

HOBBS OCD

MAY 05 2014

Form 3160-3
(March 2012)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED OCD Hobbs

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHL: NMNM0559539; BHL: NMNM116573	
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. <215099>		7. If Unit or CA Agreement, Name and No.	
3a. Address 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103		8. Lease Name and Well No. James 20 Federal Com #34H <313194>	
3b. Phone No. (include area code) 918-585-1100		9. API Well No. 30-025-41830	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FNL & 2310 FWL At proposed prod. Zone 330 FSL & 2200 FWL Bone Spring		10. Field and Pool, or Exploratory SAND DUMES; B3, SOUTH	
11. Sec., T. R. M. or Bk. and Survey and Area 20, 23S, 32E		12. County or Parish Lea	
13. State NM		14. Distance in miles and direction from nearest town or post office* Malaga, NM is 22.4 miles Westerly	
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 NMNM0559539=1440.00 acres NMNM116573=40.00 acres	17. Spacing Unit dedicated to this well 160.00	
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 330' from the #26	19. Proposed Depth Pilot Hole TD: N/A 13,816 MD 9,400 TVD	20. BLM/BIA Bond No. on File nm2575;NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3674 GR	22. Approximate date work will start* 2/3/14	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 Hope Knauls	Name (Printed/Typed) Hope Knauls	Date 12/11/13
Title Regulatory Compliance		

Approved By (Signature) Steve Caffey	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date APR 30 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.C. 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 AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

MAY 13 2014

PM

Operator Certification Statement

James 20 Federal Com #34H

Cimarex Energy Co.

UL: C, Sec. 20, 23S, 32E

Lea Co., NM

Operator's Representative

Cimarex Energy Co. of Colorado

600 N. Marienfeld St., Ste. 600

Midland, TX 79701

Office Phone: (432) 571-7800

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

Executed this 11 day of December, 2013

NAME: Hope Knauls
Hope Knauls

TITLE: Regulatory Compliance

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

TELEPHONE: 918-585-1100

EMAIL: TStathem@cimarex.com

Field Representative: Same as above

Application to Drill
James 20 Federal Com #34H
 Cimarex Energy Co.
 UL: C, Sec. 20, 23S, 32E
 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 & 2310 FWL
 BHL 330 FSL & 2200 FWL
2. **Elevation Above Sea Level:** 3,674' 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:** 13,816 MD 9,400 TVD Pilot Hole TD: N/A
6. **Estimated Tops of Geological Markers:**

Formation	Est Top	Bearing
Rustler	1200	N/A
Salt	2300	N/A
Castille	3300	N/A
Base Last Salt	4550	N/A
Lamar	4760	N/A
Bell Canyon	4805	N/A
Cherry Canyon	5630	N/A
Brushy Canyon	6960	N/A
Basal Brushy Canyon	8100	N/A
Bone Spring	8600	Hydrocarbons
Avalon Shale	9100	Hydrocarbons

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

7A. **OSE Ground Water Estimated Depth:** 400'

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	1250	1250	17 1/2	13-3/8"	48.00	H-40	ST&C	New	539	8.3	1.37		3.21	60,000	52,397	6.15
Intermediate	0	4775 4775	4775	12 1/4	9-5/8"	36.00	J-55	LT&C	New	2483	10.0		1.24	1.42	171,900	145,656	3.11
Production	0	8923	8923	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4175	9.0	1.51		1.85	159,800	137,843	2.45
Production	8923	13816	9400	8 3/4	5-1/2"	17.00	L-80	BT&C	New	4399	9.0	1.43		1.76	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
James 20 Federal Com #34H
 Cimarex Energy Co.
 UL: C, Sec. 20, 23S, 32E
 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	794	1.75	13.50	1389	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	162	1.34	14.80	217	Class C + LCM, 6.32 gps water
	TOC: 0	85% Excess		Centralizers per Onshore Order 2.III.B.1f		
Intermediate	Lead	1065	1.88	12.90	2002	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	279	1.34	14.80	373	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	80% Excess				
Production	Lead	502	2.40	11.90	1203	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1374	1.24	14.50	1703	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4575	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: 8,923' EOC: 9,673'

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.

Application to Drill
James 20 Federal Com #34H
Cimarex Energy Co.
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Lea Co., NM

See COA

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1250'	8.30	28	NC	FW Spud Mud
1250' to 4775'	10.00	30-32	NC	Brine Water
4775' to 13816'	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 4775 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: 4230 psi

Estimated BHT: 156°

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. pay will be perforated and stimulated.

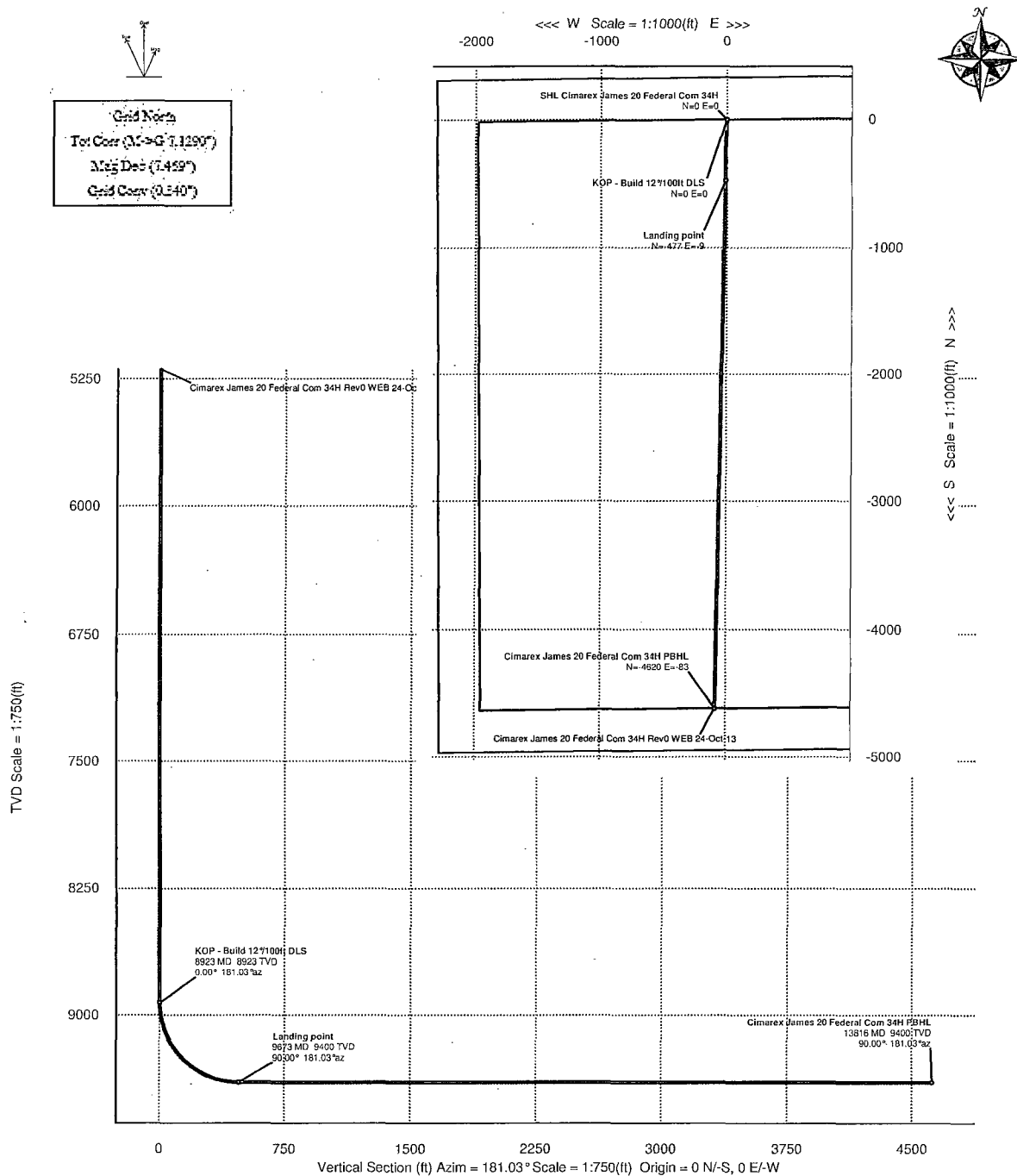
The proposed well will be tested and potentialized as **Oil**



Cimarex

PATHFINDER
 A Schlumberger Company

WELL	James 20 Federal Com 34H	FIELD	NM Lea County	STRUCTURE	TBD
Magnetic Parameters Model: BGCM 2013 Dip: 66.161° Date: October 24, 2013 Surface Location Lat: N 32 17 45.961 Longitude: 103 16 56.108 Easting: 737730.821188 Grid Corner: 0.340° Scale Factor: 0.99995326 Map Doc: 7.469° FS: 48393.867 Lon: W 103 41 51.845 Modified: Cimarex James 20 Federal Com 34H Rev0 Plan: Rev0 WEB 24-Oct-13 Grid North: 66.161° Grid East: 7.469° Grid Corner: 0.340° Ground level: 3674 ft above MSL Srvy Date: October 24, 2013					



Critical Points

Critical Point MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL Cimarex James 20 Federal Com 34H	0.00	0.00	181.03	0.00	0.00	0.00	
KOP - Build 12 7/100ft DLS	8922.54	0.00	181.03	8922.54	0.00	0.00	0.00
Landing point	9672.54	90.00	181.03	9400.00	477.47	-477.39	-8.57
Cimarex James 20 Federal Com 34H PBHL	13815.87	90.00	181.03	9400.00	4620.79	-4620.05	-82.96
							0.00



Cimarex James 20 Federal Com 34H Rev0 WEB 24-Oct-13 Proposal Report 100' Interpolated (Non-Def Plan)



Report Date: October 24, 2013 - 06:30 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex James 20 Federal Com 34H
Well: Cimarex James 20 Federal Com 34H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex James 20 Federal Com 34H Rev0 WEB 24-Oct-13
Survey Date: October 24, 2013
Tort / AHD / DDI / ERD Ratio: 90.000 ° / 4620.790 ft / 5.786 / 0.492
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 17' 46.96091", W 103° 41' 51.84486"
Location Grid N/E Y/X: N 472136.960 ftUS, E 737730.820 ftUS
CRS Grid Convergence Angle: 0.3396 °
Grid Scale Factor: 0.99995326

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 181.029 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3674.000 ft above MSL
Seabed / Ground Elevation: 3674.000 ft above MSL
Magnetic Declination: 7.469 °
Total Gravity Field Strength: 998.4674mgn (9.80665 Based)
Total Magnetic Field Strength: 48393.836 nT
Magnetic Dip Angle: 60.161 °
Declination Date: October 24, 2013
Magnetic Declination Model: BGCM 2013
North Reference: Grid North
Grid Convergence Used: 0.3396 °
Total Corr Mag North->Grid North: 7.1290 °

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 James 20 Federal Com 34H	0.00	0.00	181.03	0.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	N/A
	100.00	0.00	181.03	100.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	200.00	0.00	181.03	200.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	300.00	0.00	181.03	300.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	400.00	0.00	181.03	400.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	500.00	0.00	181.03	500.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	600.00	0.00	181.03	600.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	700.00	0.00	181.03	700.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	800.00	0.00	181.03	800.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	900.00	0.00	181.03	900.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1000.00	0.00	181.03	1000.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1100.00	0.00	181.03	1100.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1200.00	0.00	181.03	1200.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1300.00	0.00	181.03	1300.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1400.00	0.00	181.03	1400.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1500.00	0.00	181.03	1500.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1600.00	0.00	181.03	1600.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1700.00	0.00	181.03	1700.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1800.00	0.00	181.03	1800.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	1900.00	0.00	181.03	1900.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2000.00	0.00	181.03	2000.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2100.00	0.00	181.03	2100.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2200.00	0.00	181.03	2200.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2300.00	0.00	181.03	2300.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2400.00	0.00	181.03	2400.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2500.00	0.00	181.03	2500.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2600.00	0.00	181.03	2600.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	2700.00	0.00	181.03	2700.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	8300.00	0.00	181.03	8300.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8400.00	0.00	181.03	8400.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8500.00	0.00	181.03	8500.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8600.00	0.00	181.03	8600.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8700.00	0.00	181.03	8700.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8800.00	0.00	181.03	8800.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	8900.00	0.00	181.03	8900.00	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
KOP - Build 12"/100ft DLS	8922.54	0.00	181.03	8922.54	0.00	0.00	0.00	472136.96	737730.82	N 32 17 46.96	W 103 41 51.84	0.00	0.00	0.00
	9000.00	9.30	181.03	8999.66	6.27	-6.27	-0.11	472130.69	737730.71	N 32 17 46.90	W 103 41 51.85	6.27	181.03	12.00
	9100.00	21.30	181.03	9095.94	32.60	-32.60	-0.59	472104.37	737730.23	N 32 17 46.64	W 103 41 51.85	32.60	181.03	12.00
	9200.00	33.30	181.03	9184.65	78.37	-78.36	-1.41	472058.60	737729.41	N 32 17 46.19	W 103 41 51.87	78.37	181.03	12.00
	9300.00	45.30	181.03	9261.89	141.59	-141.57	-2.54	471995.40	737728.28	N 32 17 45.56	W 103 41 51.88	141.59	181.03	12.00
	9400.00	57.30	181.03	9324.31	219.49	-219.45	-3.94	471917.52	737726.88	N 32 17 44.79	W 103 41 51.91	219.49	181.03	12.00
	9500.00	69.30	181.03	9369.17	308.66	-308.61	-5.54	471828.37	737725.28	N 32 17 43.91	W 103 41 51.93	308.66	181.03	12.00
	9600.00	81.30	181.03	9394.51	405.20	-405.14	-7.28	471731.84	737723.55	N 32 17 42.95	W 103 41 51.96	405.20	181.03	12.00
Landing point	9672.54	90.00	181.03	9400.00	477.47	-477.39	-8.57	471659.59	737722.25	N 32 17 42.24	W 103 41 51.98	477.47	181.03	12.00
	9700.00	90.00	181.03	9400.00	504.92	-504.84	-9.07	471632.14	737721.75	N 32 17 41.97	W 103 41 51.99	504.92	181.03	0.00
	9800.00	90.00	181.03	9400.00	604.92	-604.83	-10.86	471532.16	737719.96	N 32 17 40.98	W 103 41 52.01	604.92	181.03	0.00
	9900.00	90.00	181.03	9400.00	704.92	-704.81	-12.66	471432.18	737718.16	N 32 17 39.99	W 103 41 52.04	704.92	181.03	0.00
	10000.00	90.00	181.03	9400.00	804.92	-804.80	-14.45	471332.20	737716.37	N 32 17 39.00	W 103 41 52.07	804.92	181.03	0.00
	10100.00	90.00	181.03	9400.00	904.92	-904.78	-16.25	471232.23	737714.57	N 32 17 38.01	W 103 41 52.10	904.92	181.03	0.00
	10200.00	90.00	181.03	9400.00	1004.92	-1004.76	-18.04	471132.25	737712.78	N 32 17 37.02	W 103 41 52.12	1004.92	181.03	0.00
	10300.00	90.00	181.03	9400.00	1104.92	-1104.75	-19.84	471032.27	737710.98	N 32 17 36.03	W 103 41 52.15	1104.92	181.03	0.00
	10400.00	90.00	181.03	9400.00	1204.92	-1204.73	-21.63	470932.29	737709.19	N 32 17 35.04	W 103 41 52.18	1204.92	181.03	0.00
	10500.00	90.00	181.03	9400.00	1304.92	-1304.71	-23.43	470832.31	737707.39	N 32 17 34.05	W 103 41 52.21	1304.92	181.03	0.00
	10600.00	90.00	181.03	9400.00	1404.92	-1404.70	-25.22	470732.33	737705.60	N 32 17 33.06	W 103 41 52.24	1404.92	181.03	0.00
	10700.00	90.00	181.03	9400.00	1504.92	-1504.68	-27.02	470632.35	737703.80	N 32 17 32.07	W 103 41 52.26	1504.92	181.03	0.00
	10800.00	90.00	181.03	9400.00	1604.92	-1604.67	-28.82	470532.37	737702.01	N 32 17 31.08	W 103 41 52.29	1604.92	181.03	0.00
	10900.00	90.00	181.03	9400.00	1704.92	-1704.65	-30.61	470432.39	737700.21	N 32 17 30.10	W 103 41 52.32	1704.92	181.03	0.00
	11000.00	90.00	181.03	9400.00	1804.92	-1804.63	-32.41	470332.41	737698.42	N 32 17 29.11	W 103 41 52.35	1804.92	181.03	0.00
	11100.00	90.00	181.03	9400.00	1904.92	-1904.62	-34.20	470232.44	737696.62	N 32 17 28.12	W 103 41 52.37	1904.92	181.03	0.00
	11200.00	90.00	181.03	9400.00	2004.92	-2004.60	-36.00	470132.46	737694.82	N 32 17 27.13	W 103 41 52.40	2004.92	181.03	0.00
	11300.00	90.00	181.03	9400.00	2104.92	-2104.59	-37.79	470032.48	737693.03	N 32 17 26.14	W 103 41 52.43	2104.92	181.03	0.00
	11400.00	90.00	181.03	9400.00	2204.92	-2204.57	-39.59	469932.50	737691.23	N 32 17 25.15	W 103 41 52.46	2204.92	181.03	0.00
	11500.00	90.00	181.03	9400.00	2304.92	-2304.55	-41.38	469832.52	737689.44	N 32 17 24.16	W 103 41 52.49	2304.92	181.03	0.00
	11600.00	90.00	181.03	9400.00	2404.92	-2404.54	-43.18	469732.54	737687.64	N 32 17 23.17	W 103 41 52.51	2404.92	181.03	0.00
	11700.00	90.00	181.03	9400.00	2504.92	-2504.52	-44.97	469632.56	737685.85	N 32 17 22.18	W 103 41 52.54	2504.92	181.03	0.00
	11800.00	90.00	181.03	9400.00	2604.92	-2604.50	-46.77	469532.58	737684.05	N 32 17 21.19	W 103 41 52.57	2604.92	181.03	0.00
	11900.00	90.00	181.03	9400.00	2704.92	-2704.49	-48.57	469432.60	737682.26	N 32 17 20.20	W 103 41 52.60	2704.92	181.03	0.00
	12000.00	90.00	181.03	9400.00	2804.92	-2804.47	-50.36	469332.62	737680.46	N 32 17 19.21	W 103 41 52.63	2804.92	181.03	0.00
	12100.00	90.00	181.03	9400.00	2904.92	-2904.46	-52.16	469232.64	737678.67	N 32 17 18.22	W 103 41 52.65	2904.92	181.03	0.00
	12200.00	90.00	181.03	9400.00	3004.92	-3004.44	-53.95	469132.67	737676.87	N 32 17 17.24	W 103 41 52.68	3004.92	181.03	0.00
	12300.00	90.00	181.03	9400.00	3104.92	-3104.42	-55.75	469032.69	737675.08	N 32 17 16.25	W 103 41 52.71	3104.92	181.03	0.00
	12400.00	90.00	181.03	9400.00	3204.92	-3204.41	-57.54	468932.71	737673.28	N 32 17 15.26	W 103 41 52.74	3204.92	181.03	0.00
	12500.00	90.00	181.03	9400.00	3304.92	-3304.39	-59.34	468832.73	737671.48	N 32 17 14.27	W 103 41 52.76	3304.92	181.03	0.00
	12600.00	90.00	181.03	9400.00	3404.92	-3404.38	-61.13	468732.75	737669.69	N 32 17 13.28	W 103 41 52.79	3404.92	181.03	0.00
	12700.00	90.00	181.03	9400.00	3504.92	-3504.36	-62.93	468632.77	737667.89	N 32 17 12.29	W 103 41 52.82	3504.92	181.03	0.00
	12800.00	90.00	181.03	9400.00	3604.92	-3604.34	-64.72	468532.79	737666.10	N 32 17 11.30	W 103 41 52.85	3604.92	181.03	0.00
	12900.00	90.00	181.03	9400.00	3704.92	-3704.33	-66.52	468432.81	737664.30	N 32 17 10.31	W 103 41 52.88	3704.92	181.03	0.00
	13000.00	90.00	181.03	9400.00	3804.92	-3804.31	-68.32	468332.83	737662.51	N 32 17 9.32	W 103 41 52.90	3804.92	181.03	0.00
	13100.00	90.00	181.03	9400.00	3904.92	-3904.30	-70.11	468232.85	737660.71	N 32 17 8.33	W 103 41 52.93	3904.92	181.03	0.00
	13200.00	90.00	181.03	9400.00	4004.92	-4004.28	-71.91	468132.88	737658.92	N 32 17 7.34	W 103 41 52.96	4004.92	181.03	0.00
	13300.00	90.00	181.03	9400.00	4104.92	-4104.26	-73.70	468032.90	737657.12	N 32 17 6.35	W 103 41 52.99	4104.92	181.03	0.00
	13400.00	90.00	181.03	9400.00	4204.92	-4204.25	-75.50	467932.92	737655.33	N 32 17 5.36	W 103 41 53.01	4204.92	181.03	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	13500.00	90.00	181.03	9400.00	4304.92	-4304.23	-77.29	467832.94	737653.53	N 32 17 4.38	W 103 41 53.04	4304.92	181.03	0.00
	13600.00	90.00	181.03	9400.00	4404.92	-4404.21	-79.09	467732.96	737651.74	N 32 17 3.39	W 103 41 53.07	4404.92	181.03	0.00
	13700.00	90.00	181.03	9400.00	4504.92	-4504.20	-80.88	467632.98	737649.94	N 32 17 2.40	W 103 41 53.10	4504.92	181.03	0.00
	13800.00	90.00	181.03	9400.00	4604.92	-4604.18	-82.68	467533.00	737648.14	N 32 17 1.41	W 103 41 53.13	4604.92	181.03	0.00
Cimarex James 20 Federal Com 34H PBHL	13815.87	90.00	181.03	9400.00	4620.79	-4620.05	-82.96	467517.14	737647.86	N 32 17 1.25	W 103 41 53.13	4620.79	181.03	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	8922.540	1/100.000	30.000	30.000	SLB_MWD-POOR	Original Borehole / Cimarex James 20 Federal Com 34H Rev0
	8922.540	13815.865	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex James 20 Federal Com 34H Rev0

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

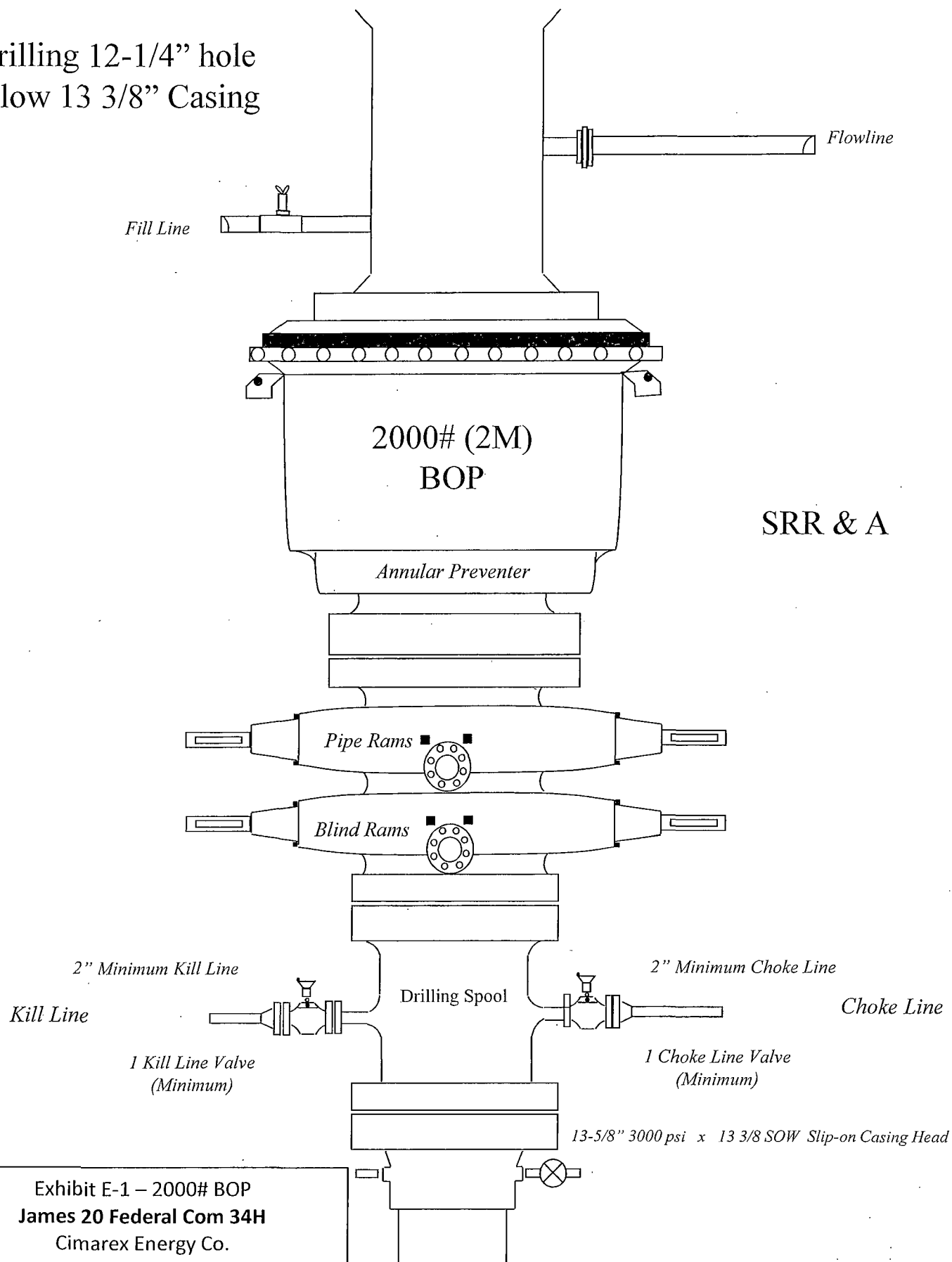
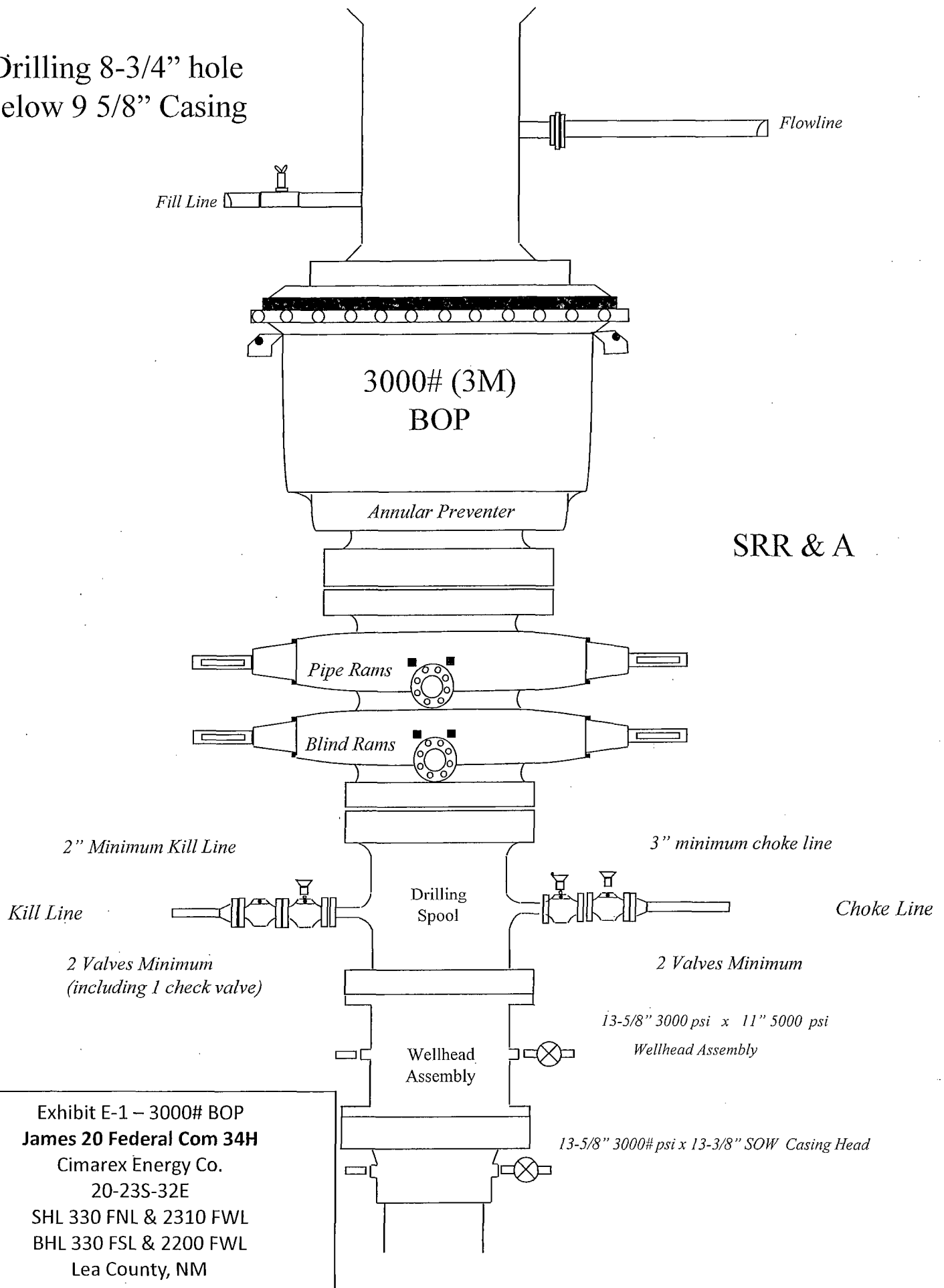
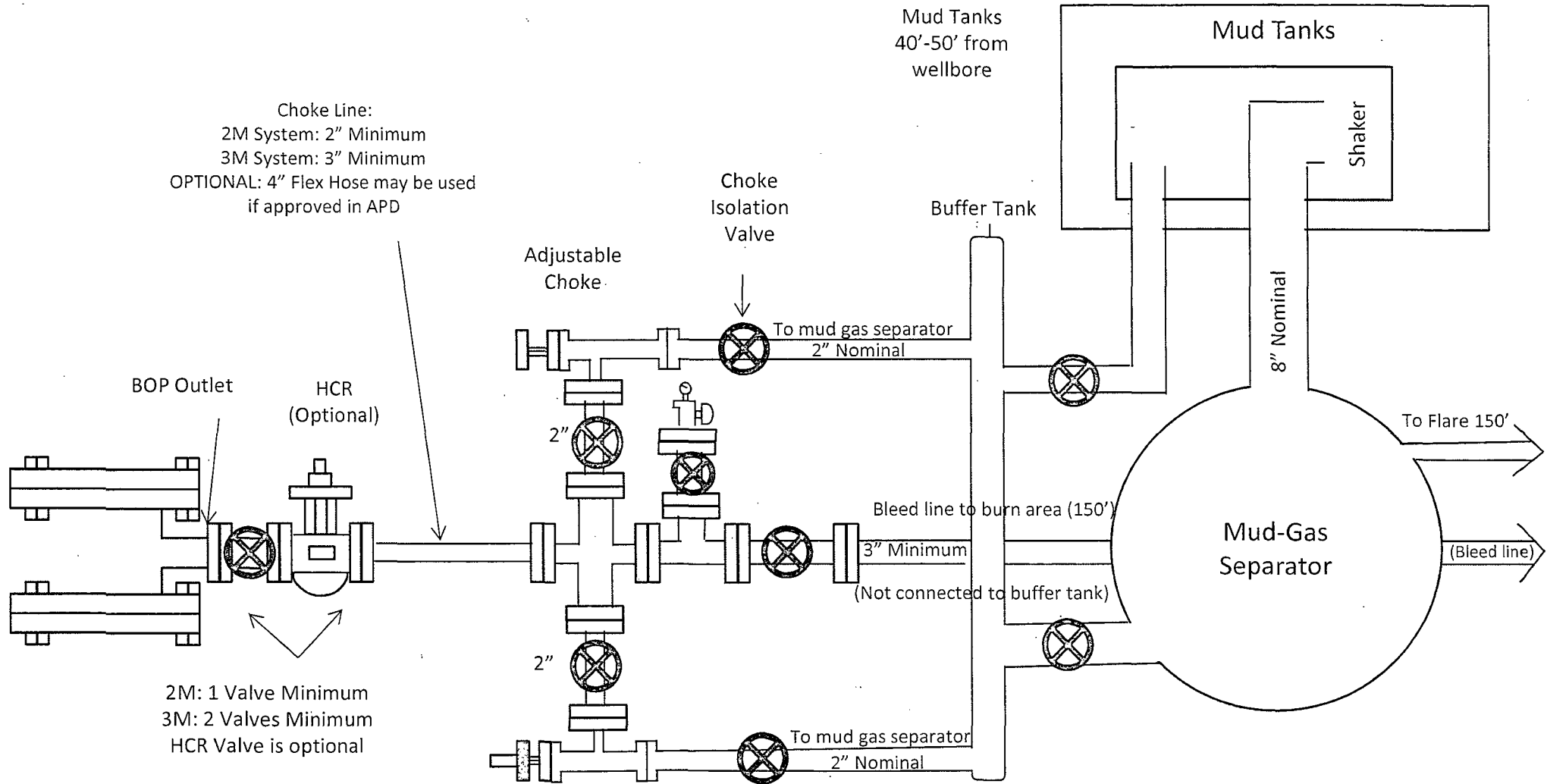


Exhibit E-1 – 2000# BOP
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 FWL
BHL 330 FSL & 2200 FWL
Lea County, NM

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





Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
James 20 Federal Com 33H
 Cimarex Energy Co.
 20-23S-32E
 SHL 330 FNL & 1190 FWL
 BHL 330 FSL & 1320 FWL
 Lea County, NM

Exhibit F-1
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 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. Jaime Garcia</i>		Approved: <i>Kevin Hef</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications

Hose Type
CS&K

Length
45'

Type of Fittings
41/16 10K

Coupling Method
Swage

I.D.
4"

O.D.
6.09"

Die Size
6.38"

Final O.D.
6.25"

Working Pressure
10000 PSI

Burst Pressure
Standard Safety Multiplier Applies

Hose Serial #
5544

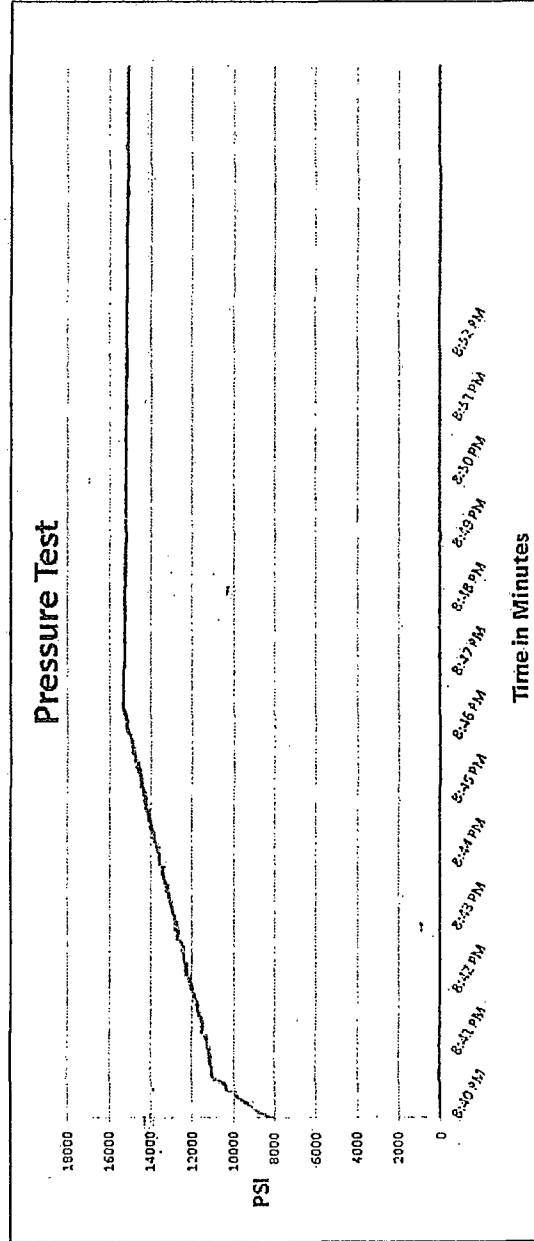
Hose Assembly Serial #
79793

Verification

March 3, 2011

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 FWL
BHL 330 FSL & 2200 FWL
Lea County, NM

Pressure Test



Test Pressure 15000 PSI
Time Held at Test Pressure 11 Minutes
Actual Burst Pressure 15483 PSI
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
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 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:
<i>James Garcia</i>		3/8/2011



Midwest Hose
& Specialty, Inc.

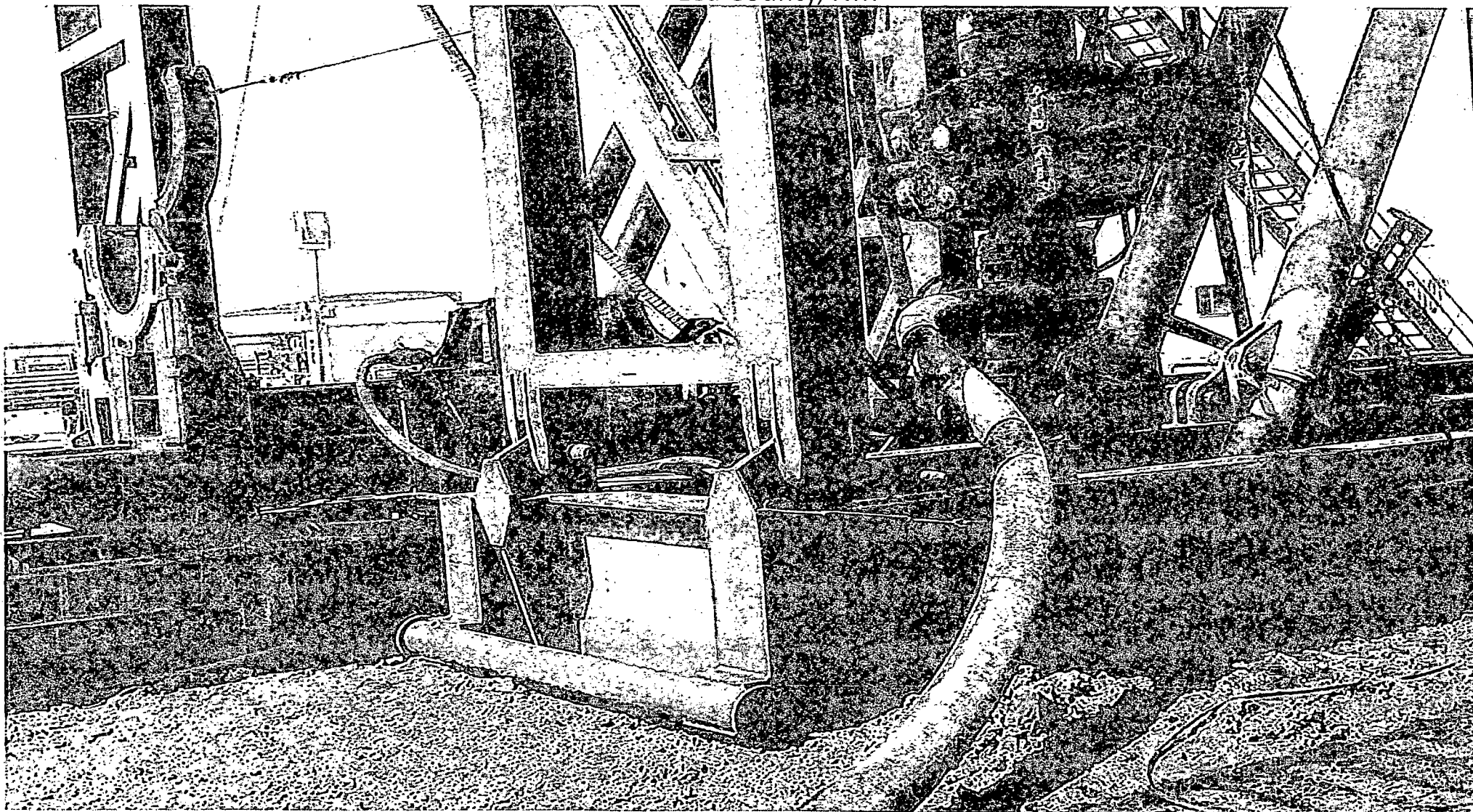
Exhibit F -3- Co-Flex Hose
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 FWL
BHL 330 FSL & 2200 FWL
Lea County, NM

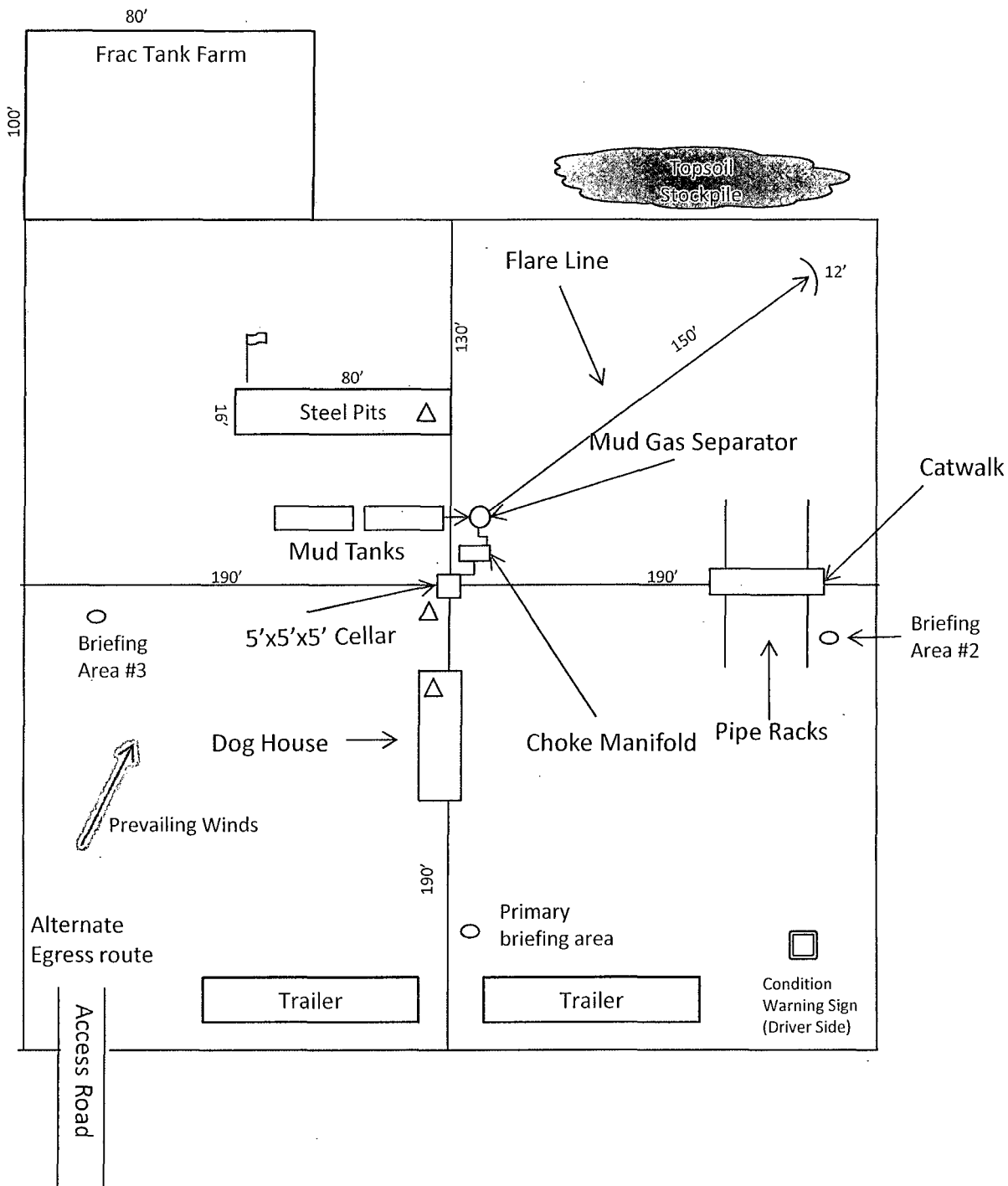
Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets. 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
James 20 Federal Com 34H
Cimarex Energy Co.
20-23S-32E
SHL 330 FNL & 2310 FWL
BHL 330 FSL & 2200 FWL
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
James 20 Federal Com 34H
 Cimarex Energy Co.
 20-23S-32E
 SHL 330 FNL & 2310 FWL
 BHL 330 FSL & 2200 FWL
 Lea County, NM