

HOBBS CO

NOV 02 2014

RECEIVED

Form 3160-3
(March 2012)

OCD Hobbs

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

UNITED 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: NMNM0559539
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.		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. <313723> James 20 Federal #25H
3b. Phone No. (include area code) 918-585-1100		9. API Well No. 30-025-42224
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FNL & 860 FWL Unit D At proposed prod. Zone 330 FSL & 660 FWL Unit M Bone Spring		10. Field and Pool, or Exploratory Santa Dianas South Wildcat Bone Spring <33805>
11. Sec., T. R. M. or Blk. 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 22.2 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	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. 230' to the # 32H	19. Proposed Depth Pilot Hole TD: 12,150 15,168 MD 10,750 TVD	20. BLM/BIA Bond No. on File NM2575; NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3680 GR	22. Approximate date work will start* 1/6/14	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>Hope Knauls</i>	Name (Printed/Typed) Hope Knauls	Date 12/10/13
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Regulatory Compliance

Approved By (Signature) James A. Amos	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date OCT 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.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 Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

NOV 04 2014

Application to Drill
James 20 Federal #25H
 Cimarex Energy Co.
 UL: D, 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 & 860 FWL
 BHL 330 FSL & 660 FWL
2. **Elevation Above Sea Level:** 3,680' GR
3. **Geologic Name of Surface Formation:** Quaternary Alluvium Deposits
4. **Drilling Tools and Associated Equipment:** Conventional rotary drilling rig using fluid as a circulating medium for solids removal
5. **Proposed Drilling Depth:** 15,168 MD 10,750 TVD Pilot Hole TD: 12,150
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
1st BSS	9800	Hydrocarbons
2nd BSS	10475	Hydrocarbons
3rd BS Carbonate	10925	Hydrocarbons
3rd BSS	11650	Hydrocarbons
Wolfcamp	12000	Hydrocarbons

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

7A. **OSE Ground Water Estimated Depth:** 375'

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	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	12 1/4	9-5/8"	40.00	J-55	LT&C	New	2483	10.0		1.22	1.59	191,000	161,840	3.21
Production	0	10273	10273	8 3/4	5-1/2"	17.00	L-80	LT&C	New	4807	9.0	1.31		1.61	182,750	157,639	2.14
Production	10273	15168	10750	8 3/4	5-1/2"	17.00	L-80	BT&C	New	5031	9.0	1.25		1.54	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 #25H
 Cimarex Energy Co.
 UL: D, 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 <i>See COA</i>	Lead	679	2.40	11.90	1629	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1375	1.24	14.50	1704	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4575 4500	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: 12,150'

KOP: 10,273'

EOC: 11,023'

Set OH mechanical whipstock w/ 1827 ft of 2.875 tubing and pump 30 bbls of Mudpush @ 12 ppg, followed by 833 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 5M 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 5000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 2500 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 1250'	7.80 - 8.30	28	NC	FW Spud Mud
1250' to 4775'	9.50 - 10.00	30-32	NC	Brine Water
4775' to 15168'	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 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:

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: 5468 psi

Estimated BHT: 166°

14. Construction and Drilling:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take: 35 days.

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

15. Other Facets of Operations:

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

Bone Spring pay will be perforated and stimulated.

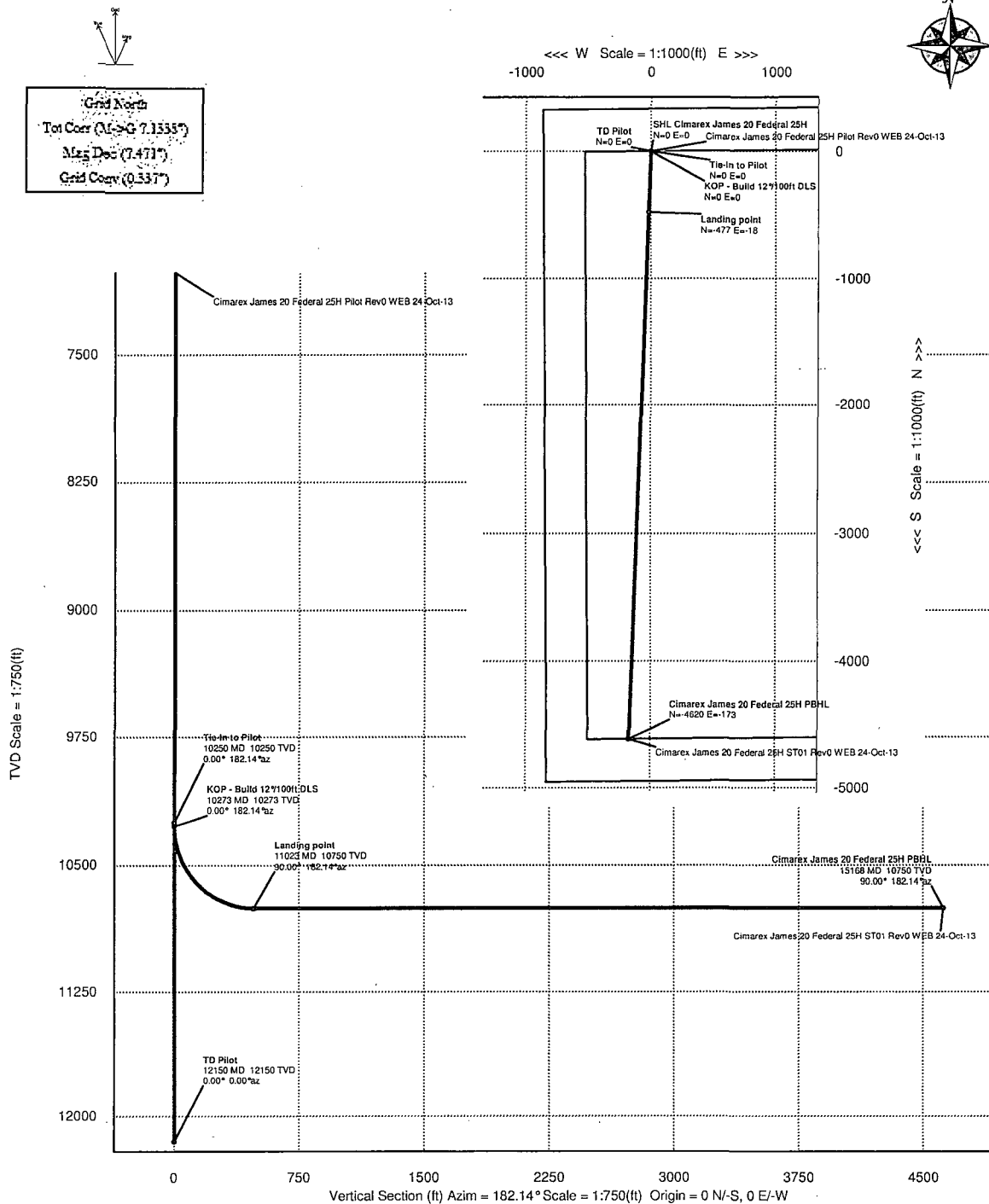
The proposed well will be tested and potentialed as **Oil**



Cimarex

PATHFINDER
 A Schlumberger Company

WELL	James 20 Federal 25H	FIELD	NM Lea County	STRUCTURE	TBD
Magnetic Parameters Model: BOGM 2013 Dip: 60.160° Date: October 24, 2013 Surface Location Lat: N 32 17 46.918 Northing: 472124.11 AUS Grid Corner: 0.337" Miscellaneom Mag Dec: 7.471° FS: 48091.2m Lon: W 103 42 8.734 Easting: 736281.18 AUS Scale Fact: 0.9995262 Plot: Cimarex James 20 Federal 25H Rev0 Ground level: 7680ft above MSLJ ST01 Rev0 WEB 24-Oct-13 Srv Date: October 24, 2013					



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Marker								
MudLine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie-In to Pilot	10250.00	0.00	182.14	10250.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	10272.54	0.00	182.14	10272.54	0.00	0.00	0.00	0.00
Landing point	11022.54	90.00	182.14	10750.00	477.47	-477.13	-17.86	12.00
Cimarex James 20 Federal 25H PBHL	15168.50	90.00	182.14	10750.00	4623.22	-4619.99	-172.97	0.00



Cimarex James 20 Federal 25H ST01 Rev0 WEB 24-Oct-13 Proposal Report

100' Interpolated

(Non-Def Plan)



Report Date: October 24, 2013 - 05:06 PM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: TBD / Cimarex James 20 Federal 25H
 Well: Cimarex James 20 Federal 25H
 Borehole: ST01 Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex James 20 Federal 25H ST01 Rev0 WEB 24-Oct-13
 Survey Date: October 24, 2013
 Tort / AHD / DDI / ERD Ratio: 90.000 ° / 4623.225 ft / 5.769 / 0.430
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 17' 46.91847", W 103° 42' 8.73444"
 Location Grid N/E Y/X: N 472124.110 ftUS, E 736281.180 ftUS
 CRS Grid Convergence Angle: 0.3371 °
 Grid Scale Factor: 0.99995262

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 182.144 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Ground level
 TVD Reference Elevation: 3680.000 ft above MSL
 Seabed / Ground Elevation: 3680.000 ft above MSL
 Magnetic Declination: 7.471 °
 Total Gravity Field Strength: 998.4668mgn (9.80665 Based)
 Total Magnetic Field Strength: 48393.209 nT
 Magnetic Dip Angle: 60.160 °
 Declination Date: October 24, 2013
 Magnetic Declination Model: BGGM 2013
 North Reference: Grid North
 Grid Convergence Used: 0.3371 °
 Total Corr Mag North->Grid North: 7.1338 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azlm 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 25H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	N/A
	100.00	0.00	182.14	100.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	200.00	0.00	182.14	200.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	300.00	0.00	182.14	300.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	400.00	0.00	182.14	400.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	500.00	0.00	182.14	500.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	600.00	0.00	182.14	600.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	700.00	0.00	182.14	700.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	800.00	0.00	182.14	800.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	900.00	0.00	182.14	900.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1000.00	0.00	182.14	1000.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1100.00	0.00	182.14	1100.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1200.00	0.00	182.14	1200.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1300.00	0.00	182.14	1300.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1400.00	0.00	182.14	1400.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1500.00	0.00	182.14	1500.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1600.00	0.00	182.14	1600.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1700.00	0.00	182.14	1700.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1800.00	0.00	182.14	1800.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	1900.00	0.00	182.14	1900.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2000.00	0.00	182.14	2000.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2100.00	0.00	182.14	2100.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2200.00	0.00	182.14	2200.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2300.00	0.00	182.14	2300.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2400.00	0.00	182.14	2400.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2500.00	0.00	182.14	2500.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2600.00	0.00	182.14	2600.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2700.00	0.00	182.14	2700.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	2800.00	0.00	182.14	2800.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (rUS)	Easting (rUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	8400.00	0.00	182.14	8400.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	8500.00	0.00	182.14	8500.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	8600.00	0.00	182.14	8600.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	8700.00	0.00	182.14	8700.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	8800.00	0.00	182.14	8800.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	8900.00	0.00	182.14	8900.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9000.00	0.00	182.14	9000.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9100.00	0.00	182.14	9100.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9200.00	0.00	182.14	9200.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9300.00	0.00	182.14	9300.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9400.00	0.00	182.14	9400.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9500.00	0.00	182.14	9500.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9600.00	0.00	182.14	9600.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9700.00	0.00	182.14	9700.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9800.00	0.00	182.14	9800.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	9900.00	0.00	182.14	9900.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	10000.00	0.00	182.14	10000.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	10100.00	0.00	182.14	10100.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	10200.00	0.00	182.14	10200.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
Tie-In to Pilot KOP - Build 12"/100ft DLS	10250.00	0.00	182.14	10250.00	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	10272.54	0.00	182.14	10272.54	0.00	0.00	0.00	472124.11	736281.18	N 32 17 46.92	W 103 42 8.73	0.00	0.00	0.00
	10300.00	3.30	182.14	10299.98	0.79	-0.79	-0.03	472123.32	736281.15	N 32 17 46.91	W 103 42 8.73	0.79	182.14	12.00
	10400.00	15.30	182.14	10398.49	16.91	-16.90	-0.63	472107.21	736280.55	N 32 17 46.75	W 103 42 8.74	16.91	182.14	12.00
	10500.00	27.30	182.14	10491.49	53.16	-53.13	-1.99	472070.99	736279.19	N 32 17 46.39	W 103 42 8.76	53.16	182.14	12.00
	10600.00	39.30	182.14	10574.93	107.96	-107.88	-4.04	472016.23	736277.14	N 32 17 45.85	W 103 42 8.79	107.96	182.14	12.00
	10700.00	51.30	182.14	10645.14	178.90	-178.78	-6.69	471945.34	736274.49	N 32 17 45.15	W 103 42 8.82	178.90	182.14	12.00
	10800.00	63.30	182.14	10699.08	262.90	-262.71	-9.84	471861.41	736271.34	N 32 17 44.32	W 103 42 8.87	262.90	182.14	12.00
	10900.00	75.30	182.14	10734.37	356.27	-356.02	-13.33	471768.11	736267.85	N 32 17 43.40	W 103 42 8.91	356.27	182.14	12.00
	11000.00	87.30	182.14	10749.47	454.93	-454.61	-17.02	471669.52	736264.16	N 32 17 42.42	W 103 42 8.96	454.93	182.14	12.00
Landing point	11022.54	90.00	182.14	10750.00	477.47	-477.13	-17.86	471647.00	736263.32	N 32 17 42.20	W 103 42 8.98	477.47	182.14	12.00
	11100.00	90.00	182.14	10750.00	554.92	-554.54	-20.76	471569.60	736260.42	N 32 17 41.43	W 103 42 9.01	554.92	182.14	0.00
	11200.00	90.00	182.14	10750.00	654.92	-654.47	-24.50	471469.68	736256.68	N 32 17 40.44	W 103 42 9.06	654.92	182.14	0.00
	11300.00	90.00	182.14	10750.00	754.92	-754.40	-28.24	471369.75	736252.94	N 32 17 39.46	W 103 42 9.12	754.92	182.14	0.00
	11400.00	90.00	182.14	10750.00	854.92	-854.33	-31.99	471269.83	736249.20	N 32 17 38.47	W 103 42 9.17	854.92	182.14	0.00
	11500.00	90.00	182.14	10750.00	954.92	-954.26	-35.73	471169.90	736245.46	N 32 17 37.48	W 103 42 9.22	954.92	182.14	0.00
	11600.00	90.00	182.14	10750.00	1054.92	-1054.19	-39.47	471069.98	736241.71	N 32 17 36.49	W 103 42 9.27	1054.92	182.14	0.00
	11700.00	90.00	182.14	10750.00	1154.92	-1154.12	-43.21	470970.05	736237.97	N 32 17 35.50	W 103 42 9.32	1154.92	182.14	0.00
	11800.00	90.00	182.14	10750.00	1254.92	-1254.05	-46.95	470870.13	736234.23	N 32 17 34.51	W 103 42 9.37	1254.92	182.14	0.00
	11900.00	90.00	182.14	10750.00	1354.92	-1353.98	-50.69	470770.20	736230.49	N 32 17 33.52	W 103 42 9.42	1354.92	182.14	0.00
	12000.00	90.00	182.14	10750.00	1454.92	-1453.91	-54.43	470670.28	736226.75	N 32 17 32.54	W 103 42 9.47	1454.92	182.14	0.00
	12100.00	90.00	182.14	10750.00	1554.92	-1553.84	-58.17	470570.35	736223.01	N 32 17 31.55	W 103 42 9.52	1554.92	182.14	0.00
	12200.00	90.00	182.14	10750.00	1654.92	-1653.77	-61.92	470470.43	736219.27	N 32 17 30.56	W 103 42 9.57	1654.92	182.14	0.00
	12300.00	90.00	182.14	10750.00	1754.92	-1753.70	-65.66	470370.50	736215.53	N 32 17 29.57	W 103 42 9.62	1754.92	182.14	0.00
	12400.00	90.00	182.14	10750.00	1854.92	-1853.63	-69.40	470270.58	736211.79	N 32 17 28.58	W 103 42 9.67	1854.92	182.14	0.00
	12500.00	90.00	182.14	10750.00	1954.92	-1953.56	-73.14	470170.65	736208.04	N 32 17 27.59	W 103 42 9.72	1954.92	182.14	0.00
	12600.00	90.00	182.14	10750.00	2054.92	-2053.49	-76.88	470070.73	736204.30	N 32 17 26.60	W 103 42 9.77	2054.92	182.14	0.00
	12700.00	90.00	182.14	10750.00	2154.92	-2153.42	-80.62	469970.80	736200.56	N 32 17 25.62	W 103 42 9.82	2154.92	182.14	0.00
	12800.00	90.00	182.14	10750.00	2254.92	-2253.35	-84.36	469870.88	736196.82	N 32 17 24.63	W 103 42 9.87	2254.92	182.14	0.00
	12900.00	90.00	182.14	10750.00	2354.92	-2353.28	-88.10	469770.95	736193.08	N 32 17 23.64	W 103 42 9.92	2354.92	182.14	0.00
	13000.00	90.00	182.14	10750.00	2454.92	-2453.21	-91.85	469671.03	736189.34	N 32 17 22.65	W 103 42 9.97	2454.92	182.14	0.00
	13100.00	90.00	182.14	10750.00	2554.92	-2553.14	-95.59	469571.10	736185.60	N 32 17 21.66	W 103 42 10.02	2554.92	182.14	0.00
	13200.00	90.00	182.14	10750.00	2654.92	-2653.07	-99.33	469471.17	736181.86	N 32 17 20.67	W 103 42 10.07	2654.92	182.14	0.00
	13300.00	90.00	182.14	10750.00	2754.92	-2753.00	-103.07	469371.25	736178.12	N 32 17 19.68	W 103 42 10.12	2754.92	182.14	0.00
	13400.00	90.00	182.14	10750.00	2854.92	-2852.93	-106.81	469271.32	736174.37	N 32 17 18.70	W 103 42 10.17	2854.92	182.14	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	182.14	10750.00	2954.92	-2952.86	-110.55	469171.40	736170.63	N 32 17 17.71	W 103 42 10.22	2954.92	182.14	0.00
	13600.00	90.00	182.14	10750.00	3054.92	-3052.79	-114.29	469071.47	736166.89	N 32 17 16.72	W 103 42 10.28	3054.92	182.14	0.00
	13700.00	90.00	182.14	10750.00	3154.92	-3152.72	-118.04	468971.55	736163.15	N 32 17 15.73	W 103 42 10.33	3154.92	182.14	0.00
	13800.00	90.00	182.14	10750.00	3254.92	-3252.65	-121.78	468871.62	736159.41	N 32 17 14.74	W 103 42 10.38	3254.92	182.14	0.00
	13900.00	90.00	182.14	10750.00	3354.92	-3352.58	-125.52	468771.70	736155.67	N 32 17 13.75	W 103 42 10.43	3354.92	182.14	0.00
	14000.00	90.00	182.14	10750.00	3454.92	-3452.51	-129.26	468671.77	736151.93	N 32 17 12.76	W 103 42 10.48	3454.92	182.14	0.00
	14100.00	90.00	182.14	10750.00	3554.92	-3552.44	-133.00	468571.85	736148.19	N 32 17 11.78	W 103 42 10.53	3554.92	182.14	0.00
	14200.00	90.00	182.14	10750.00	3654.92	-3652.37	-136.74	468471.92	736144.45	N 32 17 10.79	W 103 42 10.58	3654.92	182.14	0.00
	14300.00	90.00	182.14	10750.00	3754.92	-3752.30	-140.48	468372.00	736140.70	N 32 17 9.80	W 103 42 10.63	3754.92	182.14	0.00
	14400.00	90.00	182.14	10750.00	3854.92	-3852.23	-144.22	468272.07	736136.96	N 32 17 8.81	W 103 42 10.68	3854.92	182.14	0.00
	14500.00	90.00	182.14	10750.00	3954.92	-3952.16	-147.97	468172.15	736133.22	N 32 17 7.82	W 103 42 10.73	3954.92	182.14	0.00
	14600.00	90.00	182.14	10750.00	4054.92	-4052.09	-151.71	468072.22	736129.48	N 32 17 6.83	W 103 42 10.78	4054.92	182.14	0.00
	14700.00	90.00	182.14	10750.00	4154.92	-4152.02	-155.45	467972.30	736125.74	N 32 17 5.84	W 103 42 10.83	4154.92	182.14	0.00
	14800.00	90.00	182.14	10750.00	4254.92	-4251.95	-159.19	467872.37	736122.00	N 32 17 4.86	W 103 42 10.88	4254.92	182.14	0.00
	14900.00	90.00	182.14	10750.00	4354.92	-4351.88	-162.93	467772.45	736118.26	N 32 17 3.87	W 103 42 10.93	4354.92	182.14	0.00
	15000.00	90.00	182.14	10750.00	4454.92	-4451.81	-166.67	467672.52	736114.52	N 32 17 2.88	W 103 42 10.98	4454.92	182.14	0.00
	15100.00	90.00	182.14	10750.00	4554.92	-4551.74	-170.41	467572.60	736110.78	N 32 17 1.89	W 103 42 11.03	4554.92	182.14	0.00
Cimarex James 20 Federal 25H PBHL	15168.30	90.00	182.14	10750.00	4623.22	-4619.99	-172.97	467504.35	736108.22	N 32 17 1.21	W 103 42 11.07	4623.22	182.14	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	10250.000	1/100.000	30.000	30.000	SLB_MWD-POOR	Pilot Borehole / Cimarex James 20 Federal 25H Pilot Rev0 WEB
	10250.000	15168.300	1/100.000	30.000	30.000	SLB_MWD-POOR	ST01 Borehole / Cimarex James 20 Federal 25H ST01 Rev0 WEB

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

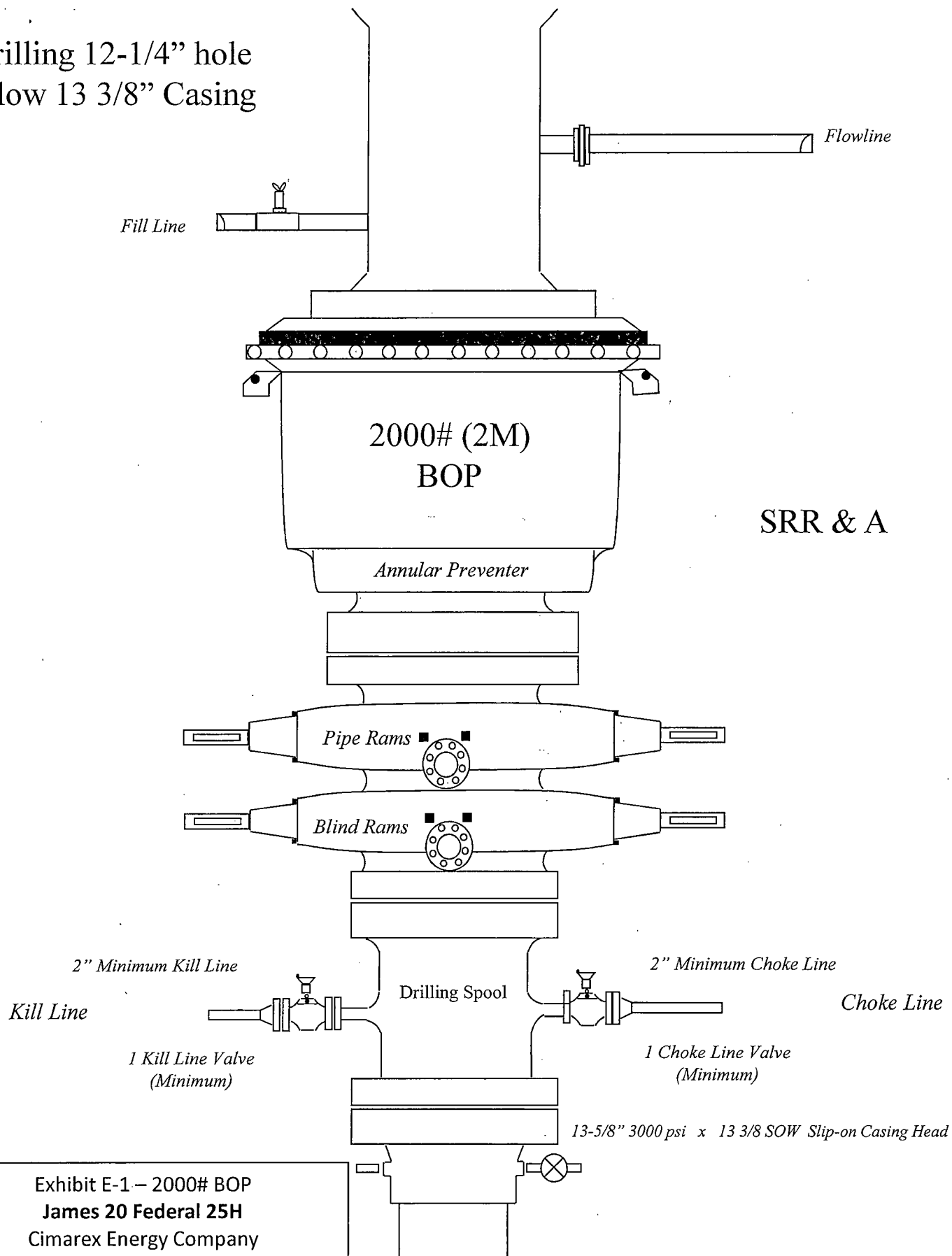


Exhibit E-1 – 2000# BOP
James 20 Federal 25H
Cimarex Energy Company
20-23S-32E
SHL 330 FNL & 860 FWL
BHL 330 FSL & 660 FWL
Lea County, NM

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

Fill Line

Flowline

5000# (5M)
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling
Spool

3" minimum choke line

Choke Line

2 Valves Minimum
(HCR Required)

2 Valves and a check valve

Wellhead
Assembly

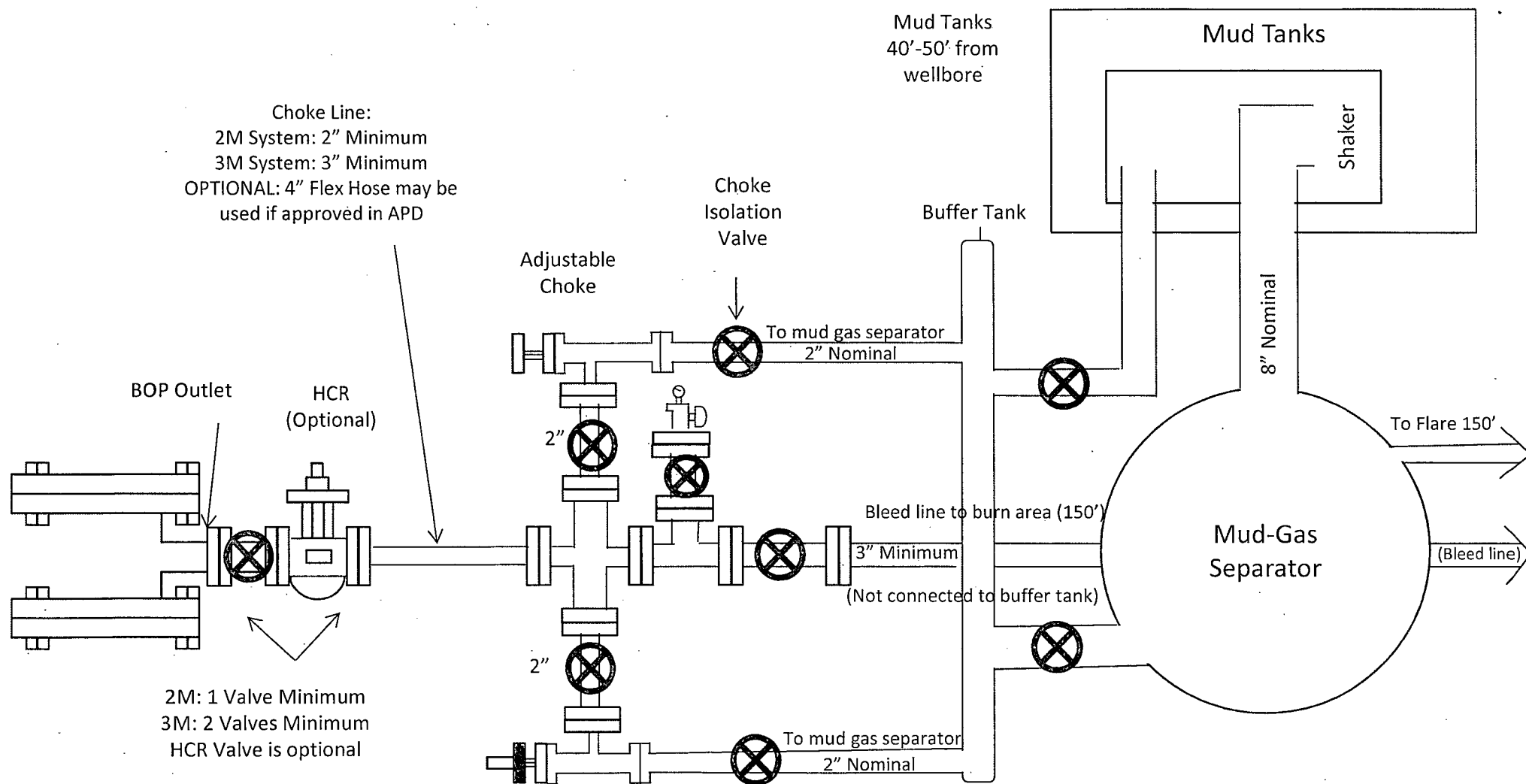
11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

Wellhead
Assembly

13-5/8" 3000 psi x 11" 5000 psi
Wellhead Assembly

13-5/8" 3000#psi x 13-3/8" SOW Casing Head

Exhibit E-1 – 5000# BOP
James 20 Federal 25H
Cimarex Energy Company
20-23S-32E
SHL 330 FNL & 860 FWL
BHL 330 FSL & 660 FWL
Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
James 20 Federal 25H
 Cimarex Energy Company
 20-23S-32E
 SHL 330 FNL & 860 FWL
 BHL 330 FSL & 660 FWL
 Lea County, NM

Drilling Operations Choke Manifold 5M Service

Choke Line:
5M System: 3" Minimum
OPTIONAL: 4" Flex Hose may be
used if approved in APD

BOP Outlet

HCR
(Required)

5M: 2 Valves Minimum

Adjustable
Choke

Choke
Isolation
Valve

Mud Tanks
40'-50' from
wellbore

Buffer Tank

Mud Tanks

Shaker

8" Nominal

To Flare 150'

Mud-Gas
Separator

(Bleed line)

3" Minimum

Bleed line to burn area (150')

(Not connected to buffer tank)

To mud gas separator
2" Nominal

Choke
Isolation
Valve

REMOTELY
OPERATED
Adjustable
Choke

Exhibit E-1 – Choke Manifold Diagram
James 20 Federal 25H
Cimarex Energy Company
20-23S-32E
SHL 330 FNL & 860 FWL
BHL 330 FSL & 660 FWL
Lea County, NM

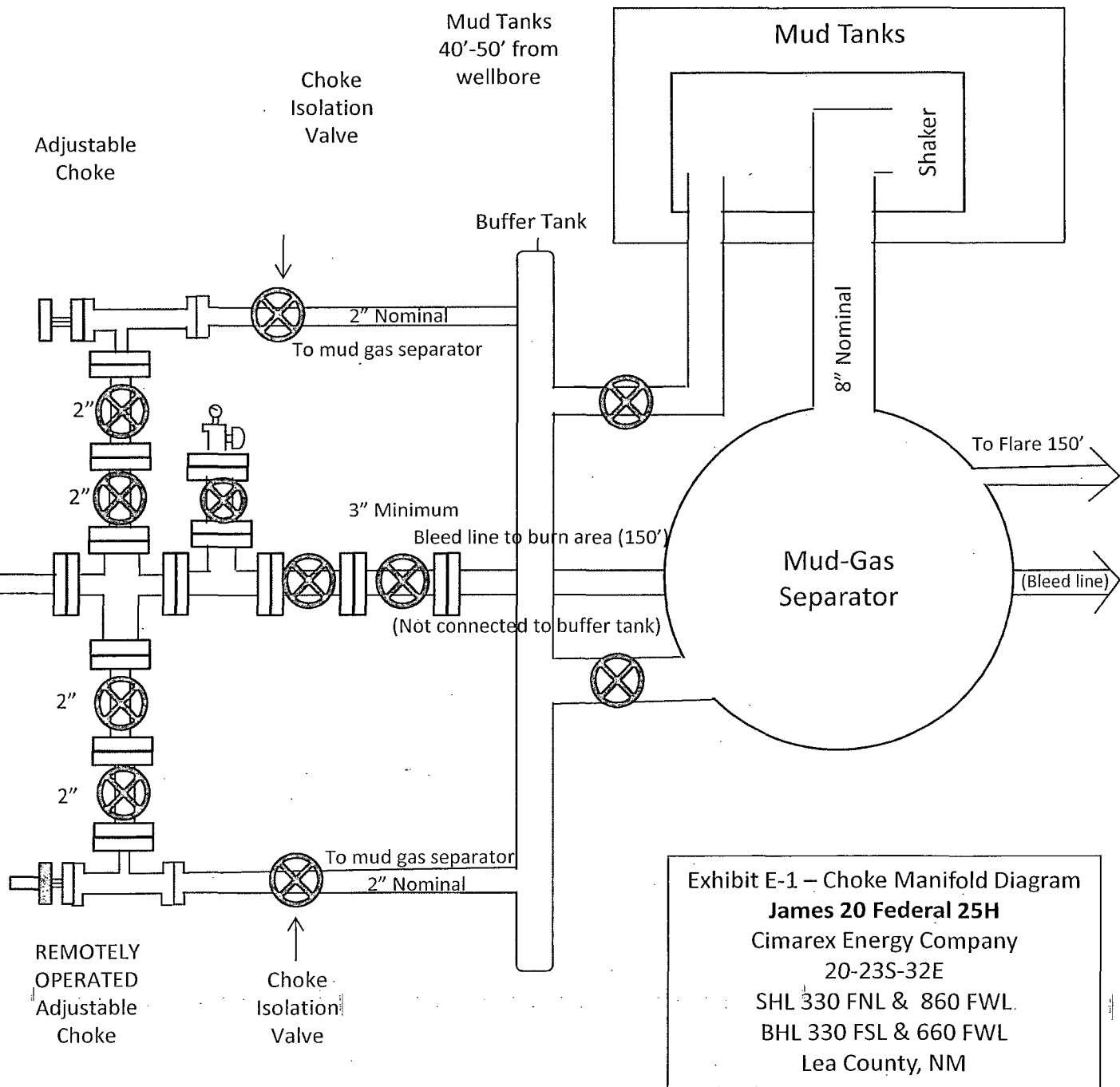


Exhibit F – Co-Flex Hose
James 20 Federal 25H
Cimarex Energy Company
20-23S-32E
SHL 330 FNL & 860 FWL
BHL 330 FSL & 660 FWL
Lea County, NM

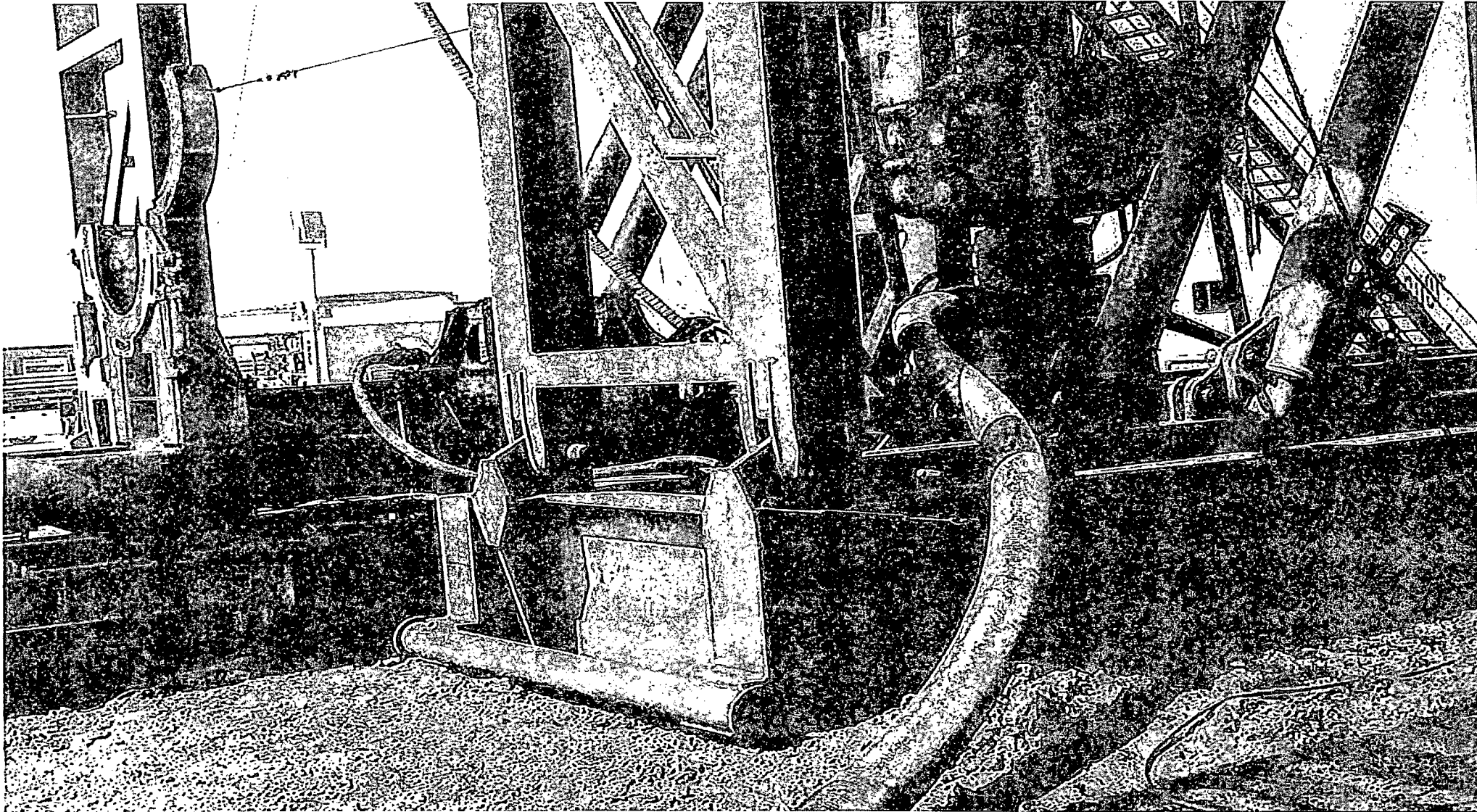


Exhibit F-1
 James 20 Federal 25H
 Cimarex Energy Company
 20-23S-32E
 SHL 330 FNL & 860 FWL
 BHL 330 FSL & 660 FWL
 Lea County, NM



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 Sosa</i>	Approved: <i>Kevin J. [Signature]</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

Hose Specifications

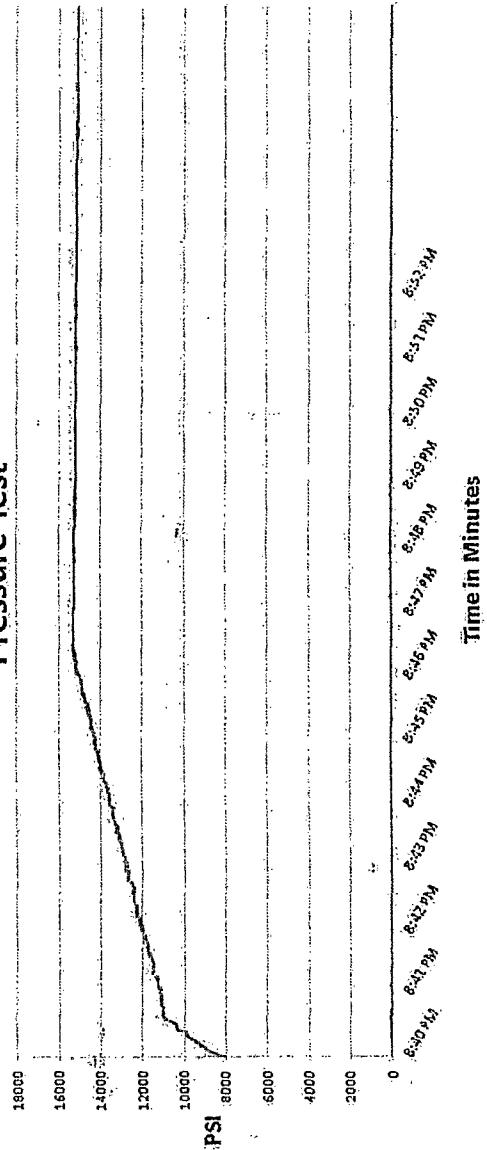
Hose Type
C&K
I.D.
4"
Working Pressure
10000 PSI

Length
45'
O.D.
6.09"

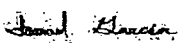
Verification

Type of Fittings
4 1/16 10K
Die Size
6.38"
Hose Serial #
5544
Coupling Method
Swage
Final O.D.
6.25"
Hose Assembly Serial #
79793

Pressure Test



Certificate of Conformity

Customer: DEM		PO ODYD-271
SPECIFICATIONS		
Sales Order 79793	Dated: 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	



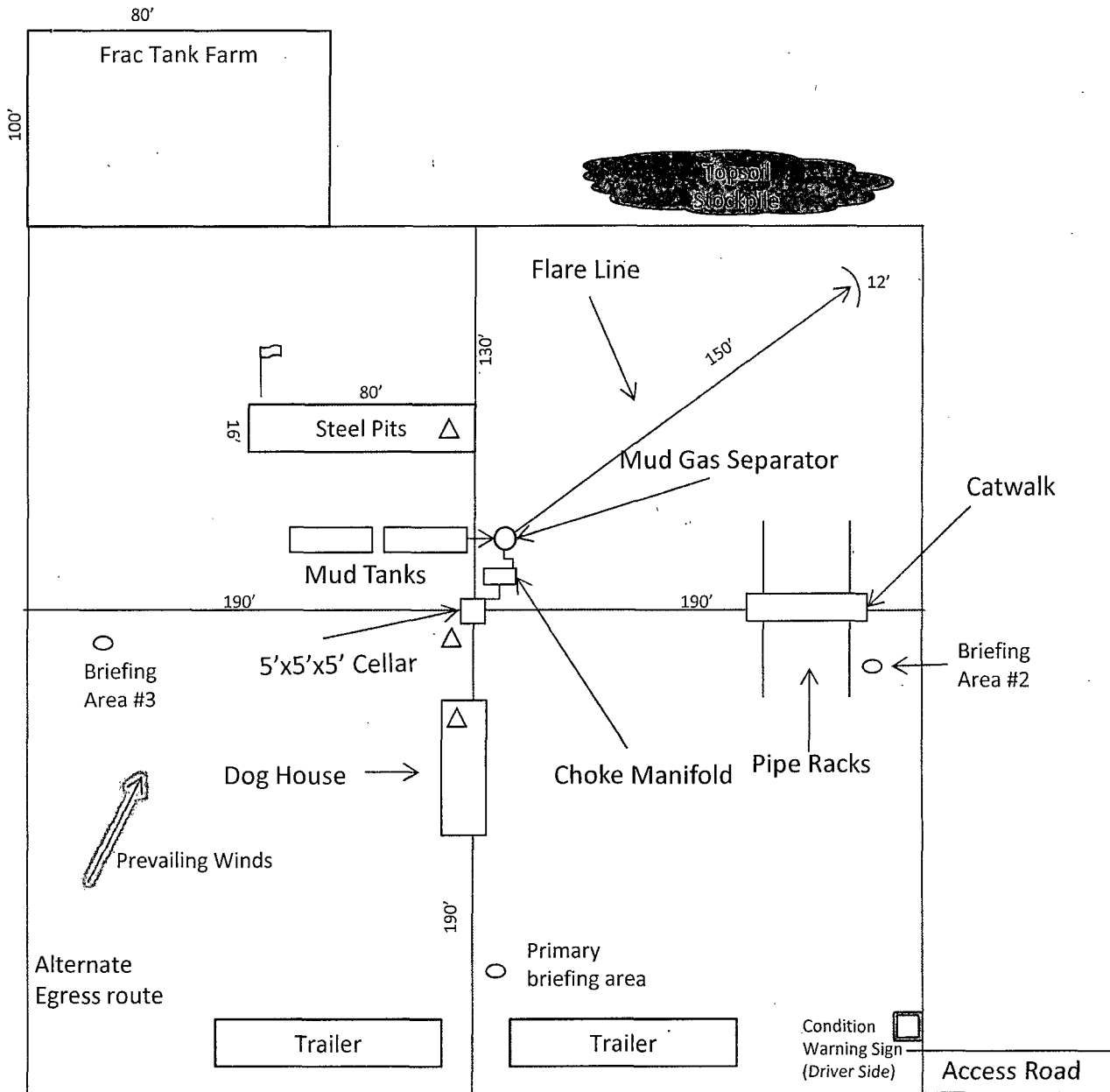
Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
James 20 Federal 25H
Cimarex Energy Company
20-23S-32E
SHL 330 FNL & 860 FWL
BHL 330 FSL & 660 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
-  Briefing Areas



Exhibit D – Rig Diagram
James 20 Federal 25H
 Cimarex Energy Company
 20-23S-32E
 SHL 330 FNL & 860 FWL
 BHL 330 FSL & 660 FWL
 Lea County, NM