

ATS 14-281

HOBBS OCD

NOV 02 2014

OCD Hobbs

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. <313485> James 19 Federal #23H	
2. Name of Operator Cimarex Energy Co.		9. API Well No. 30-025-42223	
3a. Address 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103		10. Field and Pool or Exploratory Sand Dunes South <53805> Wildcat Bone Spring	
3b. Phone No. (include area code) 918-585-1100		11. Sec., T. R. M. or Blk. and Survey and Area 19, 23S, 32E	
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At Surface 375 FNL & 1980 FEL Unit B At proposed prod. Zone 330 FSL & 1980 FEL Unit B Bone Spring		12. County or Parish Lea	
14. Distance in miles and direction from nearest town or post office* Malaga, NM is 21.6 miles Westerly		13. State NM	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 375	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. 330 fo the # 29	19. Proposed Depth Pilot Hole TD: 12,150 15,118 MD 10,750 TVD	20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3647 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 	Name (Printed/Typed) Terri Stathem	Date 12/9/13
Title Regulatory Compliance		
Approved By (Signature) James A. Amos	Name (Printed/Typed) Office 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)
Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

NOV 04 2014

Operator Certification Statement

James 19 Federal #23H

Cimarex Energy Co.

UL: B, Sec. 19, 23S, 32E

Lea Co., NM

Operator's Representative

Cimarex Energy Co. of Colorado

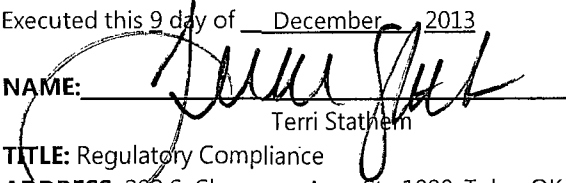
600 N. Marienfeld St., Ste. 600

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 9 day of December, 2013

NAME: 

Terri Stathem

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 19 Federal #23H
 Cimarex Energy Co.
 UL: B, Sec. 19, 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 375 FNL & 1980 FEL
 BHL 330 FSL & 1980 FEL
2. **Elevation Above Sea Level:** 3,647' 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:** 15,118 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:** 350'

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	15118	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 19 Federal #23H
 Cimarex Energy Co.
 UL: B, Sec. 19, 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	679	2.40	11.90	1629	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1362	1.24	14.50	1688	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 4575-4650	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.

Application to Drill
James 19 Federal #23H
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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 1150'	7.80 - 8.30	28	NC	FW Spud Mud
1150' to 4650'	9.50 - 10.00	30-32	NC	Brine Water
4650' to 15118'	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.

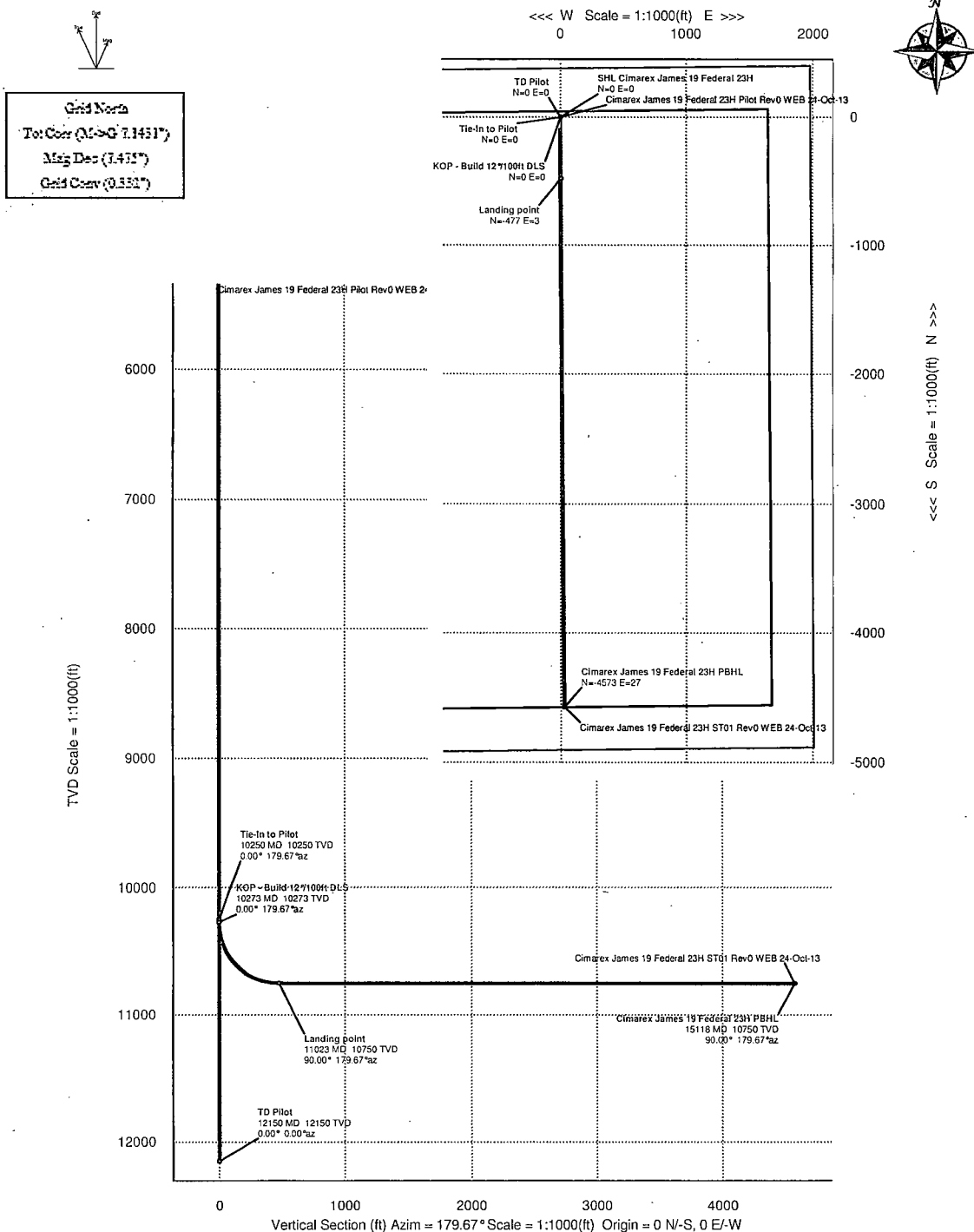
The proposed well will be tested and potentialed as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL	James 19 Federal 23H	FIELD	NM Lea County	STRUCTURE	TBD
Magnetic Parameters Model: BGDH 2013 Dip: 66.159° Date: October 24, 2013 Surface Location: NAD83 New Mexico State Plane, Eastern Zone, US Feet Map Dec: 7.475° FS: 45322.2mT Lat: N 32° 17' 46.355" Northing: 4726637.815 Grid Conv: 0.332" Easting: 733442.15 NUS Scale Fact: 0.99995136 Macrolanes: Sec: Cimarex James 19 Federal 23H/D Plot: Ground level 3547ft above MSL Plan: ST01 Rev0 WEB 24-Oct-13 Srvy Date: October 24, 2013					



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In to Pilot	10250.00	0.00	179.67	10250.00	0.00	0.00	0.00	
KOP - Build 12°/100ft DLS	10272.54	0.00	179.67	10272.54	0.00	0.00	0.00	0.00
Landing point	11022.54	90.00	179.67	10750.00	477.47	-477.46	2.79	12.00
Cimaex James 19 Federal 23H PBHL	15118.48	90.00	179.67	10750.00	4573.41	-4573.33	26.72	0.00



Cimarex James 19 Federal 23H ST01 Rev0 WEB 24-Oct-13 Proposal Report
100' Interpolated
(Non-Def Plan)



Report Date: October 24, 2013 - 03:09 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex James 19 Federal 23H
Well: Cimarex James 19 Federal 23H
Borehole: ST01 Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex James 19 Federal 23H ST01 Rev0 WEB 24-Oct-13
Survey Date: October 24, 2013
Tort / AHD / DDI / ERD Ratio: 90.000 ° / 4573.410 ft / 5.763 / 0.425
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 17' 46.35485", W 103° 42' 41.81492"
Location Grid N/E Y/X: N 472050.570 ftUS, E 733442.150 ftUS
CRS Grid Convergence Angle: 0.3322 °
Grid Scale Factor: 0.99995136

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.665 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground level
TVD Reference Elevation: 3647.000 ft above MSL
Seabed / Ground Elevation: 3647.000 ft above MSL
Magnetic Declination: 7.475 °
Total Gravity Field Strength: 998.4700mgn (9.80665 Based)
Total Magnetic Field Strength: 48392.233 nT
Magnetic Dip Angle: 60.159 °
Declination Date: October 24, 2013
Magnetic Declination Model: BGGM 2013
North Reference: Grid North
Grid Convergence Used: 0.3322 °

Total Corr Mag North->Grid North: 7.1431 °
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 19 Federal 23H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	N/A
	100.00	0.00	179.67	100.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	200.00	0.00	179.67	200.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	300.00	0.00	179.67	300.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	400.00	0.00	179.67	400.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	500.00	0.00	179.67	500.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	600.00	0.00	179.67	600.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	700.00	0.00	179.67	700.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	800.00	0.00	179.67	800.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	900.00	0.00	179.67	900.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1000.00	0.00	179.67	1000.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1100.00	0.00	179.67	1100.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1200.00	0.00	179.67	1200.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1300.00	0.00	179.67	1300.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1400.00	0.00	179.67	1400.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1500.00	0.00	179.67	1500.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1600.00	0.00	179.67	1600.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1700.00	0.00	179.67	1700.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1800.00	0.00	179.67	1800.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	1900.00	0.00	179.67	1900.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2000.00	0.00	179.67	2000.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2100.00	0.00	179.67	2100.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2200.00	0.00	179.67	2200.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2300.00	0.00	179.67	2300.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2400.00	0.00	179.67	2400.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2500.00	0.00	179.67	2500.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2600.00	0.00	179.67	2600.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2700.00	0.00	179.67	2700.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	2800.00	0.00	179.67	2800.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	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)
	8400.00	0.00	179.67	8400.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	8500.00	0.00	179.67	8500.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	8600.00	0.00	179.67	8600.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	8700.00	0.00	179.67	8700.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	8800.00	0.00	179.67	8800.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	8900.00	0.00	179.67	8900.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9000.00	0.00	179.67	9000.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9100.00	0.00	179.67	9100.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9200.00	0.00	179.67	9200.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9300.00	0.00	179.67	9300.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9400.00	0.00	179.67	9400.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9500.00	0.00	179.67	9500.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9600.00	0.00	179.67	9600.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9700.00	0.00	179.67	9700.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9800.00	0.00	179.67	9800.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	9900.00	0.00	179.67	9900.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	10000.00	0.00	179.67	10000.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	10100.00	0.00	179.67	10100.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	10200.00	0.00	179.67	10200.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	10250.00	0.00	179.67	10250.00	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
Tie-In to Pilot KOP - Build 12"/100ft DLS	10272.54	0.00	179.67	10272.54	0.00	0.00	0.00	472050.57	733442.15	N 32 17 46.35	W 103 42 41.81	0.00	0.00	0.00
	10300.00	3.30	179.67	10299.98	0.79	-0.79	0.00	472049.78	733442.15	N 32 17 46.35	W 103 42 41.81	0.79	179.67	12.00
	10400.00	15.30	179.67	10398.49	16.91	-16.91	0.10	472033.66	733442.25	N 32 17 46.19	W 103 42 41.81	16.91	179.67	12.00
	10500.00	27.30	179.67	10491.49	53.16	-53.16	0.31	471997.41	733442.46	N 32 17 45.83	W 103 42 41.81	53.16	179.67	12.00
	10600.00	39.30	179.67	10574.93	107.96	-107.96	0.63	471942.62	733442.78	N 32 17 45.29	W 103 42 41.81	107.96	179.67	12.00
	10700.00	51.30	179.67	10645.14	178.90	-178.90	1.05	471871.68	733443.20	N 32 17 44.58	W 103 42 41.81	178.90	179.67	12.00
	10800.00	63.30	179.67	10699.08	262.90	-262.89	1.54	471787.69	733443.69	N 32 17 43.75	W 103 42 41.81	262.90	179.67	12.00
	10900.00	75.30	179.67	10734.37	356.27	-356.26	2.08	471694.33	733444.23	N 32 17 42.83	W 103 42 41.81	356.27	179.67	12.00
	11000.00	87.30	179.67	10749.47	454.93	-454.93	2.66	471595.67	733444.81	N 32 17 41.85	W 103 42 41.81	454.93	179.67	12.00
Landing point	11022.54	90.00	179.67	10750.00	477.47	-477.46	2.79	471573.14	733444.94	N 32 17 41.63	W 103 42 41.81	477.47	179.67	12.00
	11100.00	90.00	179.67	10750.00	554.92	-554.92	3.24	471495.68	733445.39	N 32 17 40.86	W 103 42 41.81	554.92	179.67	0.00
	11200.00	90.00	179.67	10750.00	654.92	-654.91	3.83	471395.69	733445.98	N 32 17 39.87	W 103 42 41.81	654.92	179.67	0.00
	11300.00	90.00	179.67	10750.00	754.92	-754.91	4.41	471295.70	733446.56	N 32 17 38.88	W 103 42 41.81	754.92	179.67	0.00
	11400.00	90.00	179.67	10750.00	854.92	-854.91	5.00	471195.70	733447.14	N 32 17 37.90	W 103 42 41.81	854.92	179.67	0.00
	11500.00	90.00	179.67	10750.00	954.92	-954.91	5.58	471095.71	733447.73	N 32 17 36.91	W 103 42 41.81	954.92	179.67	0.00
	11600.00	90.00	179.67	10750.00	1054.92	-1054.91	6.16	470995.72	733448.31	N 32 17 35.92	W 103 42 41.81	1054.92	179.67	0.00
	11700.00	90.00	179.67	10750.00	1154.92	-1154.91	6.75	470895.72	733448.90	N 32 17 34.93	W 103 42 41.81	1154.92	179.67	0.00
	11800.00	90.00	179.67	10750.00	1254.92	-1254.90	7.33	470795.73	733449.48	N 32 17 33.94	W 103 42 41.81	1254.92	179.67	0.00
	11900.00	90.00	179.67	10750.00	1354.92	-1354.90	7.92	470695.74	733450.07	N 32 17 32.95	W 103 42 41.81	1354.92	179.67	0.00
	12000.00	90.00	179.67	10750.00	1454.92	-1454.90	8.50	470595.74	733450.65	N 32 17 31.96	W 103 42 41.81	1454.92	179.67	0.00
	12100.00	90.00	179.67	10750.00	1554.92	-1554.90	9.09	470495.75	733451.23	N 32 17 30.97	W 103 42 41.81	1554.92	179.67	0.00
	12200.00	90.00	179.67	10750.00	1654.92	-1654.90	9.67	470395.76	733451.82	N 32 17 29.98	W 103 42 41.81	1654.92	179.67	0.00
	12300.00	90.00	179.67	10750.00	1754.92	-1754.89	10.25	470295.76	733452.40	N 32 17 28.99	W 103 42 41.81	1754.92	179.67	0.00
	12400.00	90.00	179.67	10750.00	1854.92	-1854.89	10.84	470195.77	733452.99	N 32 17 28.00	W 103 42 41.81	1854.92	179.67	0.00
	12500.00	90.00	179.67	10750.00	1954.92	-1954.89	11.42	470095.78	733453.57	N 32 17 27.01	W 103 42 41.81	1954.92	179.67	0.00
	12600.00	90.00	179.67	10750.00	2054.92	-2054.89	12.01	469995.78	733454.16	N 32 17 26.02	W 103 42 41.81	2054.92	179.67	0.00
	12700.00	90.00	179.67	10750.00	2154.92	-2154.89	12.59	469895.79	733454.74	N 32 17 25.03	W 103 42 41.81	2154.92	179.67	0.00
	12800.00	90.00	179.67	10750.00	2254.92	-2254.89	13.17	469795.80	733455.32	N 32 17 24.04	W 103 42 41.81	2254.92	179.67	0.00
	12900.00	90.00	179.67	10750.00	2354.92	-2354.88	13.76	469695.80	733455.91	N 32 17 23.05	W 103 42 41.81	2354.92	179.67	0.00
	13000.00	90.00	179.67	10750.00	2454.92	-2454.88	14.34	469595.81	733456.49	N 32 17 22.06	W 103 42 41.81	2454.92	179.67	0.00
	13100.00	90.00	179.67	10750.00	2554.92	-2554.88	14.93	469495.82	733457.08	N 32 17 21.07	W 103 42 41.81	2554.92	179.67	0.00
	13200.00	90.00	179.67	10750.00	2654.92	-2654.88	15.51	469395.82	733457.66	N 32 17 20.08	W 103 42 41.81	2654.92	179.67	0.00
	13300.00	90.00	179.67	10750.00	2754.92	-2754.88	16.10	469295.83	733458.25	N 32 17 19.09	W 103 42 41.81	2754.92	179.67	0.00
	13400.00	90.00	179.67	10750.00	2854.92	-2854.88	16.68	469195.84	733458.83	N 32 17 18.11	W 103 42 41.81	2854.92	179.67	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	179.67	10750.00	2954.92	-2954.87	17.26	469095.85	733459.41	N 32 17 17.12	W 103 42 41.81	2954.92	179.67	0.00
	13600.00	90.00	179.67	10750.00	3054.92	-3054.87	17.85	468995.85	733460.00	N 32 17 16.13	W 103 42 41.81	3054.92	179.67	0.00
	13700.00	90.00	179.67	10750.00	3154.92	-3154.87	18.43	468895.86	733460.58	N 32 17 15.14	W 103 42 41.81	3154.92	179.67	0.00
	13800.00	90.00	179.67	10750.00	3254.92	-3254.87	19.02	468795.87	733461.17	N 32 17 14.15	W 103 42 41.81	3254.92	179.67	0.00
	13900.00	90.00	179.67	10750.00	3354.92	-3354.87	19.60	468695.87	733461.75	N 32 17 13.16	W 103 42 41.81	3354.92	179.67	0.00
	14000.00	90.00	179.67	10750.00	3454.92	-3454.87	20.19	468595.88	733462.34	N 32 17 12.17	W 103 42 41.81	3454.92	179.67	0.00
	14100.00	90.00	179.67	10750.00	3554.92	-3554.86	20.77	468495.89	733462.92	N 32 17 11.18	W 103 42 41.81	3554.92	179.67	0.00
	14200.00	90.00	179.67	10750.00	3654.92	-3654.86	21.35	468395.89	733463.50	N 32 17 10.19	W 103 42 41.81	3654.92	179.67	0.00
	14300.00	90.00	179.67	10750.00	3754.92	-3754.86	21.94	468295.90	733464.09	N 32 17 9.20	W 103 42 41.81	3754.92	179.67	0.00
	14400.00	90.00	179.67	10750.00	3854.92	-3854.86	22.52	468195.91	733464.67	N 32 17 8.21	W 103 42 41.81	3854.92	179.67	0.00
	14500.00	90.00	179.67	10750.00	3954.92	-3954.86	23.11	468095.91	733465.26	N 32 17 7.22	W 103 42 41.81	3954.92	179.67	0.00
	14600.00	90.00	179.67	10750.00	4054.92	-4054.86	23.69	467995.92	733465.84	N 32 17 6.23	W 103 42 41.81	4054.92	179.67	0.00
	14700.00	90.00	179.67	10750.00	4154.92	-4154.85	24.28	467895.93	733466.43	N 32 17 5.24	W 103 42 41.81	4154.92	179.67	0.00
	14800.00	90.00	179.67	10750.00	4254.92	-4254.85	24.86	467795.93	733467.01	N 32 17 4.25	W 103 42 41.81	4254.92	179.67	0.00
	14900.00	90.00	179.67	10750.00	4354.92	-4354.85	25.44	467695.94	733467.59	N 32 17 3.26	W 103 42 41.81	4354.92	179.67	0.00
	15000.00	90.00	179.67	10750.00	4454.92	-4454.85	26.03	467595.95	733468.18	N 32 17 2.27	W 103 42 41.81	4454.92	179.67	0.00
	15100.00	90.00	179.67	10750.00	4554.92	-4554.85	26.61	467495.95	733468.76	N 32 17 1.28	W 103 42 41.81	4554.92	179.67	0.00
Cimarex James 19 Federal 23H PBHL	15118.48	90.00	179.67	10750.00	4573.41	-4573.33	26.72	467477.47	733468.87	N 32 17 1.10	W 103 42 41.81	4573.41	179.67	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 19 Federal 23H Pilot Rev0 WEB
	10250.000	15118.485	1/100.000	30.000	30.000	SLB_MWD-STD	ST01 Borehole / Cimarex James 19 Federal 23H ST01 Rev0 WEB

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

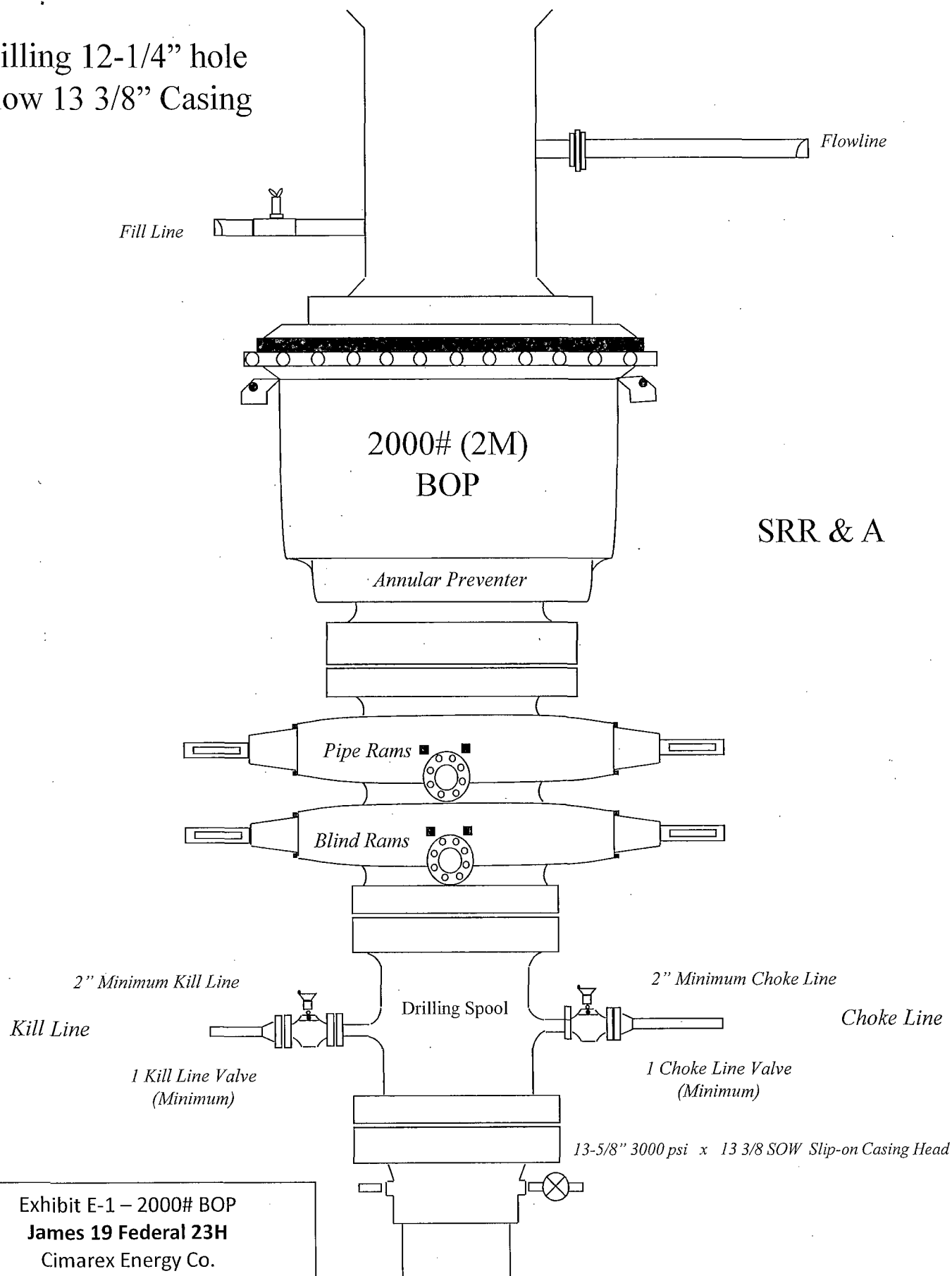


Exhibit E-1 – 2000# BOP
James 19 Federal 23H
Cimarex Energy Co.
19-23S-32E
SHL 375 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

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 and a check valve

2 Valves Minimum
(HCR Required)

Wellhead
Assembly

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

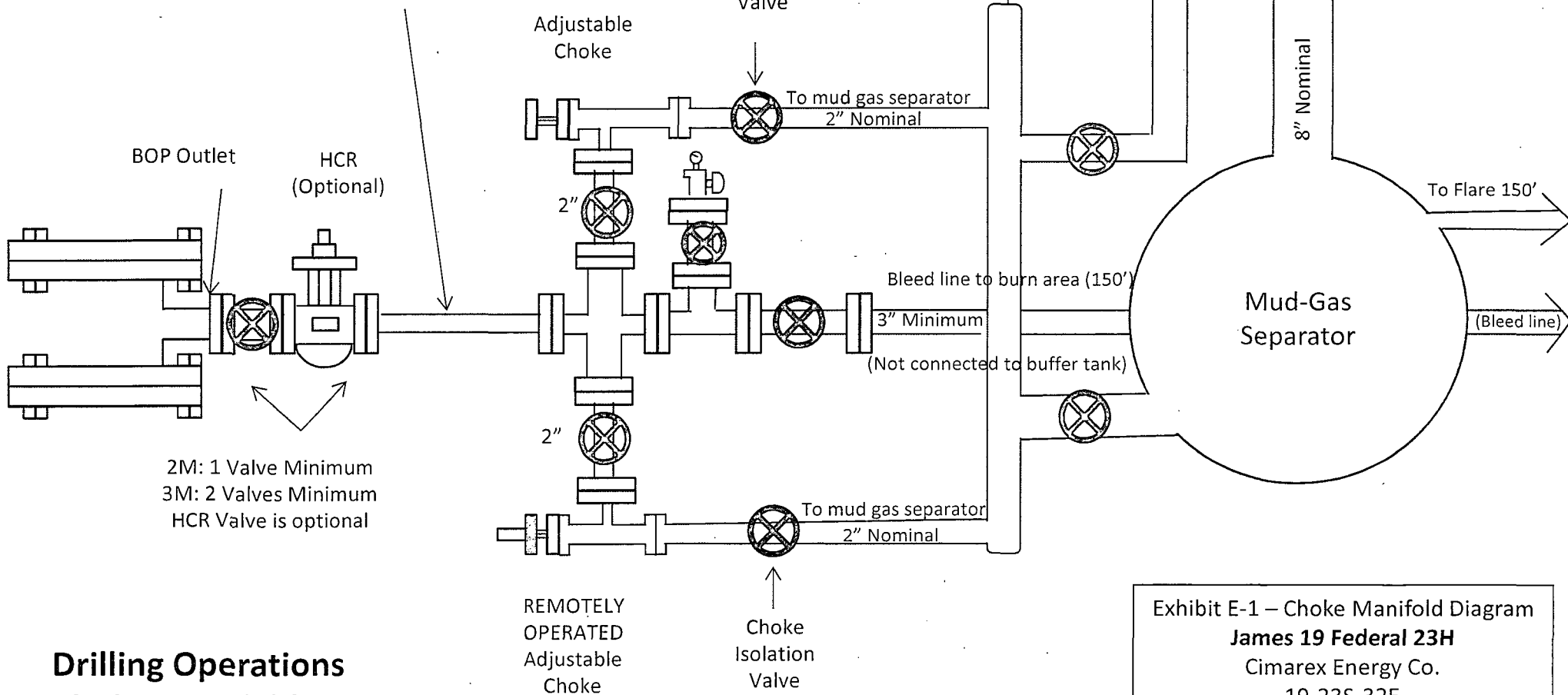
Wellhead
Assembly

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

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

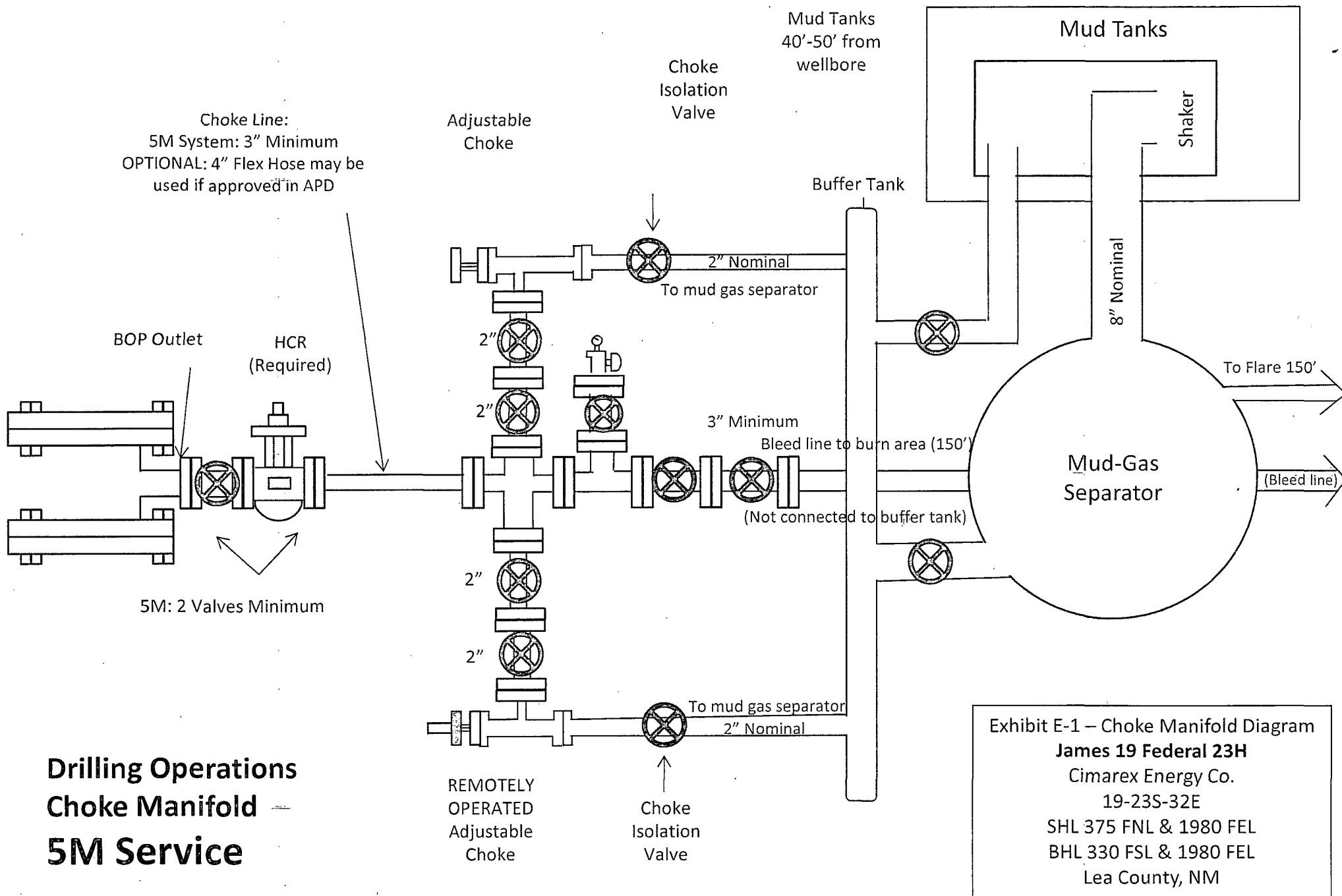
Exhibit E-1 – 5000# BOP
James 19 Federal 23H
Cimarex Energy Co.
19-23S-32E
SHL 375 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

Choke Line:
 2M System: 2" Minimum
 3M System: 3" Minimum
 OPTIONAL: 4" Flex Hose may be
 used if approved in APD



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
James 19 Federal 23H
 Cimarex Energy Co.
 19-23S-32E
 SHL 375 FNL & 1980 FEL
 BHL 330 FSL & 1980 FEL
 Lea County, NM



Drilling Operations Choke Manifold 5M Service

Exhibit F – Co-Flex Hose

James 19 Federal 23H

Cimarex Energy Co.

19-23S-32E

SHL 375 FNL & 1980 FEL

BHL 330 FSL & 1980 FEL

Lea County, NM

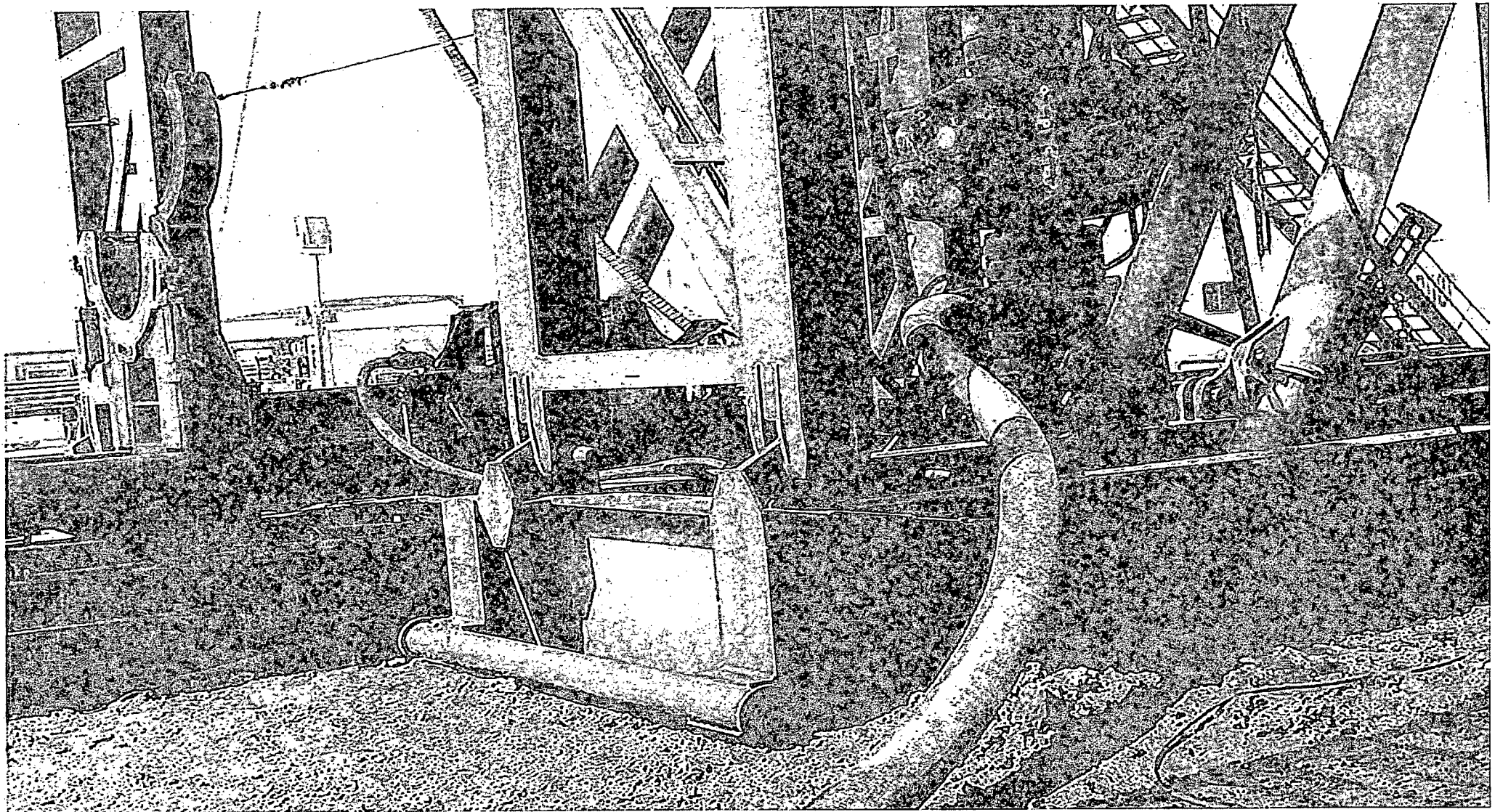


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

James 19 Federal 23H

Cimarex Energy Co.

19-23S-32E

SHL 375 FNL & 1980 FEL

BHL 330 FSL & 1980 FEL

Lea County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT			
Customer:		P.O. Number:	
Oderco Inc		odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE	
10,000 PSI	15,000 PSI	0 PSI	
COUPLINGS			
Stem Part No.		Ferrule No.	
OKC OKC		OKC OKC	
Type of Coupling:			
Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE		ACTUAL BURST PRESSURE:	
15 MIN.		0 PSI	
Hose Assembly Serial Number:		Hose Serial Number:	
79793		OKC	
Comments:			
Date:	Tested:	Approved:	
3/8/2011	<i>A. John Smith</i>	<i>Kevin Red</i>	



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Hose Specifications:

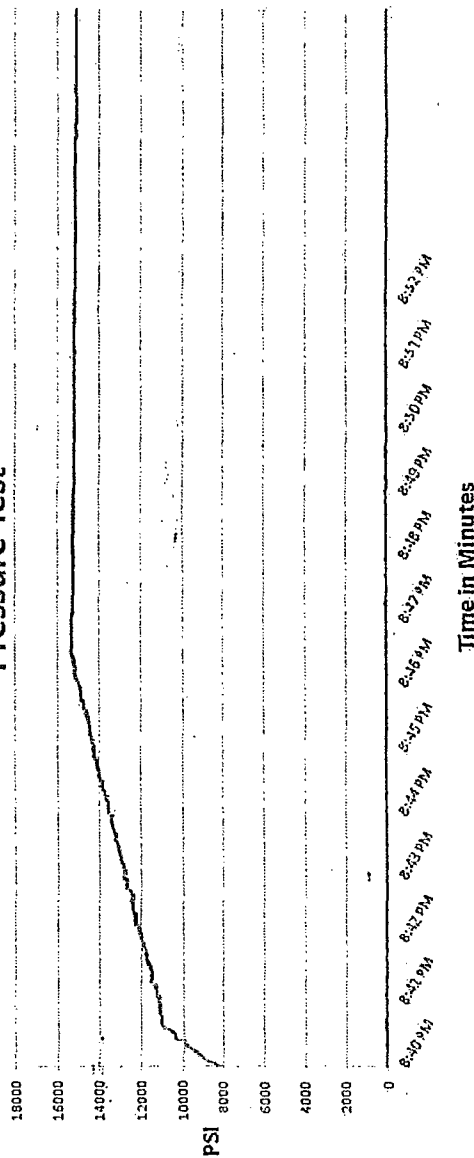
Hose Type
C & K
I.D.
4"
Working Pressure
10000 PSI

Length
45'
O.D.
6.09"
Burst Pressure
Standard Safety Multiplier Applies

Verification:

Type of Fitting
41/1610K
Dia Size
6.30"
Hose Serial #
5544
Coupling Method
Swage
Final O.D.
6.25"
Hose Assembly Serial #
79793

Pressure Test



Test Pressure 15000 PSI
Time Held at Test Pressure 11 Minutes
Actual Burst Pressure
Peak Pressure 15463 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

March 3, 2011

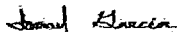
Exhibit F-1 – Co-Flex Hose Hydrostatic Test
James 19 Federal 23H
Cimarex Energy Co.
19-23S-32E
SHL 375 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

Exhibit F-2 - Co-Flex Hose
James 19 Federal 23H
Cimarex Energy Co.
19-23S-32E
SHL 375 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM



Midwest Hose & Specialty, Inc.

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



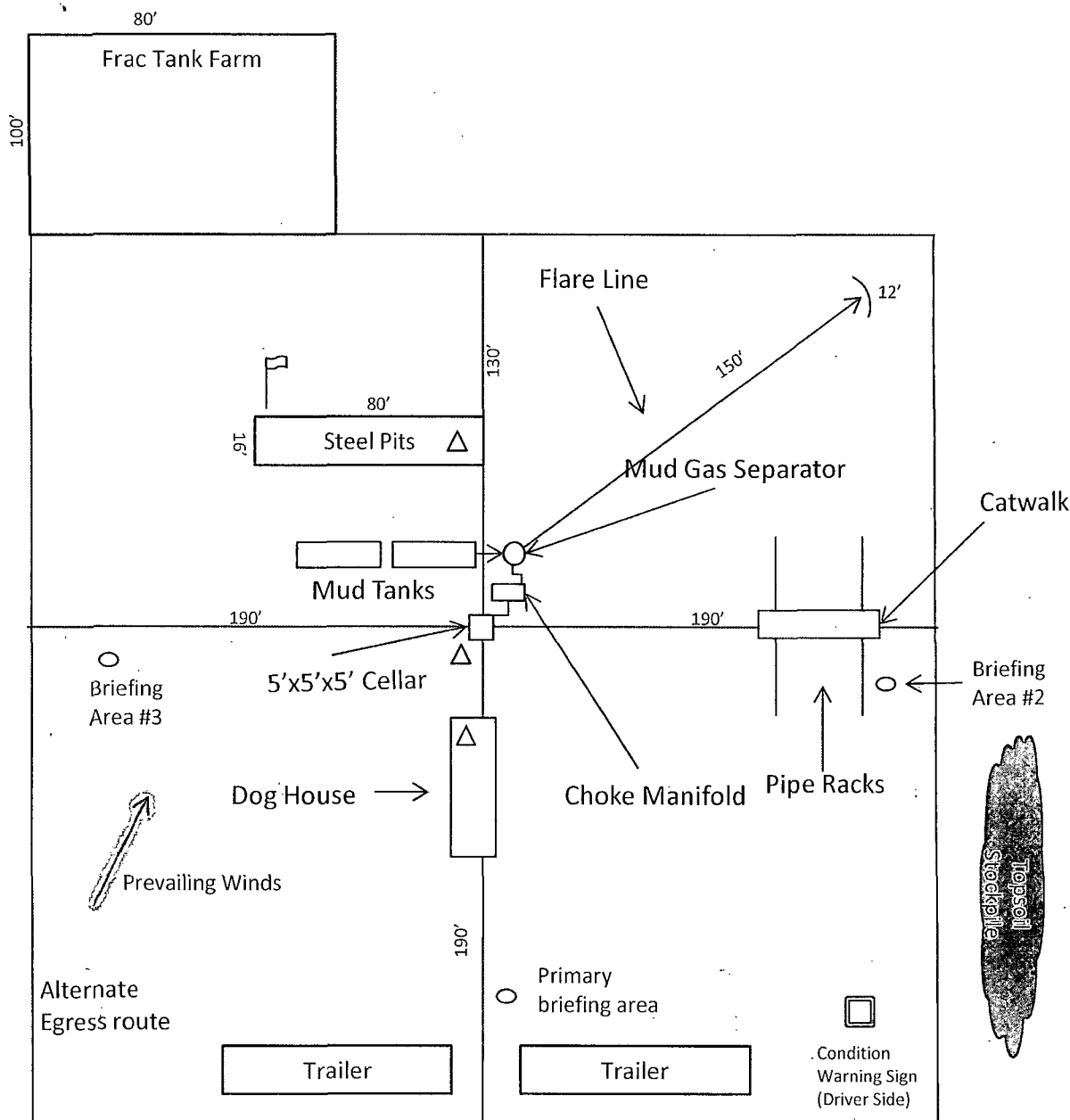
Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
James 19 Federal 23H
Cimarex Energy Co.
19-23S-32E
SHL 375 FNL & 1980 FEL
BHL 330 FSL & 1980 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.

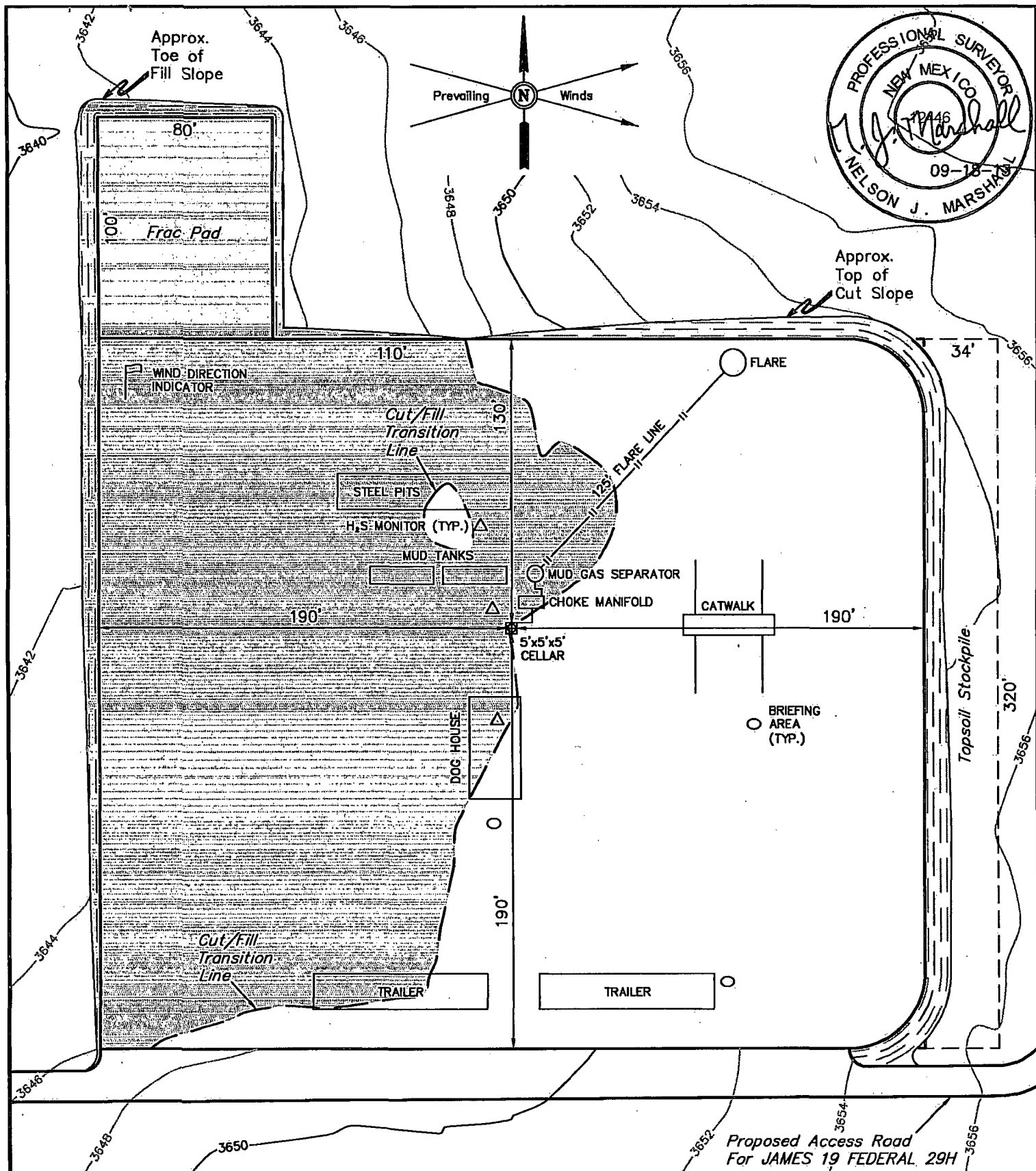
Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, 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)



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



Exhibit D – Rig Diagram
James 19 Federal 23H
 Cimarex Energy Co.
 19-23S-32E
 SHL 375 FNL & 1980 FEL
 BHL 330 FSL & 1980 FEL
 Lea County, NM



NOTES:

- Flare pit is to be located a min. of 125' from the well head.

Exhibit D



Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017



CIMAREX ENERGY CO.

JAMES 19 FEDERAL 23H
SECTION 19, T23S, R32E, N.M.P.M.
375' FNL 1980' FEL

DRAWN BY: J.S.

SCALE: 1" = 60'

DATE: 09-18-13

REVISED:

TYPICAL RIG LAYOUT

FIGURE #3

Hydrogen Sulfide Drilling Operations Plan

James 19 Federal 23H

Cimarex Energy Co.

UL: B, Sec. 19, 23S, 32E

Lea Co., NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Principal and operation of H₂S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.
- 2 H₂S Detection and Alarm Systems:
 - A. H₂S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H₂S detectors may be placed as deemed necessary.
 - B. An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock on the rig floor and / or top doghouse should be high enough to be visible.
- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only H₂S trained and certified personnel admitted to location.
- 5 Well control equipment:
 - A. See exhibit "E-1"
- 6 Communication:
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H₂S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H₂S scavengers if necessary.