

HOBBS OCD

JUN 27 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		5. Lease Serial No. NM0559539	
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 600 N. Marienfeld St. Ste. 600 Midland Tx 79701		8. Lease Name and Well No. <39990> James Federal #19H	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 41250	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 185' FNL & 990' FWL Unit D At proposed prod. Zone 330' FSL & 660' FWL Unit Horizontal Bone Spring test		10. Field and Pool or Exploratory Sand Dunes <53805> Wildcat Bone Spring South	
11. Sec., T. R..M. or Blk. and Survey or Area 29-23S-32E		12. County or Parish Lea	
14. Distance in miles and direction from nearest town or post office* Approximately 23 mile E of Loving NM		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. 890' to #20	19. Proposed Depth 15,325' MD 10,750' TVD	20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3674' GR	22. Approximate date work will start* 08.15.13	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 Hope Knauls	Name (Printed/Typed) Hope Knauls	Date 04.02.13
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Regulatory Compliance		
Approved By (Signature) /s/George MacDonell	Name (Printed/Typed) /s/George MacDonell	Date JUN 24 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 2212, 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 or any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Approval Subject to General Requirements
& Special Stipulations Attached

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

JUL 09 2013

dm

Application to Drill
James Federal #19H
 Cimarex Energy Co.
 UL: D, Sec. 29, 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 185' FNL & 990' FWL
 BHL 330' FSL & 660' FWL
- 2 Elevation above sea level: 3674' 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: 15,325' MD 10,750' TVD
- 6 Estimated tops of geological markers:

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

- 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'	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	N-80	LT&C	New	2153	10	1.24	2.7	191400	3.9
Production														
0'	10272'	10272'	8 3/4	5 1/2	17	P-110	LT&C	New	2472.5	8.4	1.67	4.3	182750	2.4
10272'	15325'	10750'	8 3/4	5 1/2	17	P-110	BT&C	New	4838	8.4	1.59	2.2	8126	67.2

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.

Drilling Plan
James Federal #19H
 Cimarex Energy Co.
 UL: D, Sec. 29, 23S, 32E
 Lea Co., NM

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	1432	1.24	14.5	1776	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 1/2" 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.

Application to Drill
James Federal #19H
 Cimarex Energy Co.
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 Lea Co., 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' 4785'	10	30-32	NC	Brine water
4785'	to	15325'	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: 10,272'

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 COR

- 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 potential as

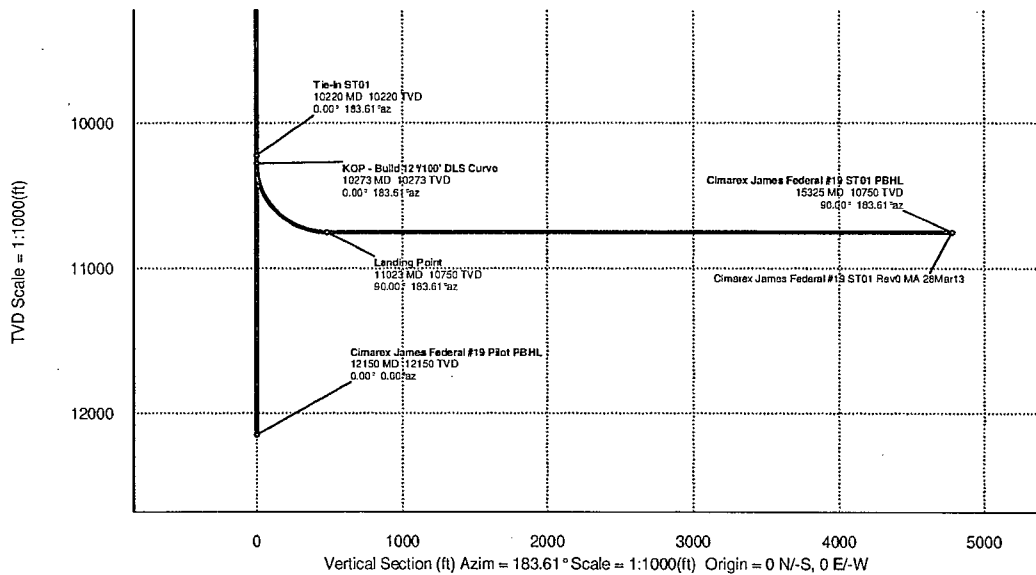
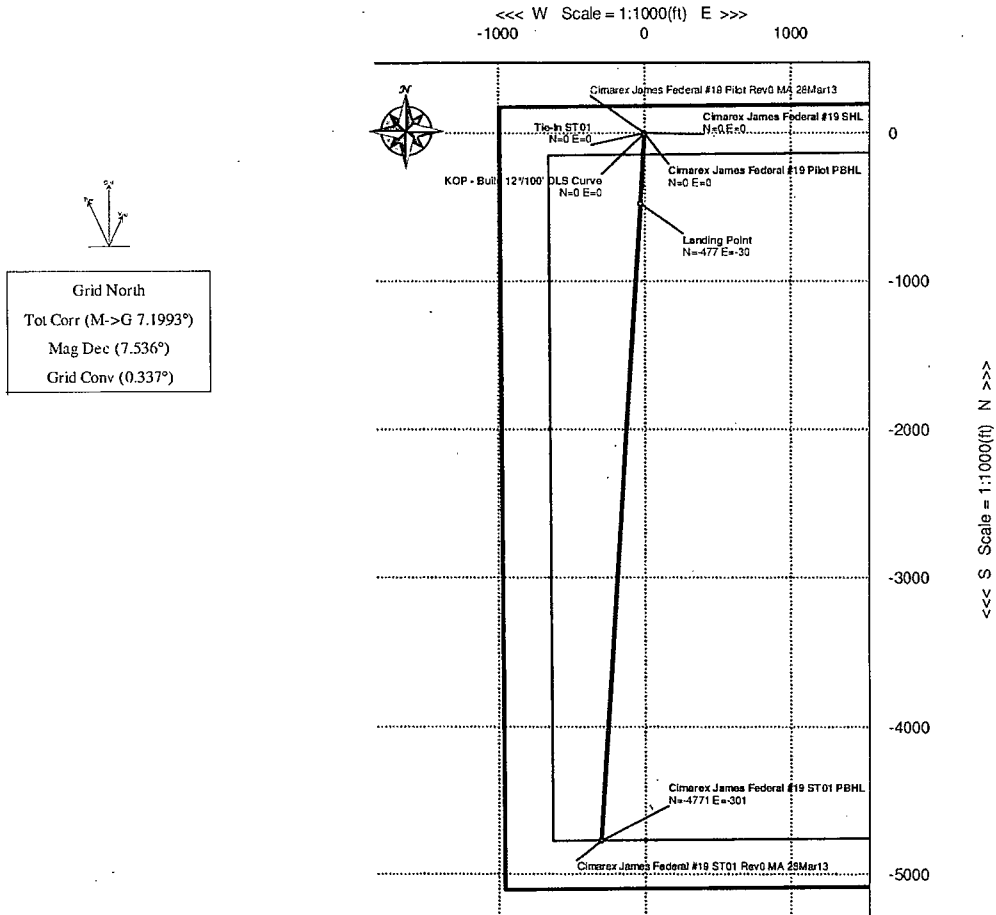
Oil



Cimarex

PATHFINDER
A Schlumberger Company

WELL James Federal #19		FIELD NM Lea County	STRUCTURE James Federal #19
Magnetic Declination Model: SC04 2012 Dir: 83.132° Mag Dec: 7.536°	Day: March 28, 2013 Time: 4:43:11 PM	Surface Location Lat: N 30° 16' 55.33" Lon: W 102° 42' 7.137"	Horizontal North: 497020.59 NED East: 739440.49 NED Scale: 0.99999250



Critical Point	MD	INCL	AZIM	TVD	YSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In ST01	10220.00	0.00	183.61	10220.00	0.00	0.00	0.00	
KOP - Build 12 1/2" DLS Curve	10272.54	0.00	183.61	10272.54	0.00	0.00	0.00	0.00
Landing Point	11022.54	90.00	183.61	10750.00	477.46	-476.52	-30.05	12.00
Cimarex James Federal #19 ST01 PBHL	15325.28	90.00	183.61	10750.00	4780.21	-4770.74	-300.81	0.00



Cimarex James Federal #19 ST01 Rev0 MA 28Mar13 Proposal Report

(Non-Def Plan)



Report Date: March 28, 2013 - 04:15 PM
 Client: Cimarex
 Field: NM Lea County (NAD 83)
 Structure / Slot: Cimarex James Federal #19 / Cimarex James Federal #19
 Well: Cimarex James Federal #19
 Borehole: ST01 Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex James Federal #19 ST01 Rev0 MA 28Mar13
 Survey Date: March 28, 2013
 Tort / AHD / DDI / ERD Ratio: 90.000 ° / 4780.210 ft / 5.788 / 0.445
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 16' 56.23251", W 103° 42' 7.13750"
 Location Grid N/E Y/X: N 467002.900 ftUS, E 736448.400 ftUS
 CRS Grid Convergence Angle: 0.3372 °
 Grid Scale Factor: 0.99995269

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 183.608 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: Ground Level
 TVD Reference Elevation: 3674.000 ft above MSL
 Seabed / Ground Elevation: 3674.000 ft above MSL
 Magnetic Declination: 7.536 °
 Total Gravity Field Strength: 998.4662mgn (9.80665 Based)
 Total Magnetic Field Strength: 48433.086 nT
 Magnetic Dip Angle: 60.132 °
 Declination Date: March 28, 2013
 Magnetic Declination Model: BGM 2012
 North Reference: Grid North
 Grid Convergence Used: 0.3372 °

Total Corr Mag North->Grid North: 7.1993 °

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)
Cimarex James Federal #19 SHL	0.00	0.00	183.61	0.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	N/A
	100.00	0.00	183.61	100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	200.00	0.00	183.61	200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	300.00	0.00	183.61	300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	400.00	0.00	183.61	400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	500.00	0.00	183.61	500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	600.00	0.00	183.61	600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	700.00	0.00	183.61	700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	800.00	0.00	183.61	800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	900.00	0.00	183.61	900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1000.00	0.00	183.61	1000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1100.00	0.00	183.61	1100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1200.00	0.00	183.61	1200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1300.00	0.00	183.61	1300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1400.00	0.00	183.61	1400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1500.00	0.00	183.61	1500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1600.00	0.00	183.61	1600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1700.00	0.00	183.61	1700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1800.00	0.00	183.61	1800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	1900.00	0.00	183.61	1900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2000.00	0.00	183.61	2000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2100.00	0.00	183.61	2100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2200.00	0.00	183.61	2200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2300.00	0.00	183.61	2300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2400.00	0.00	183.61	2400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2500.00	0.00	183.61	2500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2600.00	0.00	183.61	2600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2700.00	0.00	183.61	2700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2800.00	0.00	183.61	2800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	2900.00	0.00	183.61	2900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3000.00	0.00	183.61	3000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	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)
	3100.00	0.00	183.61	3100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3200.00	0.00	183.61	3200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3300.00	0.00	183.61	3300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3400.00	0.00	183.61	3400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3500.00	0.00	183.61	3500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3600.00	0.00	183.61	3600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3700.00	0.00	183.61	3700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3800.00	0.00	183.61	3800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	3900.00	0.00	183.61	3900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4000.00	0.00	183.61	4000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4100.00	0.00	183.61	4100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4200.00	0.00	183.61	4200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4300.00	0.00	183.61	4300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4400.00	0.00	183.61	4400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4500.00	0.00	183.61	4500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4600.00	0.00	183.61	4600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4700.00	0.00	183.61	4700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4800.00	0.00	183.61	4800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	4900.00	0.00	183.61	4900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5000.00	0.00	183.61	5000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5100.00	0.00	183.61	5100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5200.00	0.00	183.61	5200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5300.00	0.00	183.61	5300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5400.00	0.00	183.61	5400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5500.00	0.00	183.61	5500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5600.00	0.00	183.61	5600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5700.00	0.00	183.61	5700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5800.00	0.00	183.61	5800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	5900.00	0.00	183.61	5900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6000.00	0.00	183.61	6000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6100.00	0.00	183.61	6100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6200.00	0.00	183.61	6200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6300.00	0.00	183.61	6300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6400.00	0.00	183.61	6400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6500.00	0.00	183.61	6500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6600.00	0.00	183.61	6600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6700.00	0.00	183.61	6700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6800.00	0.00	183.61	6800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	6900.00	0.00	183.61	6900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7000.00	0.00	183.61	7000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7100.00	0.00	183.61	7100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7200.00	0.00	183.61	7200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7300.00	0.00	183.61	7300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7400.00	0.00	183.61	7400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7500.00	0.00	183.61	7500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7600.00	0.00	183.61	7600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7700.00	0.00	183.61	7700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7800.00	0.00	183.61	7800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	7900.00	0.00	183.61	7900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8000.00	0.00	183.61	8000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8100.00	0.00	183.61	8100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8200.00	0.00	183.61	8200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8300.00	0.00	183.61	8300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8400.00	0.00	183.61	8400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8500.00	0.00	183.61	8500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	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	183.61	8600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8700.00	0.00	183.61	8700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8800.00	0.00	183.61	8800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	8900.00	0.00	183.61	8900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9000.00	0.00	183.61	9000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9100.00	0.00	183.61	9100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9200.00	0.00	183.61	9200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9300.00	0.00	183.61	9300.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9400.00	0.00	183.61	9400.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9500.00	0.00	183.61	9500.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9600.00	0.00	183.61	9600.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9700.00	0.00	183.61	9700.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9800.00	0.00	183.61	9800.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	9900.00	0.00	183.61	9900.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	10000.00	0.00	183.61	10000.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	10100.00	0.00	183.61	10100.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	10200.00	0.00	183.61	10200.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	10220.00	0.00	183.61	10220.00	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
Tie-In ST01 KOP - Build 12°/100' DLS Curve	10272.54	0.00	183.61	10272.54	0.00	0.00	0.00	467002.90	736448.40	N 32 16 56.23	W 103 42 7.14	0.00	0.00	0.00
	10300.00	3.30	183.61	10299.98	0.79	-0.79	-0.05	467002.11	736448.35	N 32 16 56.22	W 103 42 7.14	0.79	183.61	12.00
	10400.00	15.30	183.61	10398.49	16.91	-16.88	-1.06	466986.02	736447.34	N 32 16 56.07	W 103 42 7.15	16.91	183.61	12.00
	10500.00	27.30	183.61	10491.49	53.17	-53.06	-3.35	466949.84	736445.05	N 32 16 55.71	W 103 42 7.18	53.17	183.61	12.00
	10600.00	39.30	183.61	10574.93	107.96	-107.75	-6.79	466895.16	736441.61	N 32 16 55.17	W 103 42 7.22	107.96	183.61	12.00
	10700.00	51.30	183.61	10645.14	178.91	-178.55	-11.26	466824.36	736437.14	N 32 16 54.47	W 103 42 7.28	178.91	183.61	12.00
	10800.00	63.30	183.61	10699.07	262.90	-262.38	-16.54	466740.53	736431.86	N 32 16 53.64	W 103 42 7.35	262.90	183.61	12.00
	10900.00	75.30	183.61	10734.36	356.27	-355.56	-22.42	466647.35	736425.98	N 32 16 52.72	W 103 42 7.42	356.27	183.61	12.00
	11000.00	87.30	183.61	10749.47	454.94	-454.04	-28.63	466548.89	736419.77	N 32 16 51.74	W 103 42 7.50	454.94	183.61	12.00
	11022.54	90.00	183.61	10750.00	477.46	-476.52	-30.05	466526.41	736418.35	N 32 16 51.52	W 103 42 7.52	477.46	183.61	12.00
Landing Point	11100.00	90.00	183.61	10750.00	554.93	-553.83	-34.92	466449.10	736413.48	N 32 16 50.75	W 103 42 7.58	554.93	183.61	0.00
	11200.00	90.00	183.61	10750.00	654.93	-653.63	-41.21	466349.30	736407.19	N 32 16 49.77	W 103 42 7.66	654.93	183.61	0.00
	11300.00	90.00	183.61	10750.00	754.93	-753.43	-47.51	466249.50	736400.90	N 32 16 48.78	W 103 42 7.74	754.93	183.61	0.00
	11400.00	90.00	183.61	10750.00	854.93	-853.24	-53.80	466149.71	736394.60	N 32 16 47.79	W 103 42 7.82	854.93	183.61	0.00
	11500.00	90.00	183.61	10750.00	954.93	-953.04	-60.09	466049.91	736388.31	N 32 16 46.81	W 103 42 7.90	954.93	183.61	0.00
	11600.00	90.00	183.61	10750.00	1054.93	-1052.84	-66.39	465950.11	736382.02	N 32 16 45.82	W 103 42 7.98	1054.93	183.61	0.00
	11700.00	90.00	183.61	10750.00	1154.93	-1152.64	-72.68	465850.32	736375.72	N 32 16 44.83	W 103 42 8.06	1154.93	183.61	0.00
	11800.00	90.00	183.61	10750.00	1254.93	-1252.44	-78.97	465750.52	736369.43	N 32 16 43.84	W 103 42 8.14	1254.93	183.61	0.00
	11900.00	90.00	183.61	10750.00	1354.93	-1352.24	-85.26	465650.72	736363.14	N 32 16 42.86	W 103 42 8.22	1354.93	183.61	0.00
	12000.00	90.00	183.61	10750.00	1454.93	-1452.05	-91.56	465550.93	736356.85	N 32 16 41.87	W 103 42 8.30	1454.93	183.61	0.00
	12100.00	90.00	183.61	10750.00	1554.93	-1551.85	-97.85	465451.13	736350.55	N 32 16 40.88	W 103 42 8.38	1554.93	183.61	0.00
	12200.00	90.00	183.61	10750.00	1654.93	-1651.65	-104.14	465351.33	736344.26	N 32 16 39.90	W 103 42 8.46	1654.93	183.61	0.00
	12300.00	90.00	183.61	10750.00	1754.93	-1751.45	-110.44	465251.53	736337.97	N 32 16 38.91	W 103 42 8.54	1754.93	183.61	0.00
	12400.00	90.00	183.61	10750.00	1854.93	-1851.25	-116.73	465151.74	736331.68	N 32 16 37.92	W 103 42 8.62	1854.93	183.61	0.00
	12500.00	90.00	183.61	10750.00	1954.93	-1951.05	-123.02	465051.94	736325.38	N 32 16 36.93	W 103 42 8.70	1954.93	183.61	0.00
	12600.00	90.00	183.61	10750.00	2054.93	-2050.86	-129.32	464952.14	736319.09	N 32 16 35.95	W 103 42 8.78	2054.93	183.61	0.00
	12700.00	90.00	183.61	10750.00	2154.93	-2150.66	-135.61	464852.35	736312.80	N 32 16 34.96	W 103 42 8.86	2154.93	183.61	0.00
	12800.00	90.00	183.61	10750.00	2254.93	-2250.46	-141.90	464752.55	736306.51	N 32 16 33.97	W 103 42 8.94	2254.93	183.61	0.00
	12900.00	90.00	183.61	10750.00	2354.93	-2350.26	-148.19	464652.75	736300.21	N 32 16 32.99	W 103 42 9.02	2354.93	183.61	0.00
	13000.00	90.00	183.61	10750.00	2454.93	-2450.06	-154.49	464552.96	736293.92	N 32 16 32.00	W 103 42 9.10	2454.93	183.61	0.00
	13100.00	90.00	183.61	10750.00	2554.93	-2549.87	-160.78	464453.16	736287.63	N 32 16 31.01	W 103 42 9.18	2554.93	183.61	0.00
	13200.00	90.00	183.61	10750.00	2654.93	-2649.67	-167.07	464353.36	736281.34	N 32 16 30.02	W 103 42 9.26	2654.93	183.61	0.00
	13300.00	90.00	183.61	10750.00	2754.93	-2749.47	-173.37	464253.57	736275.04	N 32 16 29.04	W 103 42 9.35	2754.93	183.61	0.00
	13400.00	90.00	183.61	10750.00	2854.93	-2849.27	-179.66	464153.77	736268.75	N 32 16 28.05	W 103 42 9.43	2854.93	183.61	0.00
	13500.00	90.00	183.61	10750.00	2954.93	-2949.07	-185.95	464053.97	736262.46	N 32 16 27.06	W 103 42 9.51	2954.93	183.61	0.00
	13600.00	90.00	183.61	10750.00	3054.93	-3048.87	-192.24	463954.18	736256.17	N 32 16 26.08	W 103 42 9.59	3054.93	183.61	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)
	13700.00	90.00	183.61	10750.00	3154.93	-3148.68	-198.54	463854.38	736249.87	N 32 16 25.09	W 103 42 9.67	3154.93	183.61	0.00
	13800.00	90.00	183.61	10750.00	3254.93	-3248.48	-204.83	463754.58	736243.58	N 32 16 24.10	W 103 42 9.75	3254.93	183.61	0.00
	13900.00	90.00	183.61	10750.00	3354.93	-3348.28	-211.12	463654.78	736237.29	N 32 16 23.11	W 103 42 9.83	3354.93	183.61	0.00
	14000.00	90.00	183.61	10750.00	3454.93	-3448.08	-217.42	463554.99	736230.99	N 32 16 22.13	W 103 42 9.91	3454.93	183.61	0.00
	14100.00	90.00	183.61	10750.00	3554.93	-3547.88	-223.71	463455.19	736224.70	N 32 16 21.14	W 103 42 9.99	3554.93	183.61	0.00
	14200.00	90.00	183.61	10750.00	3654.93	-3647.69	-230.00	463355.39	736218.41	N 32 16 20.15	W 103 42 10.07	3654.93	183.61	0.00
	14300.00	90.00	183.61	10750.00	3754.93	-3747.49	-236.29	463255.60	736212.12	N 32 16 19.17	W 103 42 10.15	3754.93	183.61	0.00
	14400.00	90.00	183.61	10750.00	3854.93	-3847.29	-242.59	463155.80	736205.82	N 32 16 18.18	W 103 42 10.23	3854.93	183.61	0.00
	14500.00	90.00	183.61	10750.00	3954.93	-3947.09	-248.88	463056.00	736199.53	N 32 16 17.19	W 103 42 10.31	3954.93	183.61	0.00
	14600.00	90.00	183.61	10750.00	4054.93	-4046.89	-255.17	462956.21	736193.24	N 32 16 16.20	W 103 42 10.39	4054.93	183.61	0.00
	14700.00	90.00	183.61	10750.00	4154.93	-4146.69	-261.47	462856.41	736186.95	N 32 16 15.22	W 103 42 10.47	4154.93	183.61	0.00
	14800.00	90.00	183.61	10750.00	4254.93	-4246.50	-267.76	462756.61	736180.65	N 32 16 14.23	W 103 42 10.55	4254.93	183.61	0.00
	14900.00	90.00	183.61	10750.00	4354.93	-4346.30	-274.05	462656.82	736174.36	N 32 16 13.24	W 103 42 10.63	4354.93	183.61	0.00
	15000.00	90.00	183.61	10750.00	4454.93	-4446.10	-280.35	462557.02	736168.07	N 32 16 12.26	W 103 42 10.71	4454.93	183.61	0.00
	15100.00	90.00	183.61	10750.00	4554.93	-4545.90	-286.64	462457.22	736161.78	N 32 16 11.27	W 103 42 10.79	4554.93	183.61	0.00
	15200.00	90.00	183.61	10750.00	4654.93	-4645.70	-292.93	462357.43	736155.48	N 32 16 10.28	W 103 42 10.87	4654.93	183.61	0.00
	15300.00	90.00	183.61	10750.00	4754.93	-4745.51	-299.22	462257.63	736149.19	N 32 16 9.29	W 103 42 10.95	4754.93	183.61	0.00
Cimarex James Federal #19 ST01 PBHL	15325.28	90.00	183.61	10750.00	4780.21	-4770.74	-300.81	462232.40	736147.60	N 32 16 9.04	W 103 42 10.97	4780.21	183.61	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 #19 Pilot Rev0 MA
	10220.000	15325.280	1/100.000	30.000	30.000	SLB_MWD-STD	ST01 Borehole / Cimarex James Federal #19 ST01 Rev0 MA

SR & A

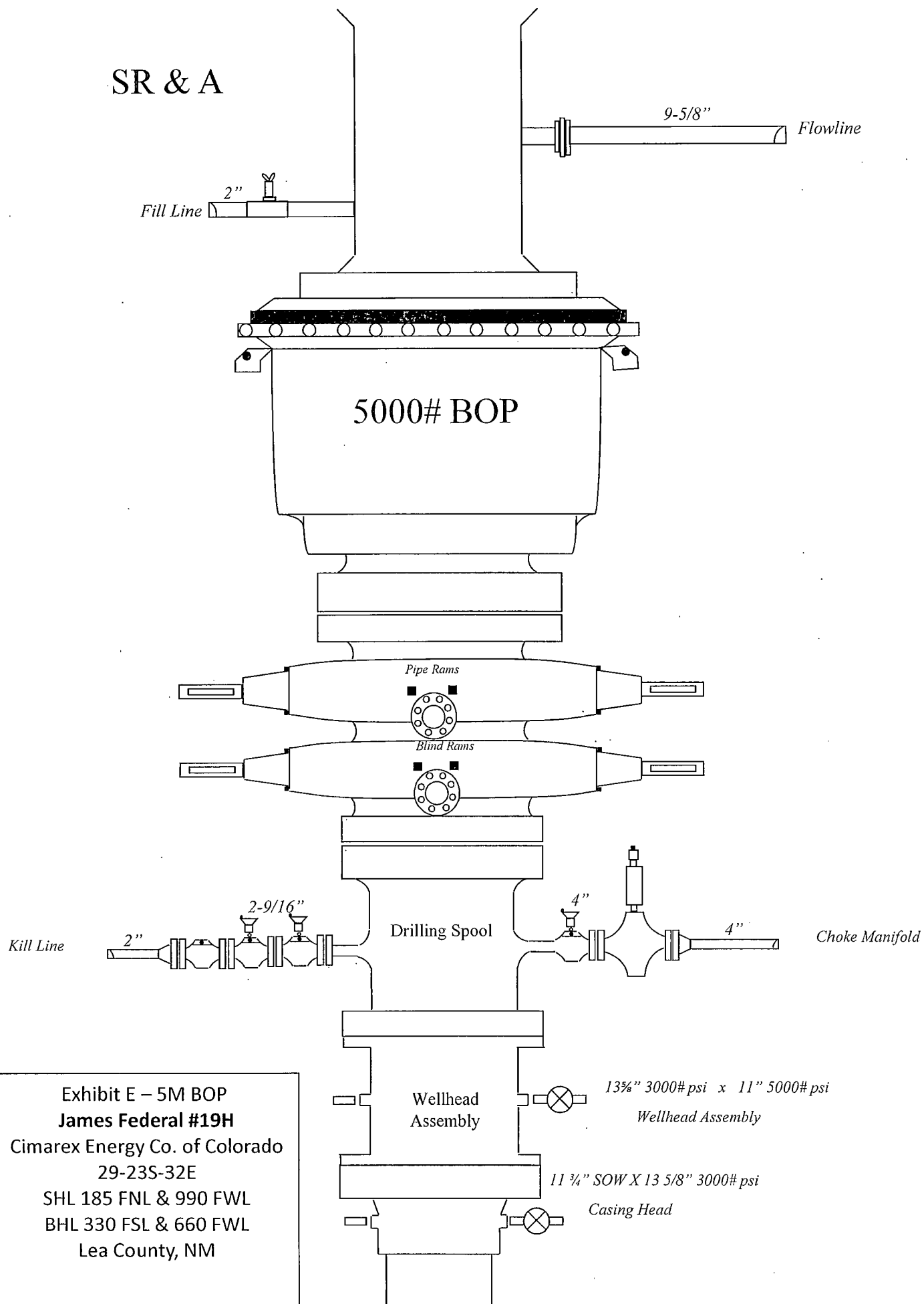


Exhibit E – 5M BOP
James Federal #19H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 990 FWL
BHL 330 FSL & 660 FWL
Lea County, NM

Drilling Operations

Choke Manifold

5M Service

Exhibit E-1 – Choke Manifold Diagram

James Federal #19H

Cimarex Energy Co. of Colorado

29-235-32E

SHL 185 FNL & 990 FWL

BHL 330 FSL & 660 FWL

Lea County, NM

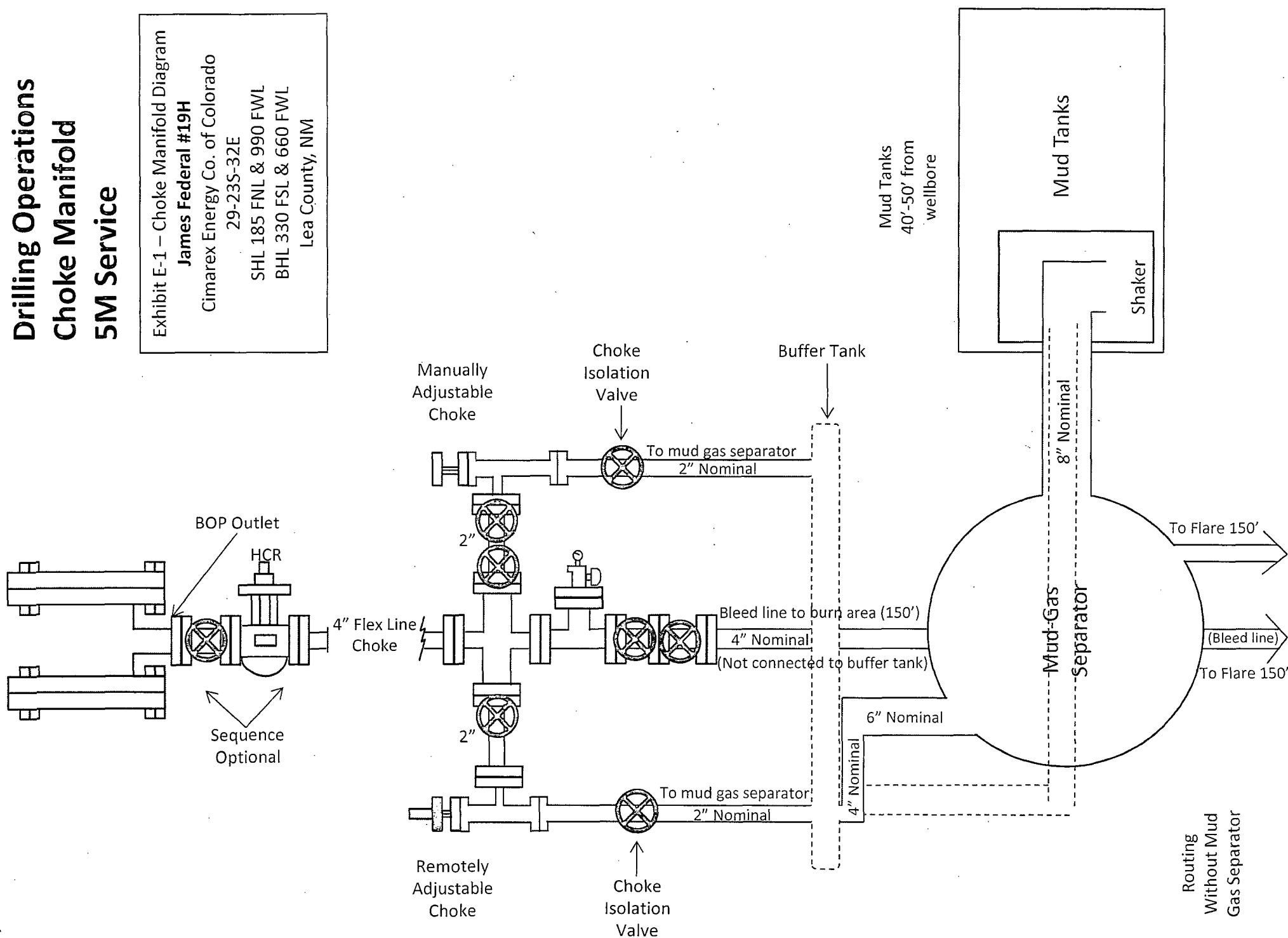
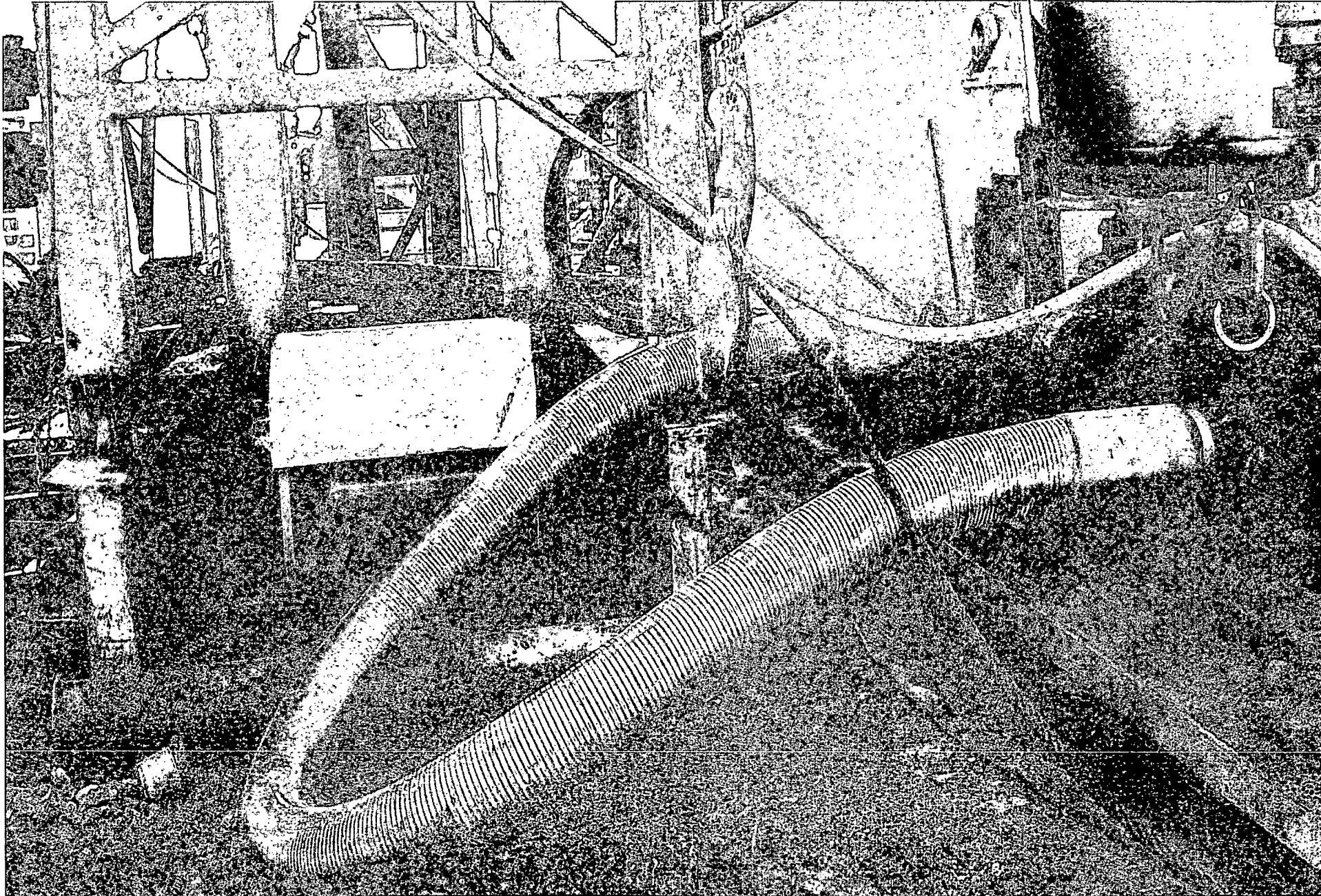


Exhibit F – Co-Flex Hose
James Federal #19H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 990 FWL
BHL 330 FSL & 660 FWL
Lea County, NM





Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
James Federal #19H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 990 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)



Exhibit F-1 – Midwest Hose Statement

James Federal #19H

Cimarex Energy Co. of Colorado

29-23S-32E

SHL 185 FNL & 990 FWL

BHL 330 FSL & 660 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

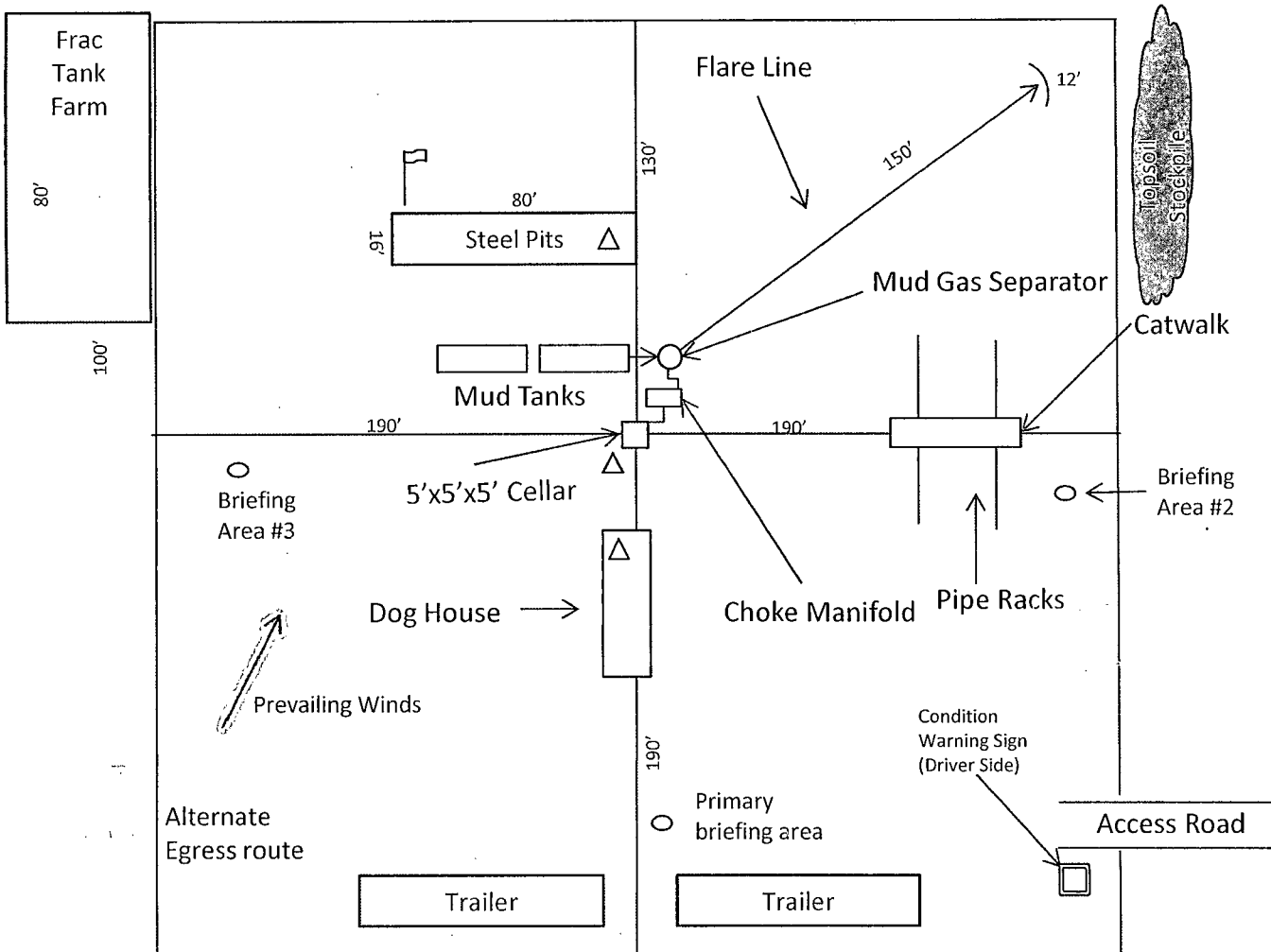
qualitycontrol@midwesthose.com

Exhibit F-2 - Co-Flex Hose
James Federal #19H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 990 FWL
BHL 330 FSL & 660 FWL
Lea County, NM

MIDWEST
HOSE AND SPECIALTY INC.

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			
<i>Hose assembly pressure tested with water at ambient temperature.</i>			
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	



Wind Direction Indicators
(wind sock or streamers)



• H2S Monitors
(alarms at bell nipple and shale shaker)



Briefing Areas



Exhibit D – Rig Diagram
James Federal #19H
Cimarex Energy Co. of Colorado
29-23S-32E
SHL 185 FNL & 990 FWL
BHL 330 FSL & 660 FWL
Lea County, NM