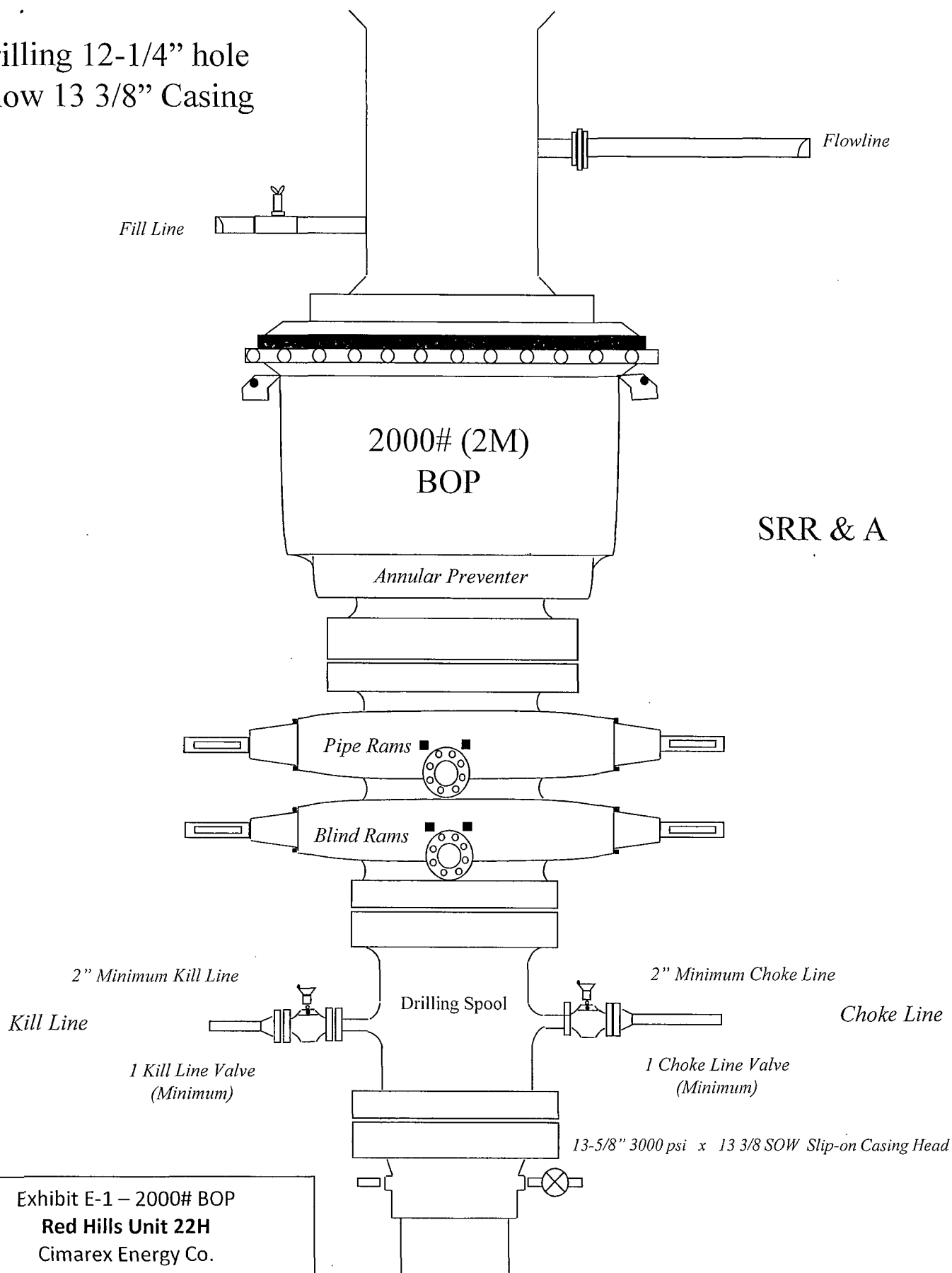


Exhibit E-1 – 2000# BOP

Red Hills Unit 22H

Cimarex Energy Co.

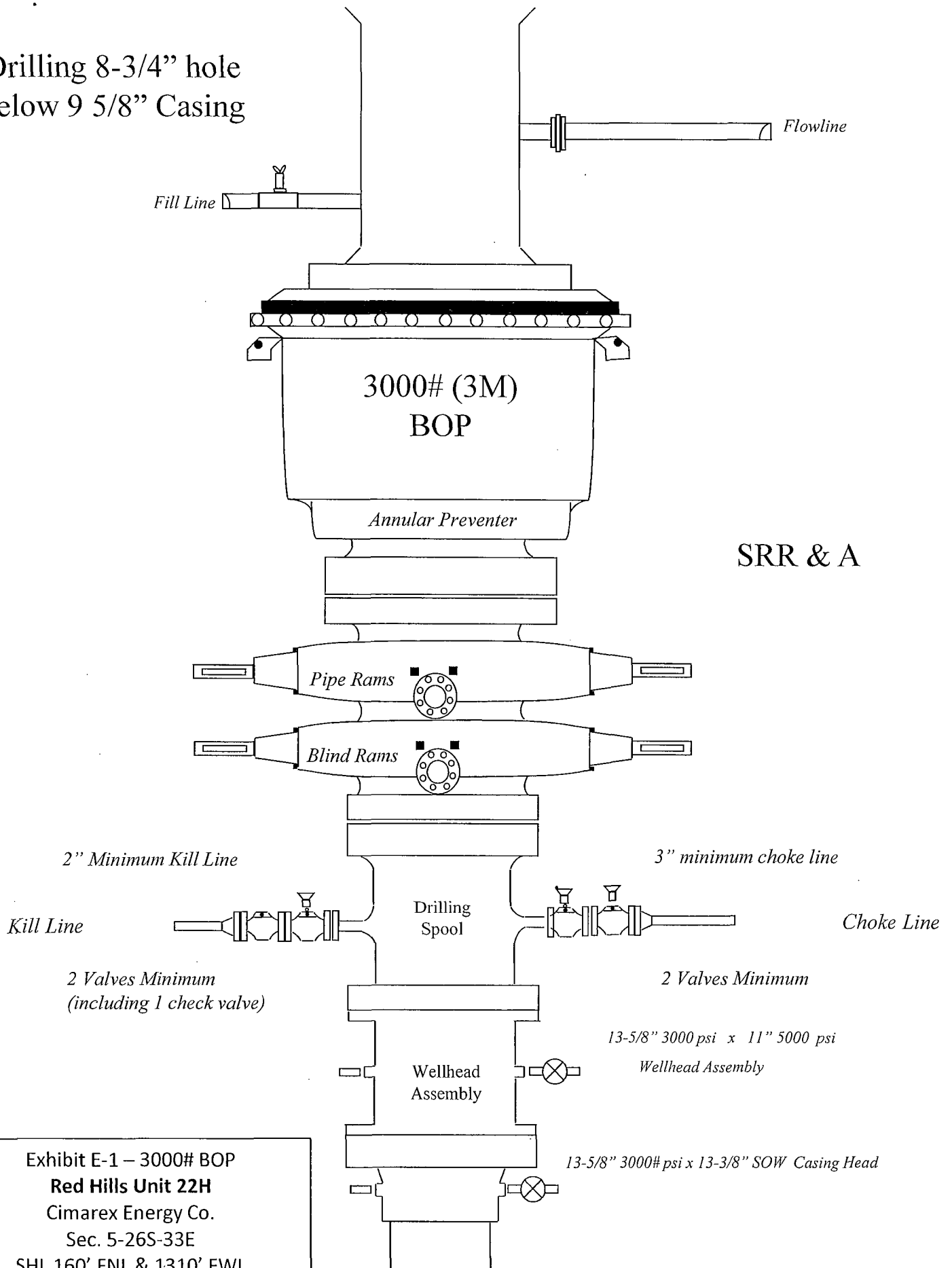
Sec. 5-26S-33E

SHL 160' FNL & 1310' FWL

BHL 330' FSL & 440' FWL

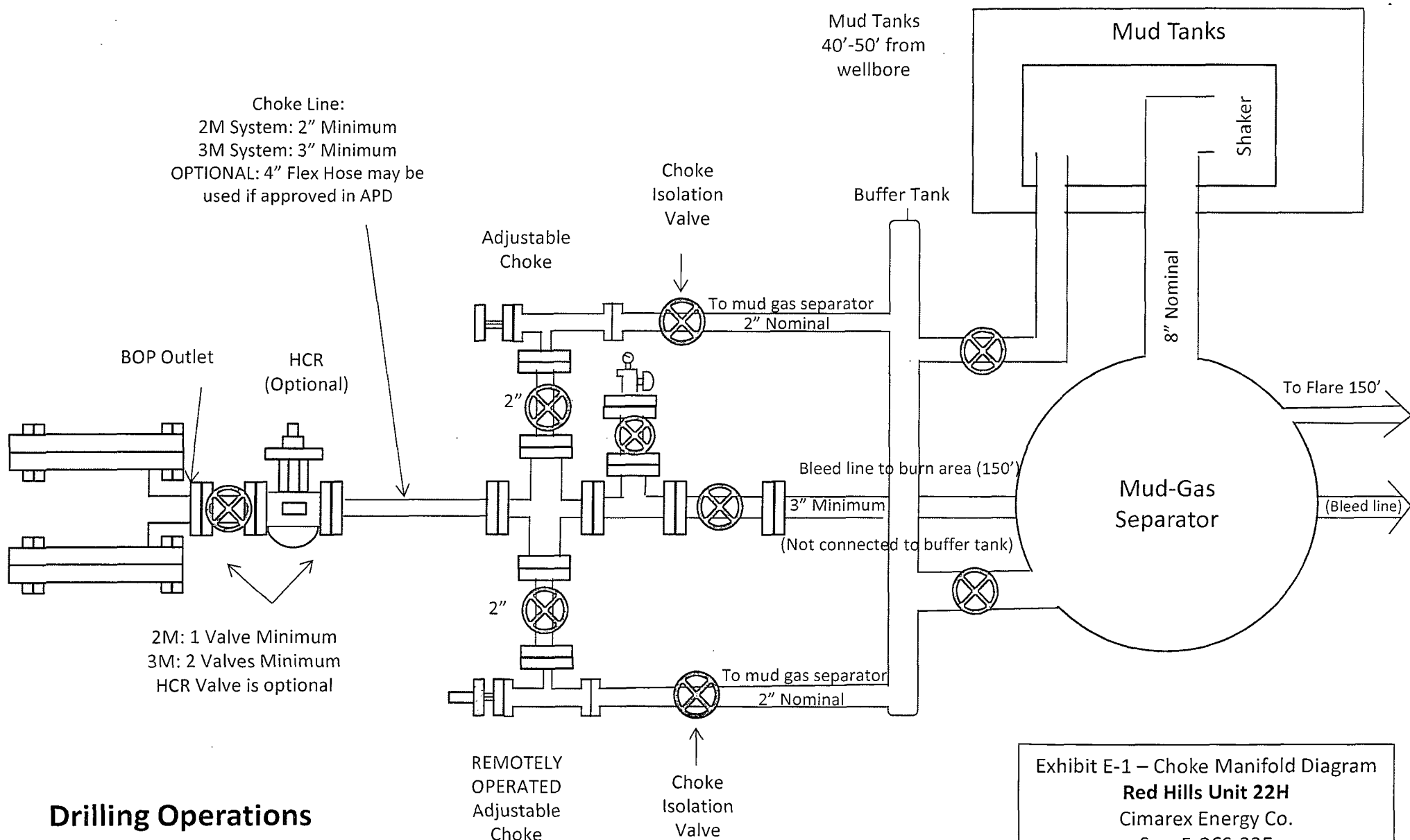
Lea County, NM

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



SRR & A

Exhibit E-1 – 3000# BOP
Red Hills Unit 22H
Cimarex Energy Co.
Sec. 5-26S-33E
SHL 160' FNL & 1310' FWL
BHL 330' FSL & 440' FWL
Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Red Hills Unit 22H
 Cimarex Energy Co.
 Sec. 5-26S-33E
 SHL 160' FNL & 1310' FWL
 BHL 330' FSL & 440' FWL
 Lea County, NM

Exhibit F-1 - Co-Flex Hose Hydrostatic Test

Mescalero 19 Federal 2H

Cimarex Energy Co.

Sec. 19-19S-34E

SHL 330' FSL & 660' FEL

BHL 330' FNL & 660' 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

Hose assembly pressure tested with water at ambient temperature.

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:

A. Jaime Garcia

Approved:

Kevin Hest



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type
C & K

Length
45'

Time of Fitting
4 1/16 10K

Coupling Method
Swage

Verification

I.D.

O.D.

Die Size

Final O.D.

4"

6.09"

6.38"

6.25"

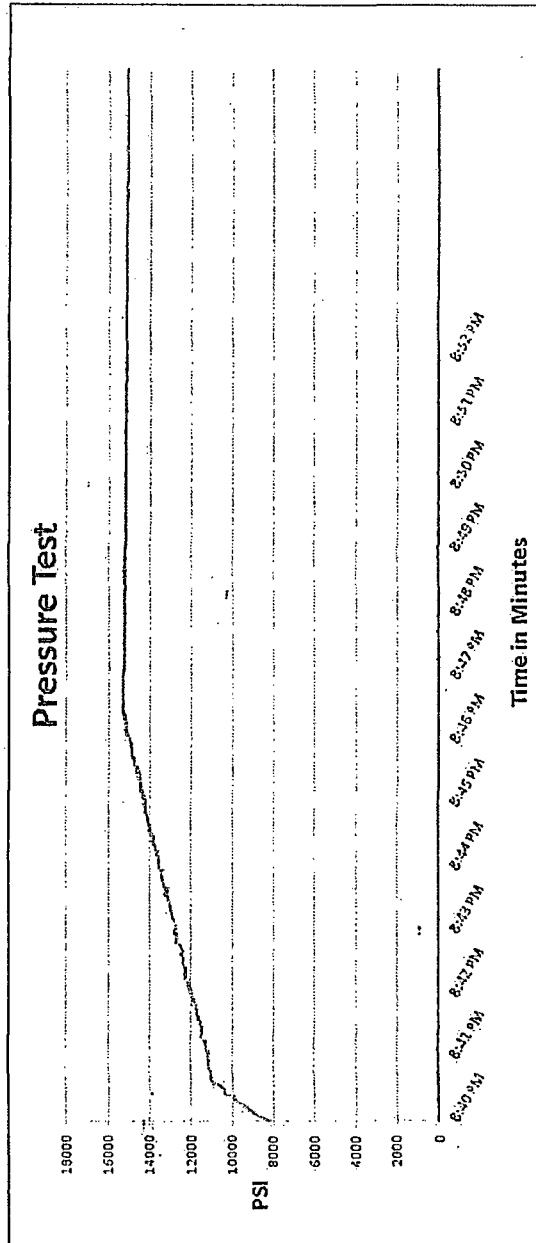
Working Pressure
10000 PSI

Burst Pressure
Standard Safety Multiplier Applies

Hose Serial #
5544

Hose Assembly Serial #
79793

Exhibit F-1 - Co-Flex Hose Hydrostatic Test
Mescalero 19 Federal 2H
Cimarex Energy Co.
Sec. 19-19S-34E
SHL 330' FSL & 660' FEL
BHL 330' FNL & 660' FEL
Lea County, NM



Test Pressure 15000 PSI
Time Held at Test Pressure 11 Minutes
Actual Burst Pressure
Peak Pressure 15483 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

Exhibit F-2 - Co-Flex Hose
Mescalero 19 Federal 2H
Cimarex Energy Co.
Sec. 19-19S-34E
SHL 330' FSL & 660' FEL
BHL 330' FNL & 660' FEL
Lea County, NM



Midwest Hose
& Specialty, Inc.

Certificate of Conformity

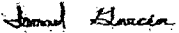
Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640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



Exhibit F-3- Co-Flex Hose
Mescalero 19 Federal 2H
Cimarex Energy Co.
Sec. 19-19S-34E
SHL 330' FSL & 660' FEL
BHL 330' FNL & 660' 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
Mescalero 19 Federal 2H

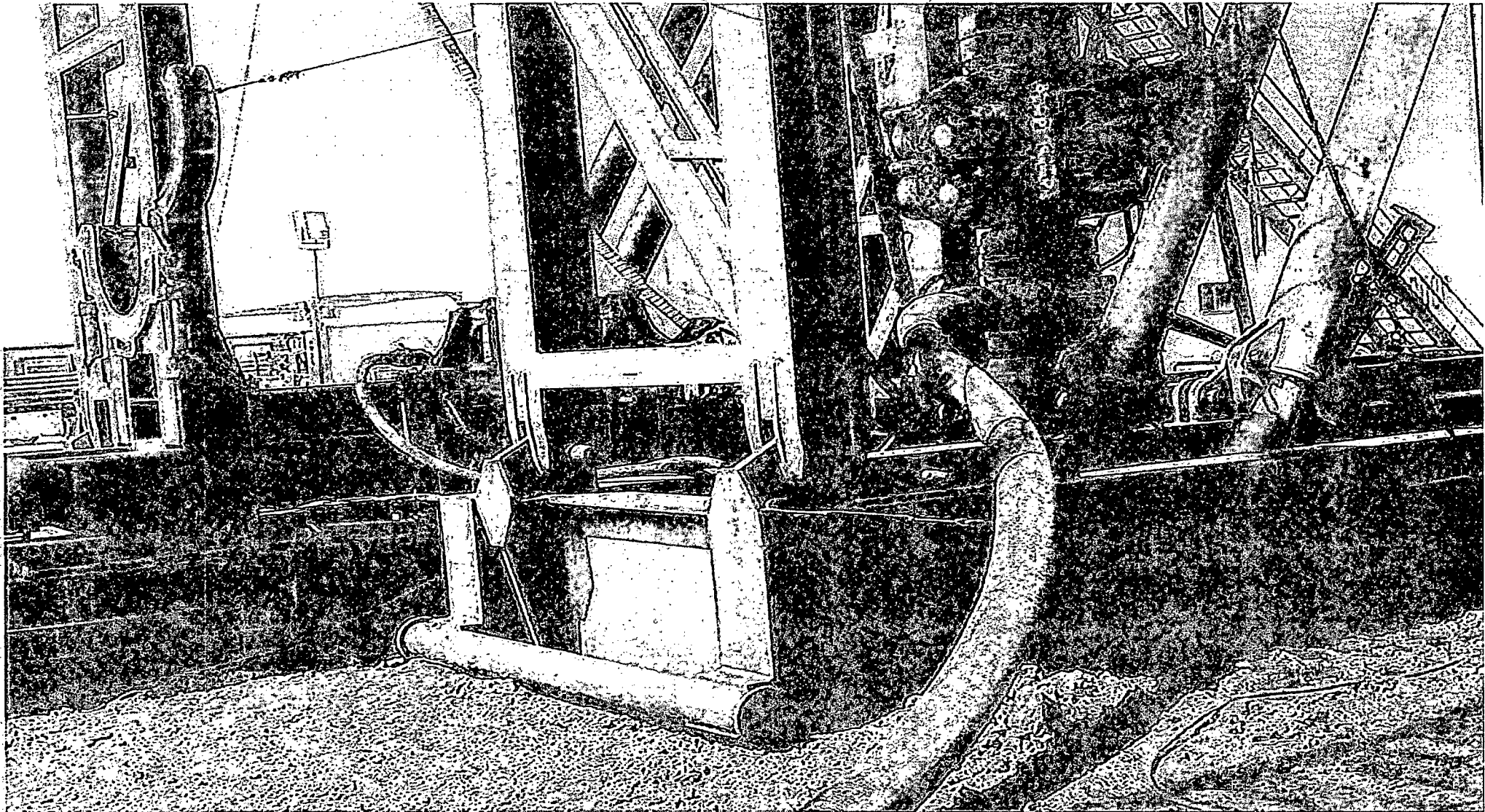
Cimarex Energy Co.

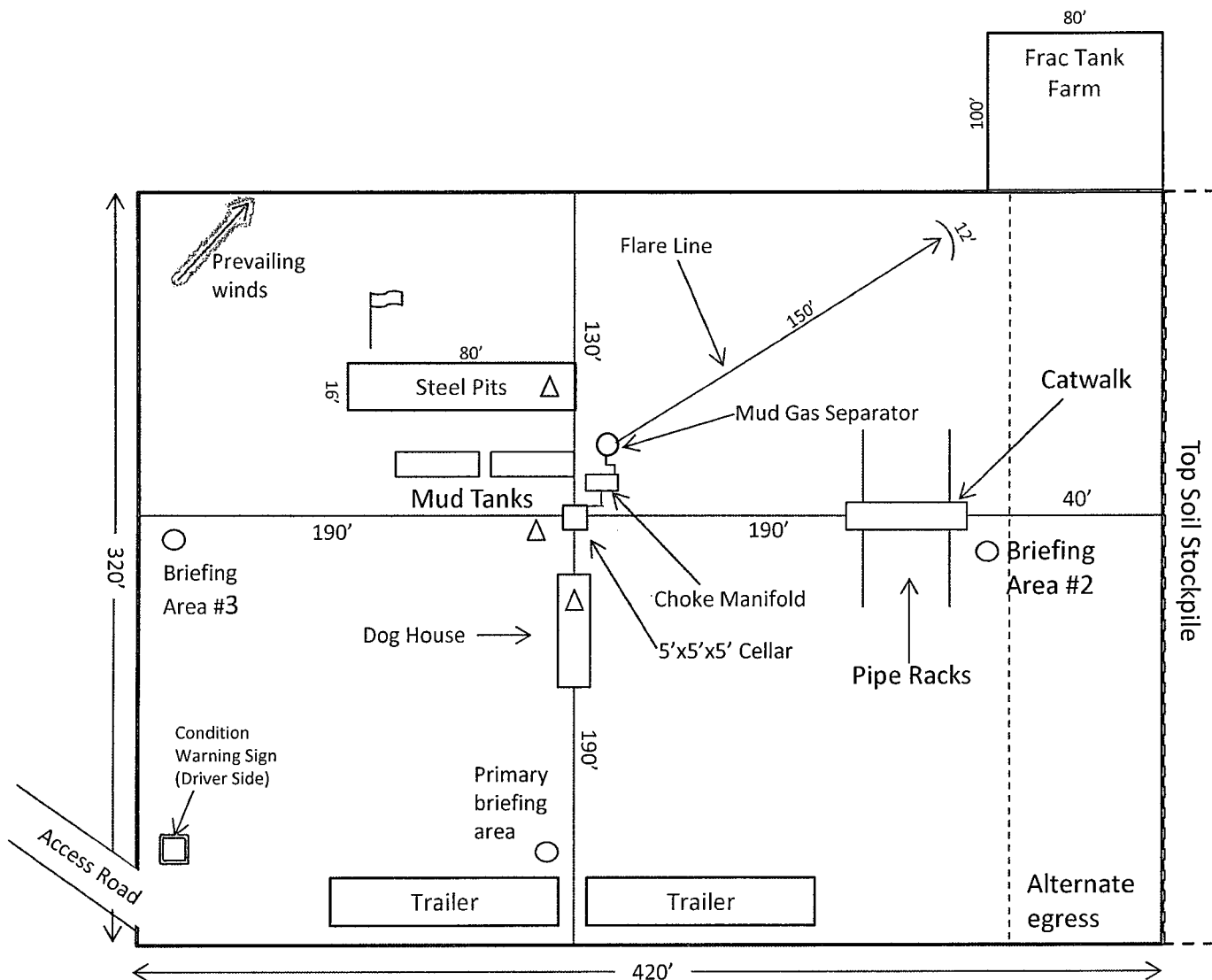
Sec. 19-19S-34E

SHL 330' FSL & 660' FEL

BHL 330' FNL & 660' FEL

Lea County, NM





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



Exhibit D – Rig Diagram
Red Hills Unit 22H
 Cimarex Energy Co.
 Sec. 5-26S-33E
 SHL 160' FNL & 1310' FWL
 BHL 330' FSL & 440' FWL
 Lea County, NM

Operator - Land Owner Agreement

Company: Cimarex Energy Co.

Proposed Well: Red Hills Unit 22H

Federal Lease Number: NM0106040A & NM0160973

Please be advised that Cimarex Energy Co. has an agreement with the surface owner, listed below, concerning entry and surface restoration after completion of drilling operations at the above described well.

Richard J (Jeff) Robbins
301 Orla
Jal, NM 88252
575-390-0660

After abandonment of the well, all pits will be filled and levelled and all equipment and trash will be removed from the well site. No other requirements were made concerning restoration of the well site.

9/11/14

Date

Aricka Easterling
Signature Aricka Easterling