

HOBBS OCD

ATS-13-694

JUL 23 2013

Form 3160-3
(March 2012)

OCD Hobbs

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

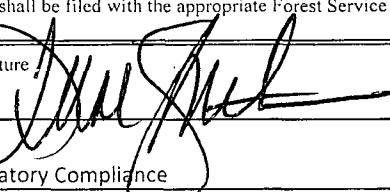
RECEIVED
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		7. If Unit or CA Agreement, Name and No.	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		8. Lease Name and Well No. <59990> James Federal #21H	
2. Name of Operator Cimarex Energy Co.		9. API Well No. 30-025- 41362	
3a. Address 600 N. Marienfeld St. Ste. 600 Midland Tx 79701	3b. Phone No. (include area code) 432-571-7800	10. Field and Pool, or Exploratory Sand Dunes (53805) Wildcat Bone Spring South	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 185' FNL & 1980' FEL At proposed prod. Zone 330' FSL & 1980' FEL <i>Horizontal Bone Spring test</i>		11. Sec., T. R. M. or Blk. and Survey or Area 29-23S-32E	
14. Distance in miles and direction from nearest town or post office* Approximately 23 miles east of Loving, NM		12. County or Parish Lea	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 185'	16. No of acres in lease 1440	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320' to #22	19. Proposed Depth 15,313' MD 10,750' TVD	20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3689' GR	22. Approximate date work will start* 09.01.13	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 04.17.13
Title Regulatory Compliance		
Approved By (Signature) /s/George MacDonell	Name (Printed/Typed)	Date JUL 16 2013
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

(Continued on page 2)

APPROVAL FOR TWO YEARS

Carlsbad Controlled Water Basin

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**Approval Subject to General Requirements
& Special Stipulations Attached**

AUG 28 2013

PM

Application to Drill
James Federal #21H
 Cimarex Energy Co. of Colorado
 UL: B, Sec. 29-23S-32E
 Lea County, 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 185' FNL & 1980' FEL
 BHL 330' FSL & 1980' FEL
- 2 Elevation above sea level: 3689' 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: 15,313' MD 10,750' TVD
- 6 Estimated tops of geological markers:

Formation	Est. Top	Bearing
Rustler	1200	NA
Salt	1310	NA
Castille	3300	NA
Base last salt	4550	NA
Lamar	4760	NA
Bell Canyon	4805	NA
Cherry Canyon	5630	NA
Brushy Canyon	6960	NA
Basal Brushy Canyon	8100	NA
Bone Spring	8600	NA
Avalon Shale	9100	Hydrocarbons
1st BSS	9800	Hydrocarbons
2nd BSS	10475	Hydrocarbons
3rd BS Carbonate	10925	NA
3rd BSS	11650	Hydrocarbons
Wolfcamp	12000	Hydrocarbons

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- 7 Possible mineral bearing formation:

Shown above

- 7A OSE Ground Water estimated depth: 400'

- 8 Casing Program:

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	SI Surface Pressure & BHP (psig)	Mud Weight (ppg)	Collapse SF (1.125)	Burst SF (1.125)	Cumulative Air Weight (lbs)	Tension SF (1.6)
Surface														
0'	1250' 1300'	1250'	17 1/2	13 3/8	48	H-40	ST&C	New	563	8.4	1.36	3.1	60000	5.4
Intermediate														
0'	4785'	4785'	12 1/4	9 5/8	40	J-55	LT&C	New	2153	9	1.15	1.8	191400	2.7
Production														
0'	10273'	10273'	8 3/4	5 1/2	17	P-110	LT&C	New	2472.5	8.4	1.67	4.3	182750	2.4
10273'	15313'	10750'	8 3/4	5 1/2	17	P-110	BT&C	New	4838	8.4	1.59	2.2	8109	67.3

Casing Design Criteria and Casing Loading Assumptions:

Surface, Intermediate and Production Casing:

Tension: A 1.6 design factor without effects of buoyancy.

Collapse: A 1.125 design factor with full internal evacuation.

Burst: A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

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9 Cementing Program:

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	790	1.75	13.5	1389	Class C + Bentonite + Calcium Chloride + LCM
Tail	170	1.34	14.8	217	Class C + LCM

TOC: 0' 85% Excess Centralizers per Onshore Order 2.III.B.1f

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1060	1.88	12.9	1989	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	290	1.34	14.8	386	Class C + retarder + LCM

TOC: 0' 79% Excess

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	699	2.4	11.9	1678	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1429	1.24	14.5	1772	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 4285' 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.

10 Pressure Control Equipment:

Exhibit "E-1". A 13 3/8" 5000 PSI working pressure BOP, tested to 3000 psi on the surface casing and 5000 psi on the intermediate, consisting of one set of blind rams and one set of pipe rams and a 5000# annular type preventer. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. Rotating head 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 unit will be hydraulically operated. BOP will be installed and operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company to 250 psi low and 3000 psi high on the surface casing and 250 psi low and 5000 psi high on the intermediate. Hydril will be tested to 250 psi low and 2500 psi high on the surface and intermediate casings.

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

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Cimarex Energy Co. of Colorado
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Lea County, NM

11 Proposed Mud Circulating System:

Depth		Mud Wt	Visc	Fluid Loss	Type Mud
0'	to 1250'	8.4	28	NC	FW Spud Mud
1250'	to 4785'	9	30-32	NC	Brine water
4785'	to 15313'	8.4	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 Proposed Drilling Plan

Pilot Hole TD: No Pilot Hole KOP: 10,273' EOC: 11023'
Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

13 Testing, Logging and Coring Program:

See COA

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- A. Mud logging program: 2 man unit from 4785 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

14 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 **4838 psi** Estimated BHT **170°**

15 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.

16 Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from TD over possible pay intervals.

Bone Spring pay will be perforated and stimulated.

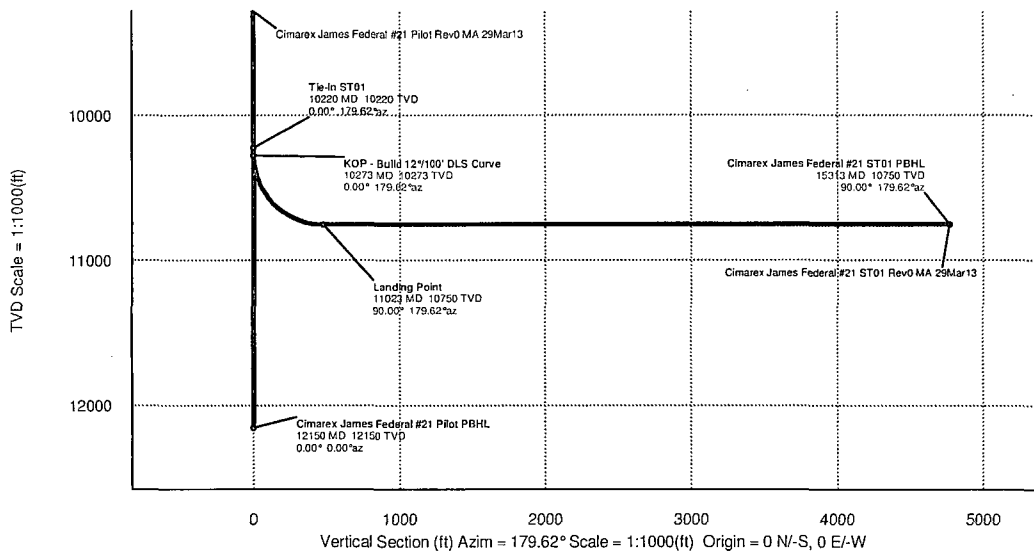
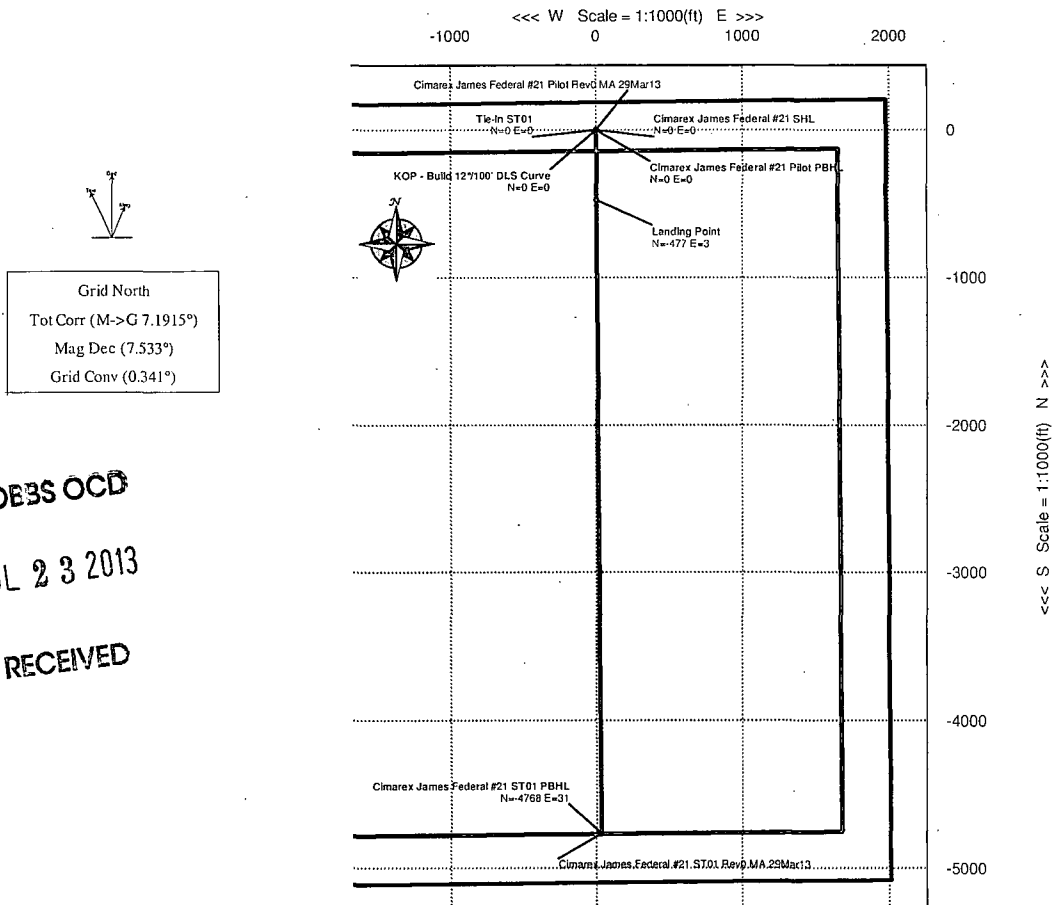
The proposed well will be tested and potentialized as **Oil**



Cimarex

PATHFINDER
A Schlumberger Company

WELL	FIELD	STRUCTURE
James Federal #21	NM Lea County	James Federal #21
Magnetic Parameters Mace: 8504 2012 Dr: 60.123° Date: March 25, 2013 Surface Location RMRD New Mexico State Plane, Eastern Zone, US Feet Measured Mag Dec: 7.533° FSI: 48432.561 Lat: N 32 16 55.291 Longitude: 407023.40 NAD83 Grid Conv: 0.341° Plan: James Federal #21 TVD Ref: Ground Level (26891 above MGL) Srv Date: March 25, 2013		



Critical Point	MD	INCL	AZIM	TVS	YSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In ST01	10220.00	0.00	179.62	10220.00	0.00	0.00	0.00	
KOP - Build 12°/100'	10272.54	0.00	179.62	10272.54	0.00	0.00	0.00	0.00
Landing Point	11022.54	90.00	179.62	10750.00	477.46	-477.45	3.13	12.00
Cimarex James Federal #21 ST01 PBHL	15312.90	90.00	179.62	10750.00	4767.83	-4767.73	31.30	0.00



Cimarex James Federal #21 ST01 Rev0 MA 29Mar13 Proposal Report

(Non-Def Plan)

Report Date: March 29, 2013 - 11:03 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex James Federal #21 / Cimarex James Federal #21
Well: Cimarex James Federal #21
Borehole: ST01 Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex James Federal #21 ST01 Rev0 MA 29Mar13
Survey Date: March 29, 2013
Tort / AHD / DDI / ERD Ratio: 90.000 * / 4767.833 ft / 5.786 / 0.444
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 16' 56.30057", W 103° 41' 40.33297"
Location Grid N/E Y/X: N 467023.400 ftUS, E 738749.400 ftUS
CRS Grid Convergence Angle: 0.3412 °
Grid Scale Factor: 0.99995372

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.624 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3689.000 ft above MSL
Seabed / Ground Elevation: 3689.000 ft above MSL
Magnetic Declination: 7.533 °
Total Gravity Field Strength: 998.4648mgn (9.80665 Based)
Total Magnetic Field Strength: 48433.539 nT
Magnetic Dip Angle: 60.133 °
Declination Date: March 29, 2013
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3412 °

Total Corr Mag North->Grid North: 7.1915 °

Local Coord Referenced To: Structure Reference Point

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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)
Cimarex James Federal #21 SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	N/A
	100.00	0.00	179.62	100.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	200.00	0.00	179.62	200.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	300.00	0.00	179.62	300.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	400.00	0.00	179.62	400.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	500.00	0.00	179.62	500.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	600.00	0.00	179.62	600.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	700.00	0.00	179.62	700.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	800.00	0.00	179.62	800.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	900.00	0.00	179.62	900.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1000.00	0.00	179.62	1000.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1100.00	0.00	179.62	1100.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1200.00	0.00	179.62	1200.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1300.00	0.00	179.62	1300.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1400.00	0.00	179.62	1400.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1500.00	0.00	179.62	1500.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1600.00	0.00	179.62	1600.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1700.00	0.00	179.62	1700.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1800.00	0.00	179.62	1800.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	1900.00	0.00	179.62	1900.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2000.00	0.00	179.62	2000.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2100.00	0.00	179.62	2100.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2200.00	0.00	179.62	2200.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2300.00	0.00	179.62	2300.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2400.00	0.00	179.62	2400.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2500.00	0.00	179.62	2500.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2600.00	0.00	179.62	2600.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2700.00	0.00	179.62	2700.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2800.00	0.00	179.62	2800.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	2900.00	0.00	179.62	2900.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	3000.00	0.00	179.62	3000.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	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)
	8600.00	0.00	179.62	8600.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	8700.00	0.00	179.62	8700.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	8800.00	0.00	179.62	8800.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	8900.00	0.00	179.62	8900.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9000.00	0.00	179.62	9000.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9100.00	0.00	179.62	9100.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9200.00	0.00	179.62	9200.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9300.00	0.00	179.62	9300.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9400.00	0.00	179.62	9400.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9500.00	0.00	179.62	9500.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9600.00	0.00	179.62	9600.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9700.00	0.00	179.62	9700.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9800.00	0.00	179.62	9800.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	9900.00	0.00	179.62	9900.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	10000.00	0.00	179.62	10000.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	10100.00	0.00	179.62	10100.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	10200.00	0.00	179.62	10200.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
Tie-In ST01 KOP - Build 12°/100' DLS Curve	10220.00	0.00	179.62	10220.00	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	10272.54	0.00	179.62	10272.54	0.00	0.00	0.00	467023.40	738749.40	N 32 16 56.30	W 103 41 40.33	0.00	0.00	0.00
	10300.00	3.30	179.62	10299.98	0.79	-0.79	0.01	467022.61	738749.41	N 32 16 56.29	W 103 41 40.33	0.79	179.62	12.00
	10400.00	15.30	179.62	10398.49	16.91	-16.91	0.11	467006.49	738749.51	N 32 16 56.13	W 103 41 40.33	16.91	179.62	12.00
	10500.00	27.30	179.62	10491.49	53.17	-53.16	0.35	466970.24	738749.75	N 32 16 55.77	W 103 41 40.33	53.17	179.62	12.00
	10600.00	39.30	179.62	10574.93	107.96	-107.96	0.71	466915.45	738750.11	N 32 16 55.23	W 103 41 40.33	107.96	179.62	12.00
	10700.00	51.30	179.62	10645.14	178.91	-178.90	1.17	466844.51	738750.57	N 32 16 54.53	W 103 41 40.33	178.91	179.62	12.00
	10800.00	63.30	179.62	10699.07	262.90	-262.89	1.73	466760.52	738751.13	N 32 16 53.70	W 103 41 40.33	262.90	179.62	12.00
	10900.00	75.30	179.62	10734.36	356.27	-356.26	2.34	466667.15	738751.74	N 32 16 52.78	W 103 41 40.33	356.27	179.62	12.00
	11000.00	87.30	179.62	10749.47	454.94	-454.93	2.99	466568.49	738752.39	N 32 16 51.80	W 103 41 40.33	454.94	179.62	12.00
Landing Point	11022.54	90.00	179.62	10750.00	477.46	-477.45	3.13	466545.97	738752.83	N 32 16 51.58	W 103 41 40.33	477.46	179.62	12.00
	11100.00	90.00	179.62	10750.00	554.93	-554.92	3.64	466468.51	738753.04	N 32 16 50.81	W 103 41 40.33	554.93	179.62	0.00
	11200.00	90.00	179.62	10750.00	654.93	-654.92	4.30	466368.52	738753.70	N 32 16 49.82	W 103 41 40.33	654.93	179.62	0.00
	11300.00	90.00	179.62	10750.00	754.93	-754.91	4.96	466268.52	738754.36	N 32 16 48.83	W 103 41 40.33	754.93	179.62	0.00
	11400.00	90.00	179.62	10750.00	854.93	-854.91	5.61	466168.53	738755.01	N 32 16 47.84	W 103 41 40.33	854.93	179.62	0.00
	11500.00	90.00	179.62	10750.00	954.93	-954.91	6.27	466068.54	738755.67	N 32 16 46.85	W 103 41 40.33	954.93	179.62	0.00
	11600.00	90.00	179.62	10750.00	1054.93	-1054.91	6.93	465968.54	738756.33	N 32 16 45.86	W 103 41 40.33	1054.93	179.62	0.00
	11700.00	90.00	179.62	10750.00	1154.93	-1154.90	7.58	465868.55	738756.98	N 32 16 44.87	W 103 41 40.32	1154.93	179.62	0.00
	11800.00	90.00	179.62	10750.00	1254.93	-1254.90	8.24	465768.56	738757.64	N 32 16 43.88	W 103 41 40.32	1254.93	179.62	0.00
	11900.00	90.00	179.62	10750.00	1354.93	-1354.90	8.90	465668.56	738758.29	N 32 16 42.89	W 103 41 40.32	1354.93	179.62	0.00
	12000.00	90.00	179.62	10750.00	1454.93	-1454.90	9.55	465568.57	738758.95	N 32 16 41.90	W 103 41 40.32	1454.93	179.62	0.00
	12100.00	90.00	179.62	10750.00	1554.93	-1554.90	10.21	465468.58	738759.61	N 32 16 40.91	W 103 41 40.32	1554.93	179.62	0.00
	12200.00	90.00	179.62	10750.00	1654.93	-1654.89	10.86	465368.59	738760.26	N 32 16 39.92	W 103 41 40.32	1654.93	179.62	0.00
	12300.00	90.00	179.62	10750.00	1754.93	-1754.89	11.52	465268.59	738760.92	N 32 16 38.94	W 103 41 40.32	1754.93	179.62	0.00
	12400.00	90.00	179.62	10750.00	1854.93	-1854.89	12.18	465168.60	738761.58	N 32 16 37.95	W 103 41 40.32	1854.93	179.62	0.00
	12500.00	90.00	179.62	10750.00	1954.93	-1954.89	12.83	465068.61	738762.23	N 32 16 36.96	W 103 41 40.32	1954.93	179.62	0.00
	12600.00	90.00	179.62	10750.00	2054.93	-2054.89	13.49	464968.61	738762.89	N 32 16 35.97	W 103 41 40.32	2054.93	179.62	0.00
	12700.00	90.00	179.62	10750.00	2154.93	-2154.88	14.15	464868.62	738763.55	N 32 16 34.98	W 103 41 40.32	2154.93	179.62	0.00
	12800.00	90.00	179.62	10750.00	2254.93	-2254.88	14.80	464768.63	738764.20	N 32 16 33.99	W 103 41 40.32	2254.93	179.62	0.00
	12900.00	90.00	179.62	10750.00	2354.93	-2354.88	15.46	464668.63	738764.86	N 32 16 33.00	W 103 41 40.32	2354.93	179.62	0.00
	13000.00	90.00	179.62	10750.00	2454.93	-2454.88	16.12	464568.64	738765.52	N 32 16 32.01	W 103 41 40.32	2454.93	179.62	0.00
	13100.00	90.00	179.62	10750.00	2554.93	-2554.87	16.77	464468.65	738766.17	N 32 16 31.02	W 103 41 40.31	2554.93	179.62	0.00
	13200.00	90.00	179.62	10750.00	2654.93	-2654.87	17.43	464368.66	738766.83	N 32 16 30.03	W 103 41 40.31	2654.93	179.62	0.00
	13300.00	90.00	179.62	10750.00	2754.93	-2754.87	18.09	464268.66	738767.49	N 32 16 29.04	W 103 41 40.31	2754.93	179.62	0.00
	13400.00	90.00	179.62	10750.00	2854.93	-2854.87	18.74	464168.67	738768.14	N 32 16 28.05	W 103 41 40.31	2854.93	179.62	0.00
	13500.00	90.00	179.62	10750.00	2954.93	-2954.87	19.40	464068.68	738768.80	N 32 16 27.06	W 103 41 40.31	2954.93	179.62	0.00
	13600.00	90.00	179.62	10750.00	3054.93	-3054.86	20.06	463968.68	738769.46	N 32 16 26.07	W 103 41 40.31	3054.93	179.62	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)
	13700.00	90.00	179.62	10750.00	3154.93	-3154.86	20.71	463868.69	738770.11	N 32 16 25.08	W 103 41 40.31	3154.93	179.62	0.00
	13800.00	90.00	179.62	10750.00	3254.93	-3254.86	21.37	463768.70	738770.77	N 32 16 24.09	W 103 41 40.31	3254.93	179.62	0.00
	13900.00	90.00	179.62	10750.00	3354.93	-3354.86	22.03	463668.70	738771.42	N 32 16 23.10	W 103 41 40.31	3354.93	179.62	0.00
	14000.00	90.00	179.62	10750.00	3454.93	-3454.86	22.68	463568.71	738772.08	N 32 16 22.11	W 103 41 40.31	3454.93	179.62	0.00
	14100.00	90.00	179.62	10750.00	3554.93	-3554.85	23.34	463468.72	738772.74	N 32 16 21.12	W 103 41 40.31	3554.93	179.62	0.00
	14200.00	90.00	179.62	10750.00	3654.93	-3654.85	24.00	463368.73	738773.39	N 32 16 20.13	W 103 41 40.31	3654.93	179.62	0.00
	14300.00	90.00	179.62	10750.00	3754.93	-3754.85	24.65	463268.73	738774.05	N 32 16 19.15	W 103 41 40.31	3754.93	179.62	0.00
	14400.00	90.00	179.62	10750.00	3854.93	-3854.85	25.31	463168.74	738774.71	N 32 16 18.16	W 103 41 40.31	3854.93	179.62	0.00
	14500.00	90.00	179.62	10750.00	3954.93	-3954.84	25.96	463068.75	738775.36	N 32 16 17.17	W 103 41 40.30	3954.93	179.62	0.00
	14600.00	90.00	179.62	10750.00	4054.93	-4054.84	26.62	462968.75	738776.02	N 32 16 16.18	W 103 41 40.30	4054.93	179.62	0.00
	14700.00	90.00	179.62	10750.00	4154.93	-4154.84	27.28	462868.76	738776.68	N 32 16 15.19	W 103 41 40.30	4154.93	179.62	0.00
	14800.00	90.00	179.62	10750.00	4254.93	-4254.84	27.93	462768.77	738777.33	N 32 16 14.20	W 103 41 40.30	4254.93	179.62	0.00
	14900.00	90.00	179.62	10750.00	4354.93	-4354.84	28.59	462668.77	738777.99	N 32 16 13.21	W 103 41 40.30	4354.93	179.62	0.00
	15000.00	90.00	179.62	10750.00	4454.93	-4454.83	29.25	462568.78	738778.65	N 32 16 12.22	W 103 41 40.30	4454.93	179.62	0.00
	15100.00	90.00	179.62	10750.00	4554.93	-4554.83	29.90	462468.79	738779.30	N 32 16 11.23	W 103 41 40.30	4554.93	179.62	0.00
	15200.00	90.00	179.62	10750.00	4654.93	-4654.83	30.56	462368.80	738779.96	N 32 16 10.24	W 103 41 40.30	4654.93	179.62	0.00
	15300.00	90.00	179.62	10750.00	4754.93	-4754.83	31.22	462268.80	738780.62	N 32 16 9.25	W 103 41 40.30	4754.93	179.62	0.00
Cimarex James Federal #21 ST01 PBHL	15312.90	90.00	179.62	10750.00	4767.83	-4767.73	31.30	462255.90	738780.70	N 32 16 9.12	W 103 41 40.30	4767.83	179.62	0.00

Survey Type: Non-Def Plan

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

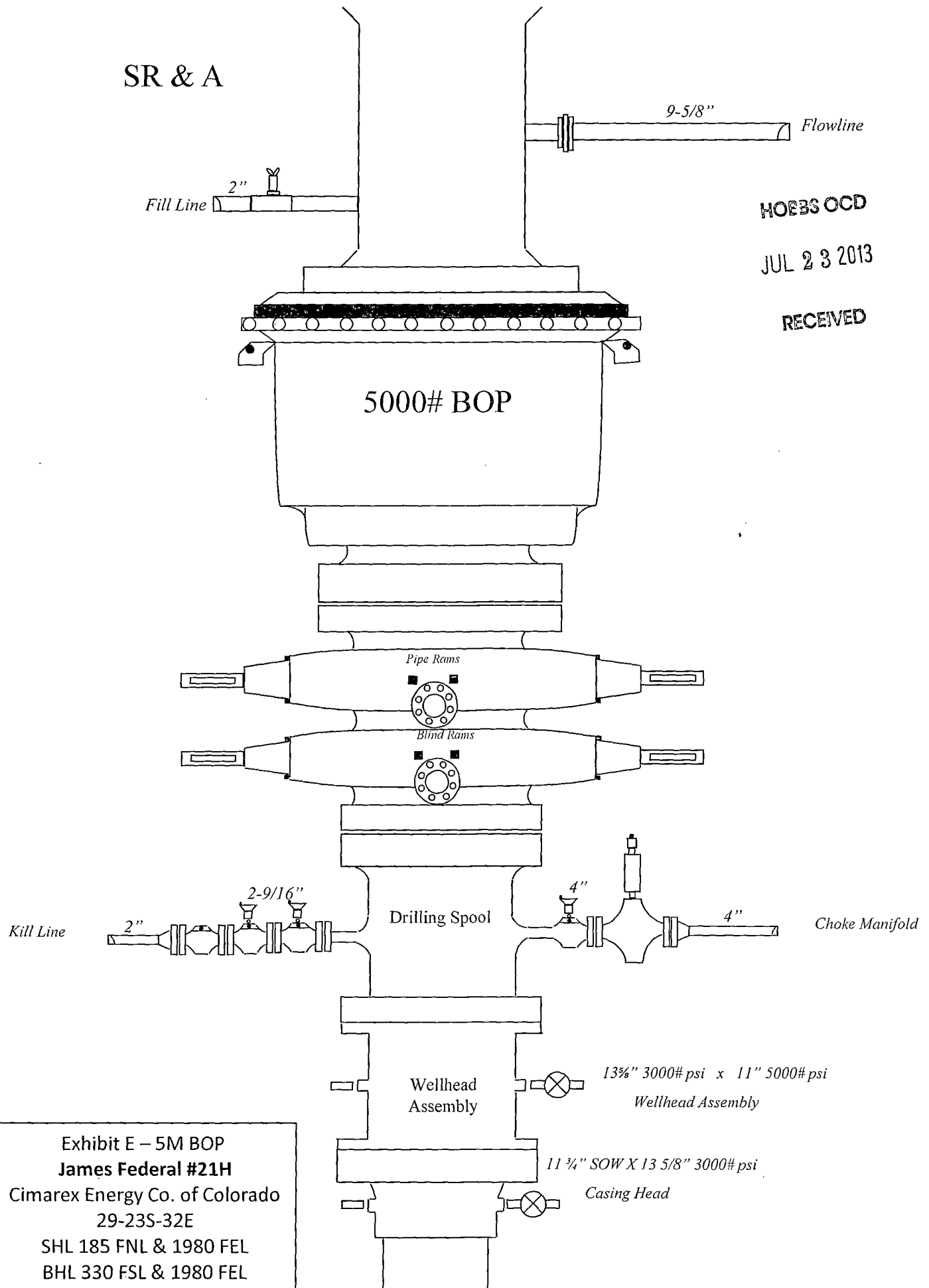
Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	10220.000	1/100.000	30.000	30.000	SLB_MWD-STD	Pilot Borehole / Cimarex James Federal #21 Pilot Rev0 MA
	10220.000	15312.903	1/100.000	30.000	30.000	SLB_MWD-STD	ST01 Borehole / Cimarex James Federal #21 ST01 Rev0 MA

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Exhibit E – 5M BOP

James Federal #21H

Cimarex Energy Co. of Colorado
29-23S-32E

SHL 185 FNL & 1980 FEL

BHL 330 FSL & 1980 FEL

Lea County, NM

James Federal #21H

29-23S-32E

BHL 330 FSL & 1980 FEL

The diagram illustrates two alternative piping configurations for a mud gas separator system. The central component is a large circular vessel labeled "Mud-Gas Separator".

Routing With Mud Gas Separator (Left Side):

- Top Inlet:** Labeled "Manually Adjustable Choke". The line passes through a "Choke Isolation Valve" and a "2" Nominal" pipe to the separator's top.
- Top Outlet:** Labeled "To mud gas separator". The line passes through a "2" Nominal" pipe and a "Choke Isolation Valve" to a "Remotely Adjustable Choke".
- Bottom Inlet:** Labeled "Bleed line to burn area (150') (Not connected to buffer tank)". The line passes through a "4" Nominal" pipe and a "Choke Isolation Valve" to the separator's bottom.
- Bottom Outlet:** Labeled "To Flare 150'". The line passes through a "(Bleed line)" and a "4" Nominal" pipe to the separator's bottom.

Routing Without Mud Gas Separator (Right Side):

- Top Inlet:** Labeled "Manually Adjustable Choke". The line passes through a "Choke Isolation Valve" and a "2" Nominal" pipe to the separator's top.
- Top Outlet:** Labeled "To mud gas separator". The line passes through a "2" Nominal" pipe and a "Choke Isolation Valve" to a "Remotely Adjustable Choke".
- Bottom Inlet:** Labeled "Bleed line to burn area (150') (Not connected to buffer tank)". The line passes through a "4" Nominal" pipe and a "Choke Isolation Valve" to the separator's bottom.
- Bottom Outlet:** Labeled "To Flare 150'". The line passes through a "(Bleed line)" and a "4" Nominal" pipe to the separator's bottom.

Common Components:

- Buffer Tank:** Located at the bottom center, connected to the separator's bottom outlet via an "8" Nominal" pipe.
- Separator Labels:** "Mud-Gas Separator" is written across the center of the vessel.

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Mud Tanks
40'-50' from
wellbore

Mud Tanks

Shaker

Routing Without Mud Gas Separator



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
James Federal #21H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

Specification Sheet Choke & Kill Hose

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The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermiculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unbolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

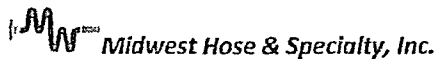


Exhibit F-1 – Midwest Hose Statement

James Federal #20H

Cimarex Energy Co. of Colorado

29-23S-32E

SHL 185 FNL & 1880 FWL

BHL 330 FSL & 1980 FWL

Lea County, NM

To whom it may concern,

As of December 2011, we purchased new testing equipment per API requirements giving Midwest Hose & Specialty the ability to provide a *test chart or graph* of the test. Now we provide both the *test certificate* and *test graph* with each and every rotary hose sold.

Unfortunately prior to December 2011, we did not provide the *test graph* only a *test certificate*. We can however retest/recertify each hose and provide the *test graph* if need be.

If we can be of any other assistance, please feel free to call or email us.

Regards,

A handwritten signature in black ink, appearing to read 'Mark Koldoff', is written over the printed name.

MWH Quality Control Department

Mark Koldoff | QC Manager | Direct 405.619.4038

Preston Morgan | QC Assistant | Direct 405.619.4037

qualitycontrol@midwesthose.com

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Exhibit F-2 - Co-Flex Hose
James Federal #21H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM

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MIDWEST

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HOSE AND SPECIALTY INC.

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INTERNAL HYDROSTATIC TEST REPORT

Customer: CACTUS		P.O. Number: RIG#119	
HOSE SPECIFICATIONS		M10602	
Type: CHOKE & KILL	Length: 35'		
I.D. 4" INCHES	O.D. 8" INCHES		
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE PSI	
COUPLINGS			
Type of End Fitting 4 1/16 10K FLANGE			
Type of Coupling: VULCANIZED FITTING			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE 15 MIN.		ACTUAL BURST PRESSURE: 0 PSI	
COMMENTS: SO#63993 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes			
Date: 7/30/2010	Tested By: BOBBY FINK	Approved: MENDI JACKSON	

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Exhibit F - Co-Flex Hose

James Federal #21H

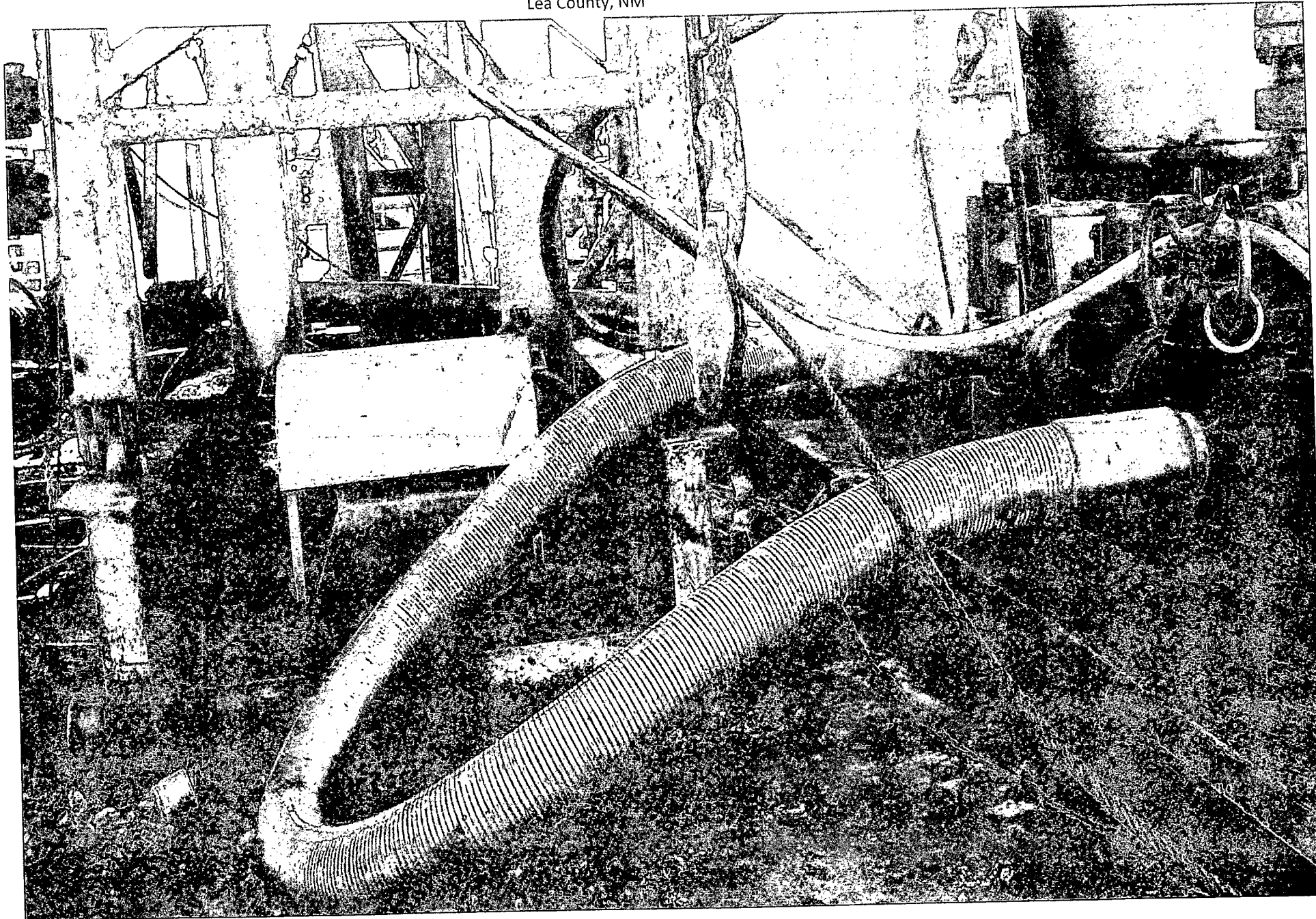
Cimarex Energy Co. of Colorado

29-23S-32E

SHL 185 FNL & 1980 FEL

BHL 330 FSL & 1980 FEL

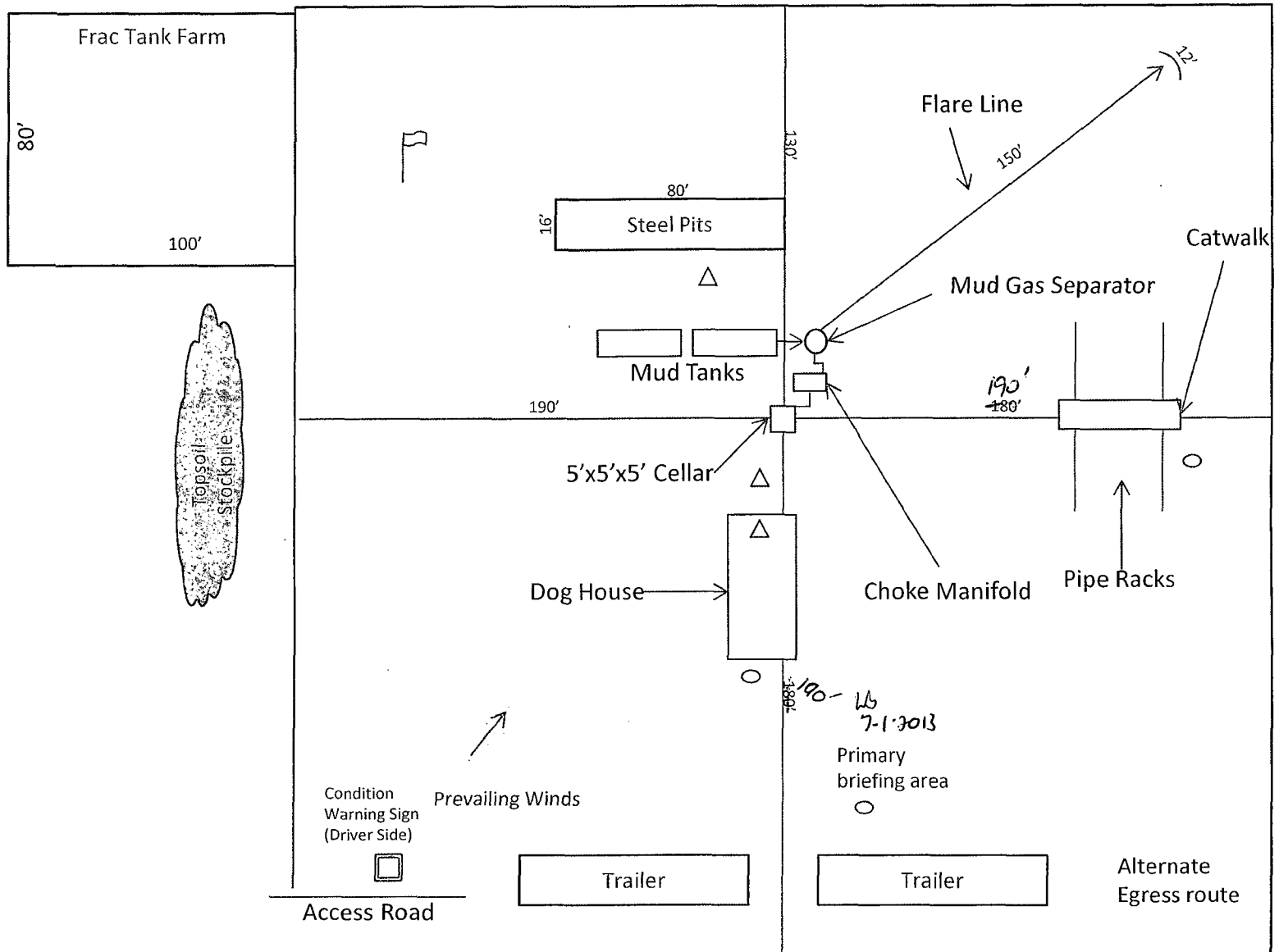
Lea County, NM



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



Exhibit D – Rig Diagram
James Federal #21H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 1980 FEL
BHL 330 FSL & 1980 FEL
Lea County, NM