

ATS 14-248

Form 3160-3
(March 2012)

OCD Hobbs

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHLABHL: NMNM12967 129267	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator Cimarex Energy Co. (215099)		7. If Unit or CA Agreement, Name and No.	
3a. Address 600 N. Marienfield St. Ste. 600 Midland Tx 79071		8. Lease Name and Well No. West Grama Ridge 5 Federal 6 (313793)	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025-42186	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FNL & 2180 FWL C673 At proposed prod. Zone 330 FSL & 1980 FWL N Bone Spring		10. Field and Pool, or Exploratory GRAMA RIDGE; BS, WEST (28432)	
11. Sec., T. R. M. or Blk. and Survey and Area 5, 22S, 34E		12. County or Parish Lea	
13. State NM		14. Distance in miles and direction from nearest town or post office* Eunice NM is approximately 30 miles East	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'	16. No of acres in lease NMNM12067=0.00 acres 129267 = 1078.3	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. 1520' to the West Grama 5 Fed 5H	19. Proposed Depth Pilot Hole TD: N/A 15,393 MD 10,950 TVD	20. BLM/BIA Bond No. on File HOBBS OCD NM2575 & NMB00035 000835 OCT 14 2014	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3659 GR 3687' per plat	22. Approximate date work will start* 10/1/13	23. Estimated duration 35 days RECEIVED	

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- | | |
|---|--|
| 1. Well plat certified by a registered surveyor | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator Certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands; the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>Hope Knauhs</i>	Name (Printed/Typed) Hope Knauhs	Date 11/25/13
-------------------------------------	-------------------------------------	------------------

Approved By (Signature) Steve Caffey	Name (Printed/Typed) Steve Caffey	Date OCT - 7 2014
Title Regulatory Compliance 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.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Application to Drill
West Grama Ridge 5 Federal 6
 Cimarex Energy Co.
 UL: 4, Sec. 5, 22S, 34E
 Lea Co., NM

In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

1. Location: SHL 330 FNL & 2180 FWL
 BHL 330 FSL & 1980 FWL

2. Elevation Above Sea Level: 3,659' 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: 15,393 MD 10,950 TVD Pilot Hole TD: N/A

6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Rustler	1720	N/A
Salado	1875	N/A
Castille	3700	N/A
Capitan	4200	N/A
Bell Canyon	5350	N/A
Cherry Canyon	5950	N/A
Brushy Canyon	7300	N/A
Basal Brushy Canyon	8600	N/A
Bone Spring	8850	Hydrocarbons
Avalon Shale	9340	N/A
1st BSS	10000	N/A
2nd BSS	10600	Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth:

8. Casing Program:

See 80A

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	IBHP (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	1750	1750	17 1/2	13-3/8"	54.50	J-55	ST&C	New	755	8.3	1.50		3.63	95,375	83,289	6.17
Intermediate	0	5300	5300	12 1/4	9-5/8"	40.00	J-55	LT&C	New	2756	10.0		1.35	1.43	212,000	179,634	2.89
Production	0	10472	10472	8 3/4	5-1/2"	17.00	P-110	LT&C	New	4900	9.0	1.53		2.17	186,150	160,572	2.77
Production	10472	15393	10950	8 3/4	5-1/2"	17.00	P-110	BT&C	New	5124	9.0	1.46		2.08	8,126	7,009	77.89

Application to Drill
West Grama Ridge 5 Federal 6
 Cimarex Energy Co.
 UL: 4, Sec. 5, 22S, 34E
 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 Liner	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	1112	1.75	13.50	1945	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
	Tail	227	1.34	14.80	303	Class C + LCM, 6.32 gps water
	TOC: 0	85% Excess		Centralizers per Onshore Order 2.III.B.1f		
Intermediate	Lead	1142	1.88	12.90	2146	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	292	1.34	14.80	391	Class C + retarder + LCM, 6.32 gps water
	TOC: 0	79% Excess				
Production	Lead	636	2.40	11.90	1526	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
	Tail	1381	1.24	14.50	1712	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
	TOC: 5100	25% Excess		No centralizers planned in the lateral section. 1 every jt from EOC to KOP. 1 every 4th joint from KOP to 500' inside previous casing.		

Cement volumes will be adjusted depending on hole size

9a. Proposed Drilling Plan:

Pilot Hole TD: No Pilot KOP: 10,472' EOC: 11,222'

Set Surface and Intermediate casing strings. Drill production hole to KOP. Continue drilling lateral through the curve to TD. Run prod casing & cement.

10. Pressure Control Equipment:

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

BOP and associated equipment will be installed, used, maintained, and tested in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe. The Annular Preventer shall be functioned at least weekly. The pipe and blind rams will be operated each trip. No abnormal pressure or temperature is expected while drilling.

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 1500 high on the intermediate casing.

See COA

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
West Grama Ridge 5 Federal 6
Cimarex Energy Co.
UL: 4, Sec. 5, 22S, 34E
Lea Co., NM

See COA

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 1750'	8.30	28	NC	FW Spud Mud
1750' to 5300'	10.00	30-32	NC	Brine Water
5300' to 15600'	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 5300 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL /GR -- Inter. Csg to TD
CNL /GR -- Surf to Inter. Csg
- C. No DSTs or cores are planned at this time
- D. CBL w/ CCL from as far as gravity will let it fall to TOC

13. Potential Hazards: See COA

No abnormal pressures or temperatures are expected. In accordance with Onshore Order 6, Cimarex does not anticipate that there will be enough H₂S from the surface to the Bone Spring formations to meet the BLM's minimum requirements for the submission of an "H₂S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H₂S Safety package on all wells, attached is an "H₂S Drilling Operations Plan." Adequate flare lines will be installed off the mud / gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP: 4928 psi

Estimated BHT: 168°

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.

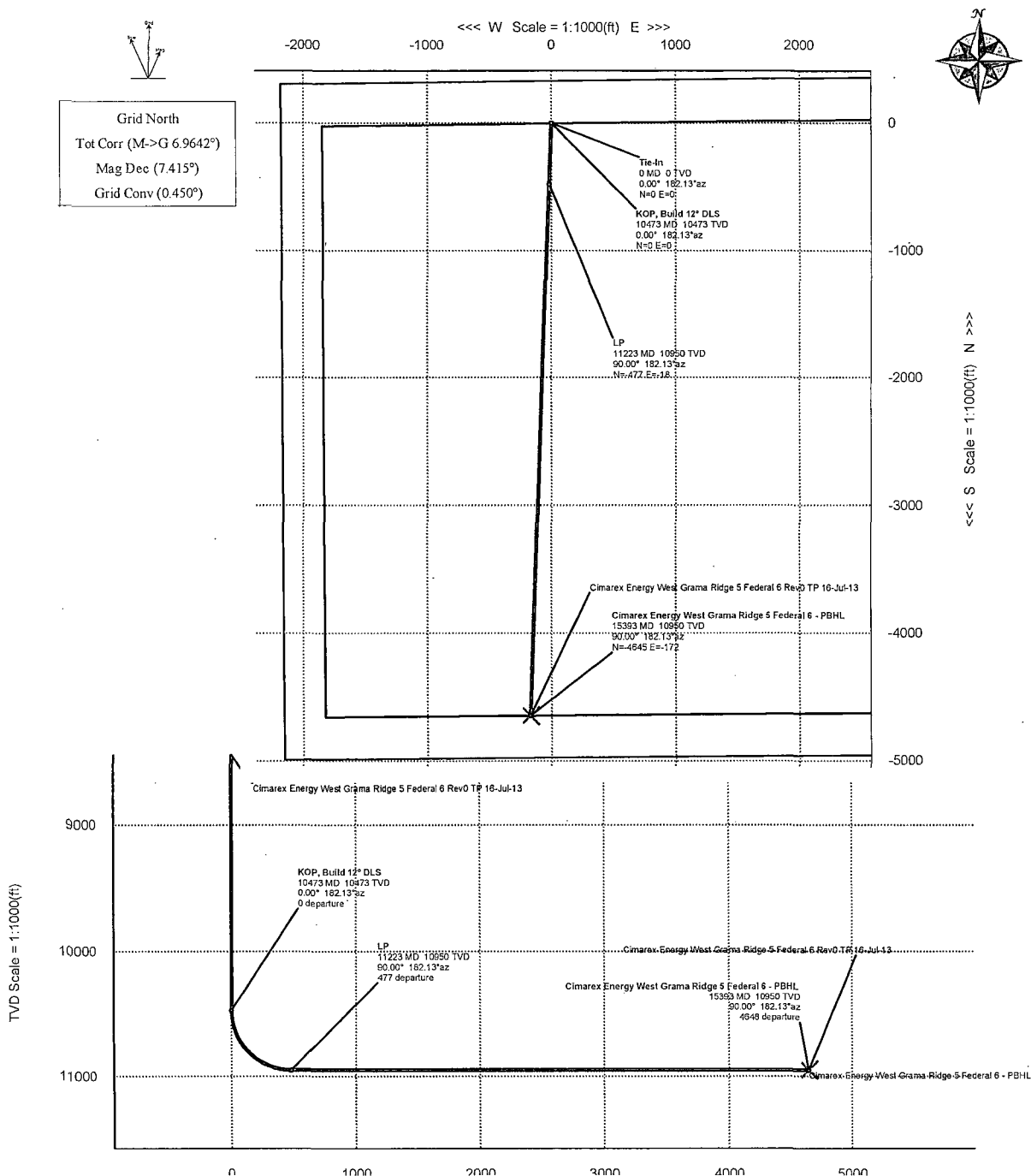
The proposed well will be tested and potentialized as **Oil**



Cimarex Energy

PATHFINDER
A Schlumberger Company

WELL		West Grama Ridge 5 Federal 6				FIELD		NM Lea County (NAD 83)				STRUCTURE		Cimarex Energy West Grama Ridge 5 Federal 6			
Magnetic Parameters						Surface Location						Miscellaneous					
Model	BQGM 2012	Dip	60.28°	Date	July 16, 2013	LAL	N 32 25 37.781	Nothing	520150.60 NUS	Gate Code	4507	Sic	West Grama Ridge 5 Federal 6 Rev0 (10078 above MSL)				
Mag Dec	7.415°	FS	485073-T				W 103 29 28.558		800460.19 NUS	Scale Fact	0.9999599						



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie-In	0.00	0.00	182.13	0.00	0.00	0.00	0.00	
9 5/8 Casing Point	5250.00	0.00	182.13	5250.00	0.00	0.00	0.00	0.00
KOP, Build 12° DLS	10472.50	0.00	182.13	10472.50	0.00	0.00	0.00	0.00
LP	11222.56	90.00	182.13	10950.00	477.50	-477.17	-17.71	12.00
Cimarex Energy West Grama Ridge 5 Federal 6 - PBHL	15393.47	90.00	182.13	10950.00	4648.41	-4645.21	-172.46	0.00

Cimarex Energy West Grama Ridge 5 Federal 6 Rev0 TP 16-Jul-13 Proposal Report (Def Plan)

Report Date: July 16, 2013 - 12:45 PM Client: Cimarex Energy Field: NM Lea County (NAD 83) Structure / Slot: Cimarex Energy West Grama Ridge 5 Federal 6 Rev0 TP 16-Jul-13 / West Grama Ridge 5 Federal 6 Well: West Grama Ridge 5 Federal 6 Borehole: Original Borehole UWI / API#: Unknown / Unknown Survey Name: Cimarex Energy West Grama Ridge 5 Federal 6 Rev0 TP 16-Jul-13 Survey Date: July 16, 2013 Tort / AHD / DDI / ERD Ratio: 90.003 ° / 4648.415 ft / 5.769 / 0.425 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 25' 37.78106", W 103° 29' 36.55793" Location Grid N/E Y/X: N 520150.900 ftUS, E 800469.190 ftUS CRS Grid Convergence Angle: 0.4504 ° Grid Scale Factor: 0.99998599	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 182.126 ° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft TVD Reference Datum: Ground Level TVD Reference Elevation: 3687.000 ft above MSL Seabed / Ground Elevation: 3687.000 ft above MSL Magnetic Declination: 7.415 ° Total Field Strength: 48507.286 nT Magnetic Dip Angle: 60.295 ° Declination Date: July 16, 2013 Magnetic Declination Model: BGGM 2012 North Reference: Grid North Grid Convergence Used: 0.4504 ° Total Corr Mag North->Grid North: 6.9642 ° 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)
Tie-In	0.00	0.00	182.13	0.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	N/A
	100.00	0.00	182.13	100.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	200.00	0.00	182.13	200.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	300.00	0.00	182.13	300.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	400.00	0.00	182.13	400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	500.00	0.00	182.13	500.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	600.00	0.00	182.13	600.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	700.00	0.00	182.13	700.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	800.00	0.00	182.13	800.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	900.00	0.00	182.13	900.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1000.00	0.00	182.13	1000.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1100.00	0.00	182.13	1100.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1200.00	0.00	182.13	1200.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1300.00	0.00	182.13	1300.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1400.00	0.00	182.13	1400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1500.00	0.00	182.13	1500.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1600.00	0.00	182.13	1600.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1700.00	0.00	182.13	1700.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1800.00	0.00	182.13	1800.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	1900.00	0.00	182.13	1900.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2000.00	0.00	182.13	2000.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2100.00	0.00	182.13	2100.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2200.00	0.00	182.13	2200.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2300.00	0.00	182.13	2300.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2400.00	0.00	182.13	2400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2500.00	0.00	182.13	2500.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2600.00	0.00	182.13	2600.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2700.00	0.00	182.13	2700.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2800.00	0.00	182.13	2800.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	2900.00	0.00	182.13	2900.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	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)
9 5/8 Casing Point	3000.00	0.00	182.13	3000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3100.00	0.00	182.13	3100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3200.00	0.00	182.13	3200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3300.00	0.00	182.13	3300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3400.00	0.00	182.13	3400.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3500.00	0.00	182.13	3500.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3600.00	0.00	182.13	3600.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3700.00	0.00	182.13	3700.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3800.00	0.00	182.13	3800.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	3900.00	0.00	182.13	3900.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4000.00	0.00	182.13	4000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4100.00	0.00	182.13	4100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4200.00	0.00	182.13	4200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4300.00	0.00	182.13	4300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4400.00	0.00	182.13	4400.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4500.00	0.00	182.13	4500.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4600.00	0.00	182.13	4600.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4700.00	0.00	182.13	4700.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4800.00	0.00	182.13	4800.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	4900.00	0.00	182.13	4900.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5000.00	0.00	182.13	5000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5100.00	0.00	182.13	5100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5200.00	0.00	182.13	5200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5250.00	0.00	182.13	5250.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5300.00	0.00	182.13	5300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5400.00	0.00	182.13	5400.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5500.00	0.00	182.13	5500.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5600.00	0.00	182.13	5600.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5700.00	0.00	182.13	5700.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5800.00	0.00	182.13	5800.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	5900.00	0.00	182.13	5900.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6000.00	0.00	182.13	6000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6100.00	0.00	182.13	6100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6200.00	0.00	182.13	6200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6300.00	0.00	182.13	6300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6400.00	0.00	182.13	6400.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6500.00	0.00	182.13	6500.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6600.00	0.00	182.13	6600.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6700.00	0.00	182.13	6700.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6800.00	0.00	182.13	6800.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	6900.00	0.00	182.13	6900.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7000.00	0.00	182.13	7000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7100.00	0.00	182.13	7100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7200.00	0.00	182.13	7200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7300.00	0.00	182.13	7300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7400.00	0.00	182.13	7400.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7500.00	0.00	182.13	7500.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7600.00	0.00	182.13	7600.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7700.00	0.00	182.13	7700.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	7800.00	0.00	182.13	7800.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
7900.00	0.00	182.13	7900.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00	
8000.00	0.00	182.13	8000.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00	
8100.00	0.00	182.13	8100.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00	
8200.00	0.00	182.13	8200.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	0.00	0.00	0.00	
8300.00	0.00	182.13	8300.00	0.00	0.00	0.00	520150.90	800469.19	N	32 25 37.78	W 103 29 36.56	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)
	8400.00	0.00	182.13	8400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	8500.00	0.00	182.13	8500.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	8600.00	0.00	182.13	8600.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	8700.00	0.00	182.13	8700.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	8800.00	0.00	182.13	8800.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	8900.00	0.00	182.13	8900.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9000.00	0.00	182.13	9000.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9100.00	0.00	182.13	9100.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9200.00	0.00	182.13	9200.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9300.00	0.00	182.13	9300.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9400.00	0.00	182.13	9400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9500.00	0.00	182.13	9500.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9600.00	0.00	182.13	9600.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9700.00	0.00	182.13	9700.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9800.00	0.00	182.13	9800.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	9900.00	0.00	182.13	9900.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10000.00	0.00	182.13	10000.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10100.00	0.00	182.13	10100.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10200.00	0.00	182.13	10200.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10300.00	0.00	182.13	10300.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10400.00	0.00	182.13	10400.00	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
KOP, Build 12" DLS	10472.50	0.00	182.13	10472.50	0.00	0.00	0.00	520150.90	800469.19	N 32 25 37.78	W 103 29 36.56	0.00	0.00	0.00
	10500.00	3.30	182.13	10499.98	0.79	-0.79	-0.03	520150.11	800469.16	N 32 25 37.77	W 103 29 36.56	0.79	182.13	12.00
	10600.00	15.30	182.13	10598.49	16.92	-16.91	-0.63	520133.99	800468.56	N 32 25 37.61	W 103 29 36.57	16.92	182.13	12.00
	10700.00	27.30	182.13	10691.49	53.18	-53.14	-1.97	520097.76	800467.22	N 32 25 37.26	W 103 29 36.59	53.18	182.13	12.00
	10800.00	39.30	182.13	10774.92	107.98	-107.90	-4.00	520043.00	800465.19	N 32 25 36.71	W 103 29 36.61	107.98	182.13	12.00
	10900.00	51.30	182.13	10845.14	178.92	-178.80	-6.63	519972.10	800462.56	N 32 25 36.01	W 103 29 36.65	178.92	182.13	12.00
	11000.00	63.30	182.13	10899.07	262.92	-262.73	-9.75	519888.17	800459.44	N 32 25 35.18	W 103 29 36.70	262.92	182.13	12.00
	11100.00	75.29	182.13	10934.36	356.29	-356.04	-13.21	519794.86	800455.98	N 32 25 34.26	W 103 29 36.74	356.29	182.13	12.00
	11200.00	87.29	182.13	10949.47	454.95	-454.64	-16.87	519696.27	800452.32	N 32 25 33.28	W 103 29 36.80	454.95	182.13	12.00
LP	11222.56	90.00	182.13	10950.00	477.50	-477.17	-17.71	519673.74	800451.48	N 32 25 33.06	W 103 29 36.81	477.50	182.13	12.00
	11300.00	90.00	182.13	10950.00	554.94	-554.56	-20.58	519596.35	800448.61	N 32 25 32.30	W 103 29 36.85	554.94	182.13	0.00
	11400.00	90.00	182.13	10950.00	654.94	-654.49	-24.29	519496.42	800444.91	N 32 25 31.31	W 103 29 36.90	654.94	182.13	0.00
	11500.00	90.00	182.13	10950.00	754.94	-754.43	-27.99	519396.49	800441.20	N 32 25 30.32	W 103 29 36.95	754.94	182.13	0.00
	11600.00	90.00	182.13	10950.00	854.94	-854.36	-31.70	519296.56	800437.49	N 32 25 29.33	W 103 29 37.01	854.94	182.13	0.00
	11700.00	90.00	182.13	10950.00	954.94	-954.29	-35.41	519196.63	800433.78	N 32 25 28.34	W 103 29 37.06	954.94	182.13	0.00
	11800.00	90.00	182.13	10950.00	1054.94	-1054.22	-39.12	519096.70	800430.07	N 32 25 27.35	W 103 29 37.11	1054.94	182.13	0.00
	11900.00	90.00	182.13	10950.00	1154.94	-1154.15	-42.83	518996.77	800426.36	N 32 25 26.36	W 103 29 37.16	1154.94	182.13	0.00
	12000.00	90.00	182.13	10950.00	1254.94	-1254.08	-46.54	518896.84	800422.65	N 32 25 25.38	W 103 29 37.22	1254.94	182.13	0.00
	12100.00	90.00	182.13	10950.00	1354.94	-1354.01	-50.25	518796.91	800418.95	N 32 25 24.39	W 103 29 37.27	1354.94	182.13	0.00
	12200.00	90.00	182.13	10950.00	1454.94	-1453.94	-53.95	518696.98	800415.24	N 32 25 23.40	W 103 29 37.32	1454.94	182.13	0.00
	12300.00	90.00	182.13	10950.00	1554.94	-1553.88	-57.66	518597.05	800411.53	N 32 25 22.41	W 103 29 37.37	1554.94	182.13	0.00
	12400.00	90.00	182.13	10950.00	1654.94	-1653.81	-61.37	518497.12	800407.82	N 32 25 21.42	W 103 29 37.43	1654.94	182.13	0.00
	12500.00	90.00	182.13	10950.00	1754.94	-1753.74	-65.08	518397.19	800404.11	N 32 25 20.43	W 103 29 37.48	1754.94	182.13	0.00
	12600.00	90.00	182.13	10950.00	1854.94	-1853.67	-68.79	518297.26	800400.40	N 32 25 19.45	W 103 29 37.53	1854.94	182.13	0.00
	12700.00	90.00	182.13	10950.00	1954.94	-1953.60	-72.50	518197.33	800396.69	N 32 25 18.46	W 103 29 37.58	1954.94	182.13	0.00
	12800.00	90.00	182.13	10950.00	2054.94	-2053.53	-76.21	518097.40	800392.98	N 32 25 17.47	W 103 29 37.64	2054.94	182.13	0.00
	12900.00	90.00	182.13	10950.00	2154.94	-2153.46	-79.92	517997.47	800389.27	N 32 25 16.48	W 103 29 37.69	2154.94	182.13	0.00
	13000.00	90.00	182.13	10950.00	2254.94	-2253.39	-83.63	517897.54	800385.56	N 32 25 15.49	W 103 29 37.74	2254.94	182.13	0.00
	13100.00	90.00	182.13	10950.00	2354.94	-2353.32	-87.34	517797.61	800381.85	N 32 25 14.50	W 103 29 37.79	2354.94	182.13	0.00
	13200.00	90.00	182.13	10950.00	2454.94	-2453.26	-91.05	517697.68	800378.14	N 32 25 13.51	W 103 29 37.85	2454.94	182.13	0.00
	13300.00	90.00	182.13	10950.00	2554.94	-2553.19	-94.76	517597.75	800374.43	N 32 25 12.53	W 103 29 37.90	2554.94	182.13	0.00
	13400.00	90.00	182.13	10950.00	2654.94	-2653.12	-98.47	517497.82	800370.72	N 32 25 11.54	W 103 29 37.95	2654.94	182.13	0.00
	13500.00	90.00	182.13	10950.00	2754.94	-2753.05	-102.18	517397.89	800367.01	N 32 25 10.55	W 103 29 38.00	2754.94	182.13	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)
	13600.00	90.00	182.13	10950.00	2854.94	-2852.98	-105.89	517297.97	800363.30	N 32 25 9.56	W 103 29 38.05	2854.94	182.13	0.00
	13700.00	90.00	182.13	10950.00	2954.94	-2952.91	-109.60	517198.04	800359.59	N 32 25 8.57	W 103 29 38.11	2954.94	182.13	0.00
	13800.00	90.00	182.13	10950.00	3054.94	-3052.84	-113.32	517098.11	800355.88	N 32 25 7.58	W 103 29 38.16	3054.94	182.13	0.00
	13900.00	90.00	182.13	10950.00	3154.94	-3152.77	-117.03	516998.18	800352.17	N 32 25 6.59	W 103 29 38.21	3154.94	182.13	0.00
	14000.00	90.00	182.13	10950.00	3254.94	-3252.70	-120.74	516898.25	800348.45	N 32 25 5.61	W 103 29 38.26	3254.94	182.13	0.00
	14100.00	90.00	182.13	10950.00	3354.94	-3352.64	-124.45	516798.32	800344.74	N 32 25 4.62	W 103 29 38.32	3354.94	182.13	0.00
	14200.00	90.00	182.13	10950.00	3454.94	-3452.57	-128.16	516698.39	800341.03	N 32 25 3.63	W 103 29 38.37	3454.94	182.13	0.00
	14300.00	90.00	182.13	10950.00	3554.94	-3552.50	-131.87	516598.46	800337.32	N 32 25 2.64	W 103 29 38.42	3554.94	182.13	0.00
	14400.00	90.00	182.13	10950.00	3654.94	-3652.43	-135.58	516498.53	800333.61	N 32 25 1.65	W 103 29 38.47	3654.94	182.13	0.00
	14500.00	90.00	182.13	10950.00	3754.94	-3752.36	-139.29	516398.60	800329.90	N 32 25 0.66	W 103 29 38.53	3754.94	182.13	0.00
	14600.00	90.00	182.13	10950.00	3854.94	-3852.29	-143.01	516298.67	800326.19	N 32 24 59.68	W 103 29 38.58	3854.94	182.13	0.00
	14700.00	90.00	182.13	10950.00	3954.94	-3952.22	-146.72	516198.74	800322.47	N 32 24 58.69	W 103 29 38.63	3954.94	182.13	0.00
	14800.00	90.00	182.13	10950.00	4054.94	-4052.15	-150.43	516098.81	800318.76	N 32 24 57.70	W 103 29 38.68	4054.94	182.13	0.00
	14900.00	90.00	182.13	10950.00	4154.94	-4152.08	-154.14	515998.88	800315.05	N 32 24 56.71	W 103 29 38.74	4154.94	182.13	0.00
	15000.00	90.00	182.13	10950.00	4254.94	-4252.02	-157.85	515898.95	800311.34	N 32 24 55.72	W 103 29 38.79	4254.94	182.13	0.00
	15100.00	90.00	182.13	10950.00	4354.94	-4351.95	-161.57	515799.02	800307.63	N 32 24 54.73	W 103 29 38.84	4354.94	182.13	0.00
	15200.00	90.00	182.13	10950.00	4454.94	-4451.88	-165.28	515699.09	800303.91	N 32 24 53.74	W 103 29 38.89	4454.94	182.13	0.00
	15300.00	90.00	182.13	10950.00	4554.94	-4551.81	-168.99	515599.16	800300.20	N 32 24 52.76	W 103 29 38.95	4554.94	182.13	0.00
Cimarex Energy West Grama Ridge 5 Federal 6 - PBHL	15393.47	90.00	182.13	10950.00	4648.41	-4645.21	-172.46	515505.76	800296.73	N 32 24 51.83	W 103 29 39.00	4648.41	182.13	0.00

Survey Type: 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	10472.000	1/100.000	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Energy West Grama Ridge 5
	10472.000	15393.470	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Energy West Grama Ridge 5

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

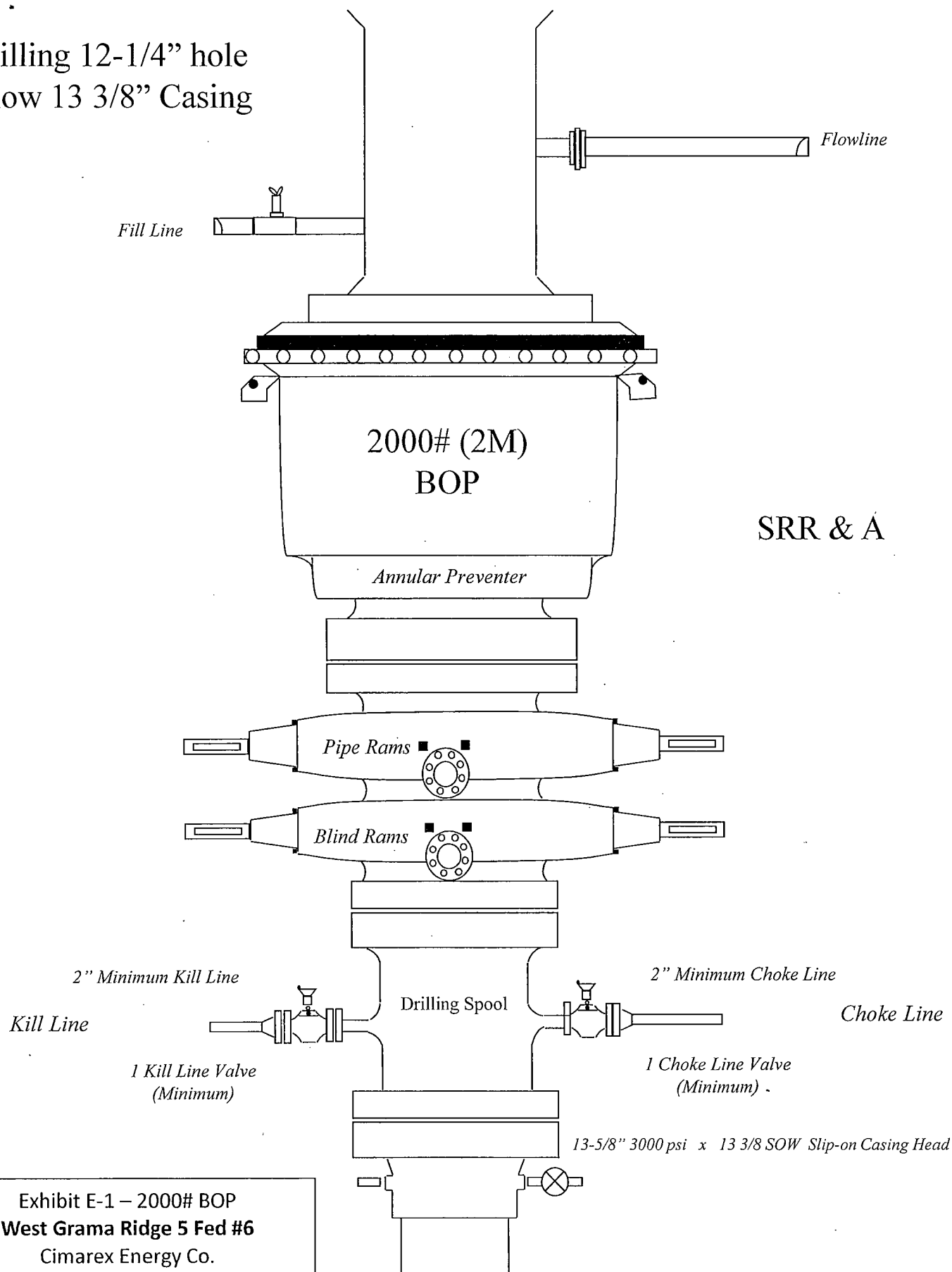


Exhibit E-1 – 2000# BOP
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM

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

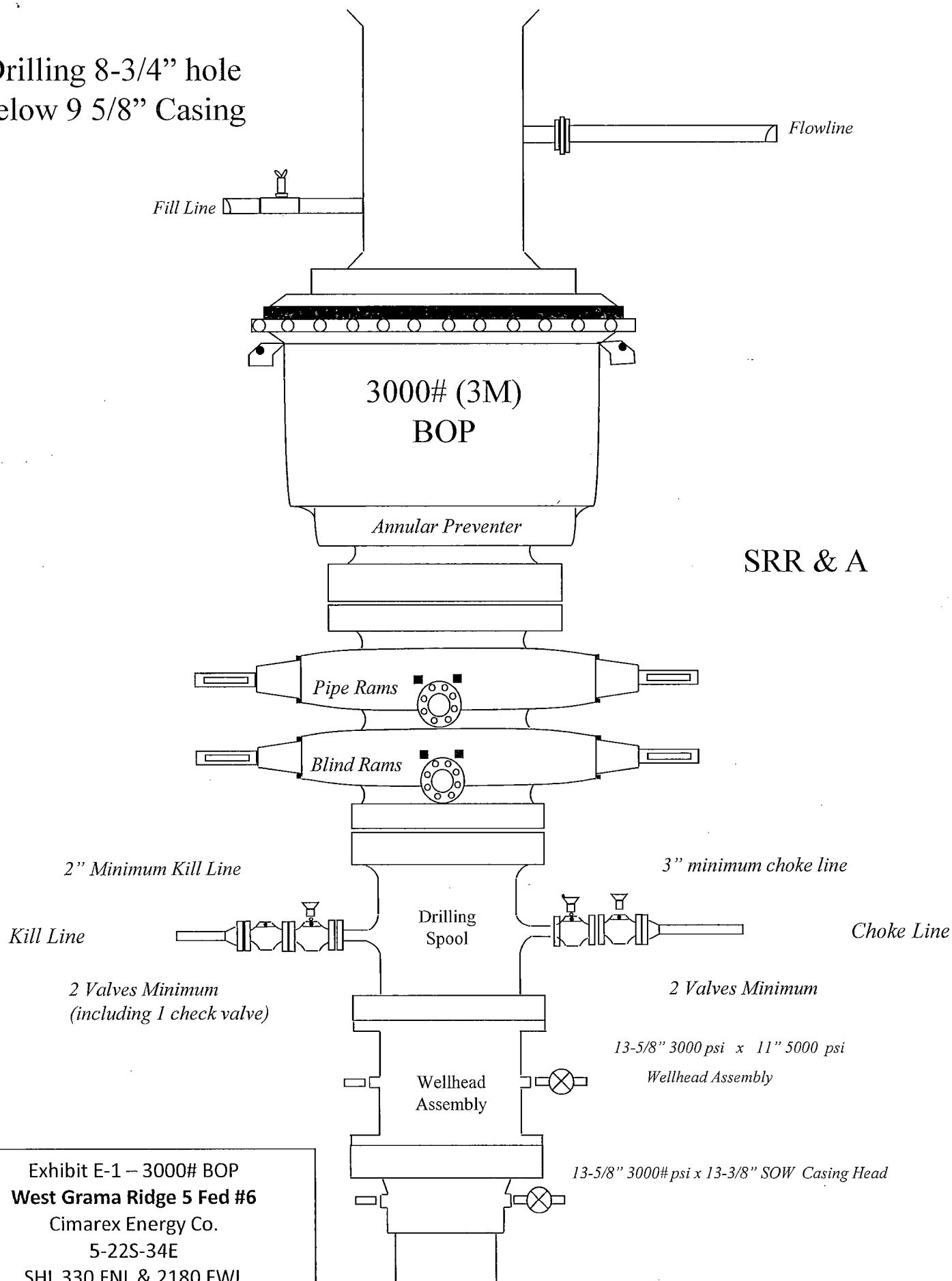
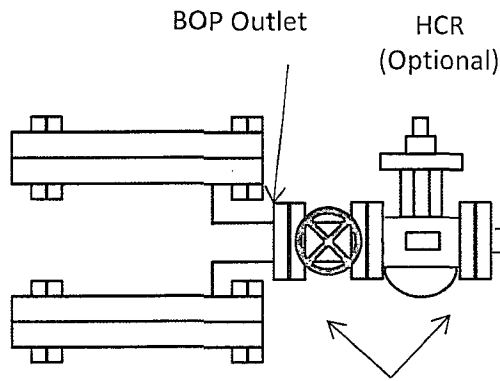
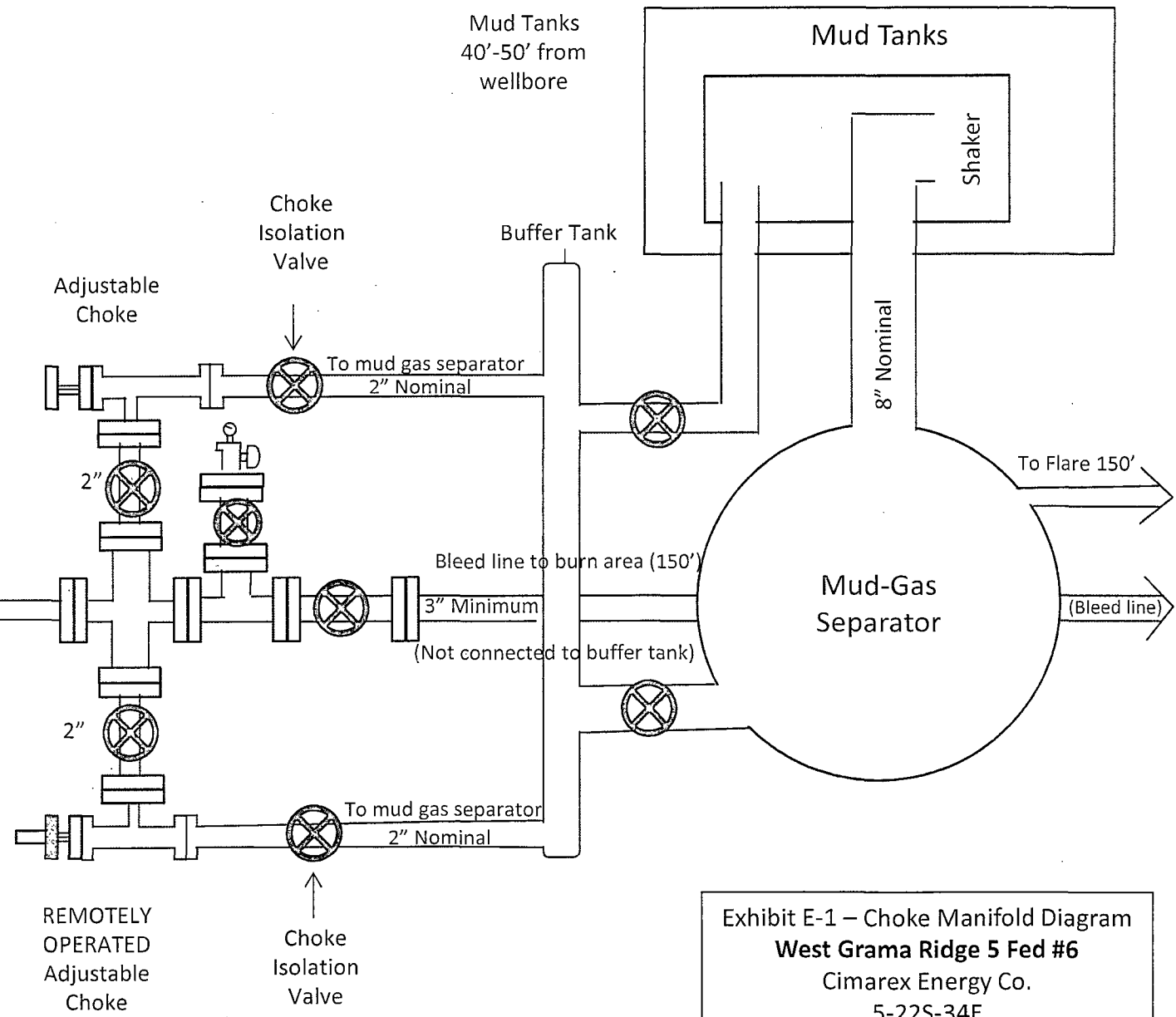


Exhibit E-1 – 3000# BOP
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM

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



2M: 1 Valve Minimum
 3M: 2 Valves Minimum
 HCR Valve is optional



Drilling Operations **Choke Manifold** **2M/3M Service**

Exhibit E-1 – Choke Manifold Diagram
West Grama Ridge 5 Fed #6
 Cimarex Energy Co.
 5-22S-34E
 SHL 330 FNL & 2180 FWL
 BHL 330 FSL & 1980 FWL
 Lea County, NM



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 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 – Co-Flex Hose Hydrostatic Test

West Grama Ridge 5 Fed #6

Cimarex Energy Co.

5-22S-34E

SHL 330 FNL & 2180 FWL

BHL 330 FSL & 1980 FWL

Lea County, NM



Midwest Hose
& Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

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



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

March 3, 2011

Hose Specifications

Hose Type: C&K
I.D.: 4"
Working Pressure: 10000 PSI
Length: 45'
O.D.: 6.09"
Burst Pressure: Standard Safety Multiple Applies

Verification

Type of Fittings: 41/16 10K
Die Size: 6.38"
Hose Serial #: 5544
Coupling Method: Swage
Bnal O.D.: 6.25"
Hose Assembly Serial #: 79793

Pressure Test

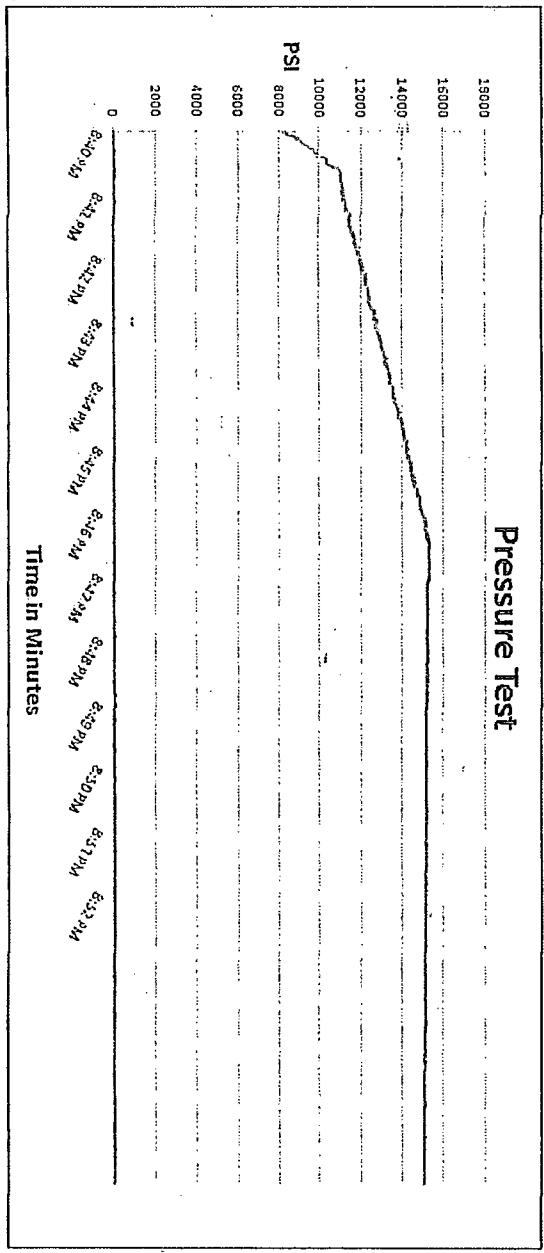


Exhibit F-2 – Co-Flex Hose
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:	PO
DEM	ODYD-271

SPECIFICATIONS

Sales Order	Dated:
79793	3/8/2011

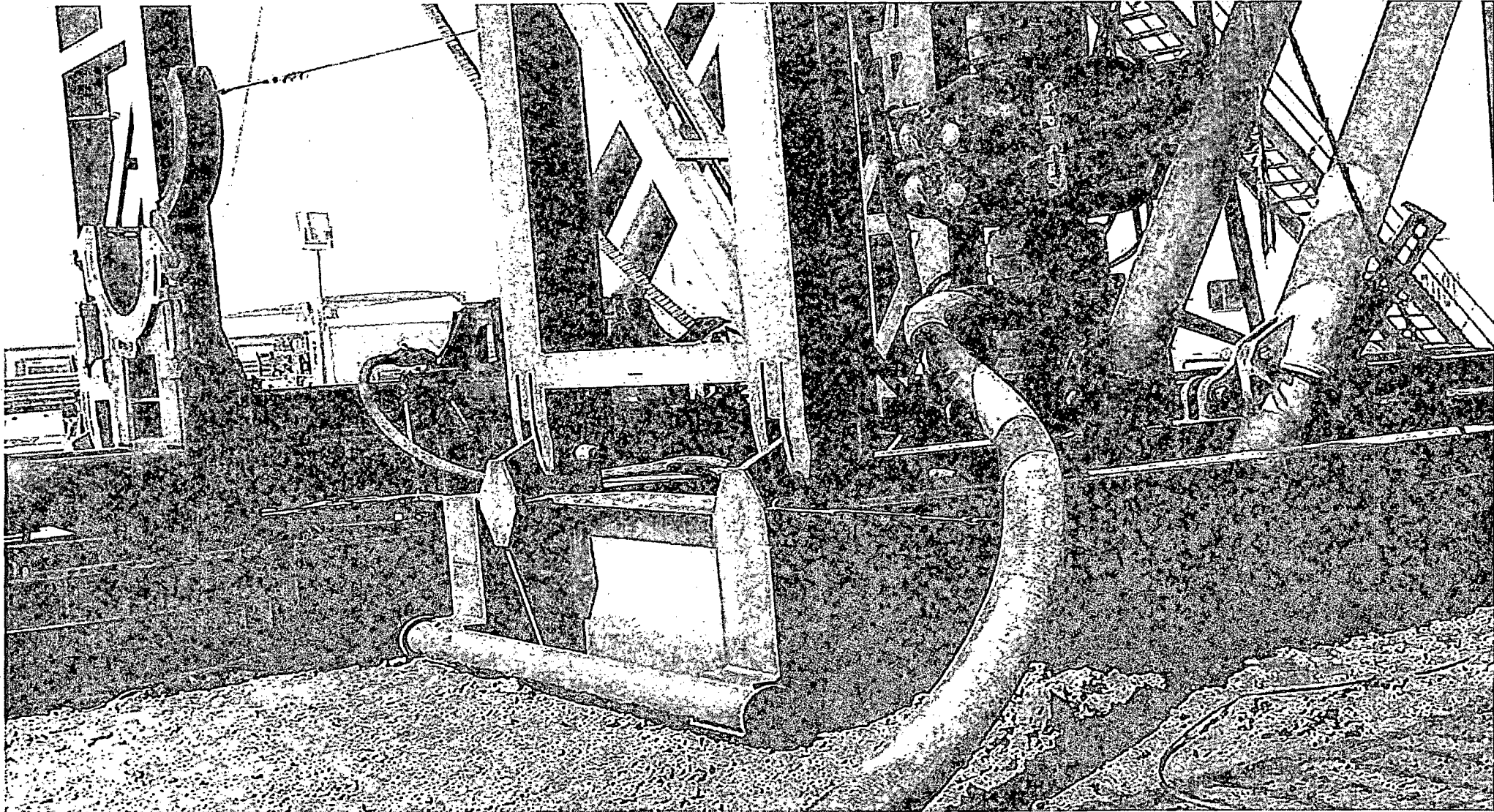
We hereby cerify that the material supplied
for the referenced purchase order to be true
according to the requirements of the purchase
order and current industry standards

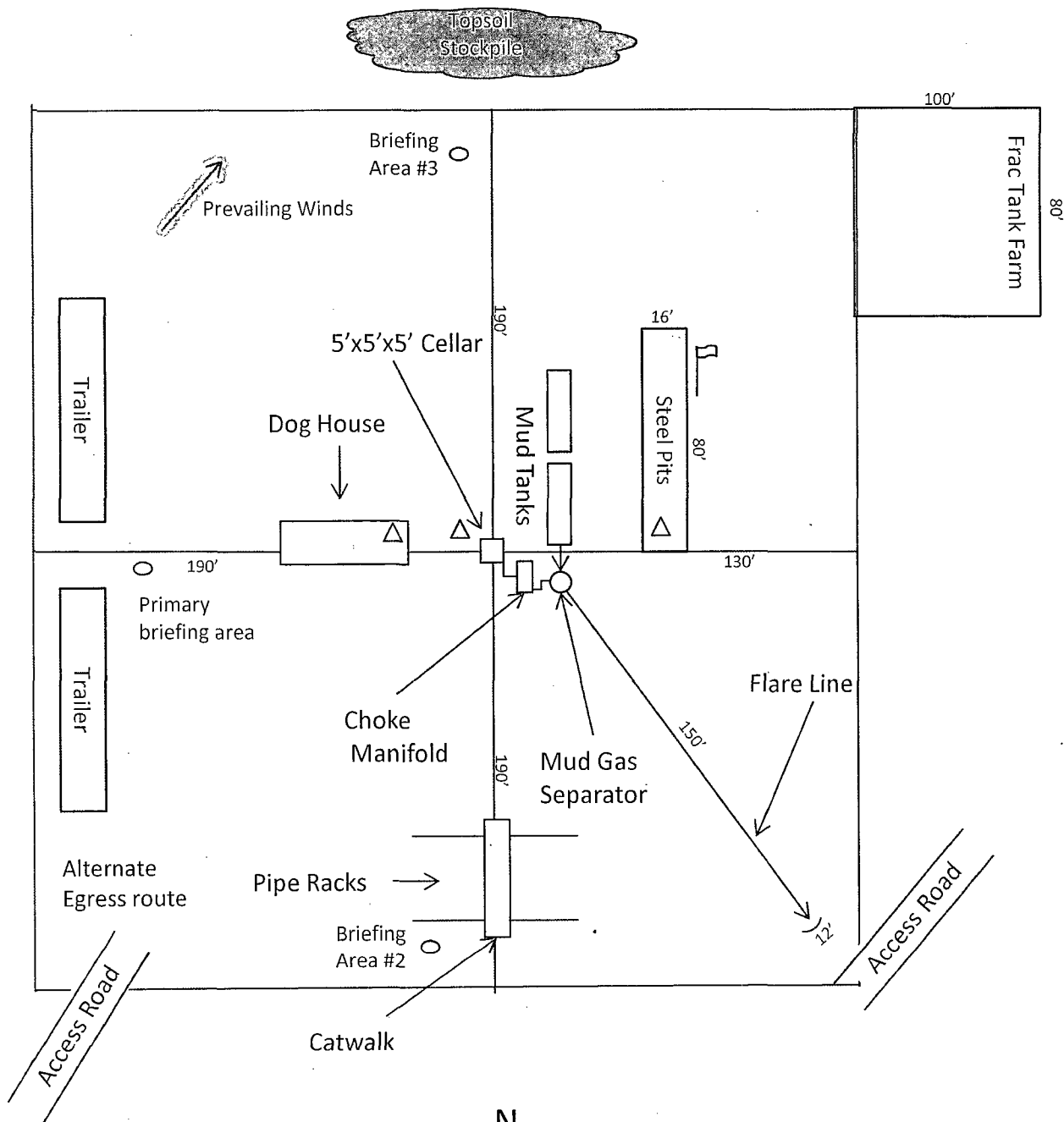
Supplier:
Midwest Hose & Specialty, Inc.
10640 Tanner Road
Houston, Texas 77041

Comments:

Approved: 	Date: 3/8/2011
---	--------------------------

Exhibit F – Co-Flex Hose
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM





Wind Direction Indicators
(wind sock or streamers)



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



Briefing Areas

N



Exhibit D – Rig Diagram
West Grama Ridge 5 Fed #6
Cimarex Energy Co.
5-22S-34E
SHL 330 FNL & 2180 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM