

HOBBS OCD
SECRETARY'S POTASH SEP 29 2014

14-35

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

RECEIVED

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

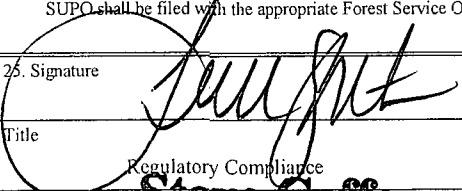
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. SHLABHL: NMNM129267
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 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103	3b. Phone No. (include area code) 918-585-1100	8. Lease Name and Well No. West Grama Ridge 6 Federal 2H (79893)
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330 FNL & 2080 FWL At proposed prod. Zone 330 FSL & 1980 FWL Bone Spring		9. API Well No. 30-025-42151
14. Distance in miles and direction from nearest town or post office* Eunice NM is 20 miles East		10. Field and Pool, or Exploratory (28432) GRAMA RIDGE; B3, WEST
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 330'		11. Sec., T. R. M. or Blk. and Survey and Area 6, 22S, 34E
16. No of acres in lease NMNM129267=1078.30 acres		12. County or Parish Lea
17. Spacing Unit dedicated to this well 160.15		13. State NM
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 1220' to the West Grama Ridge 6 Federal #1	19. Proposed Depth Pilot Hole TD: N/A 15,362 MD 10,950 TVD	20. BLM/BIA Bond No. on File NM2575 & NMB000835
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3621 GR	22. Approximate date work will start* 12/16/13	23. Estimated duration 160 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:

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

25. Signature 	Name (Printed/Typed) Terri Stathem	Date 10/4/13
Title Regulatory Compliance		
Approved By (Signature) Steve Caffey	Name (Printed/Typed) CARLSBAD FIELD OFFICE	Date SEP 23 2014
Title FIELD MANAGER		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR SEP 30 2014
CONDITIONS OF APPROVAL

Operator Certification Statement
West Grama Ridge 6 Federal 2H

Cimarex Energy Co.
UL: 3, Sec. 6, 22S, 34E
Lea Co., NM

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Operator's Representative

Cimarex Energy Co. of Colorado
600 N. Marienfeld St., Ste. 600
Midland, TX 79701
Office Phone: (432) 571-7800

CERTIFICATION: I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 4 day of October, 2013

NAME: Hope Knauls
Hope Knauls

TITLE: Regulatory Compliance

ADDRESS: 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103

TELEPHONE: 918-585-1100

EMAIL: hknauls@cimarex.com

Field Representative: Same as above

Application to Drill
West Grama Ridge 7 Federal 1H
 Cimarex Energy Co.
 UL: P, Sec. 7, 22S, 34E
 Lea Co., NM

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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 FSL & 860 FEL
 BHL 330 FNL & 660 FEL
2. **Elevation Above Sea Level:** 3,512' 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:** 15,372 MD 10,950 TVD Pilot Hole TD: N/A
6. **Estimated Tops of Geological Markers:**

Formation	Est Top	Bearing
Rustler	1720	N/A
Top of Salt	1875	N/A
Tansill	3638	N/A
Capitan	4200	N/A
Bell Canyon	5350	Hydrocarbons
Cherry Canyon	5950	N/A
Brushy Canyon	7300	N/A
Basal Brushy Canyon	8600	N/A
Bone Spring	8850	Hydrocarbons
Avalon Shale	9340	Hydrocarbons
1 BSS	10000	Hydrocarbons

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

7A. **OSE Ground Water Estimated Depth:** 200'

8. **Casing Program:**

Name	Casing Depth From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft) TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Condition	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF at Full Evacuation (1.125)	Collapse SF at 1/3 Evacuation (1.125)	Burst SF (1.125)	Cumulative Air Weight	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
Surface	0	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	15372	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

Note: Operator may drill a 8-1/2" OH from end of curve to TD of the well. This is to reduce the need to ream the conventionally drilled curve to run a RSS assembly into the lateral.

See COA

Application to Drill
West Grama Ridge 6 Federal 2H
 Cimarex Energy Co.
 UL: 3, Sec. 6, 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 Completion System	Tension	A 1.8 design factor with effects of buoyancy: 9.00 ppg.
	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

9. Cementing Program:

Casing Type	Type	Sacks	Yield	Weight	Cubic Feet	Cement Blend
Surface	Lead	834	1.75	13.50	1458	Class C + Bentonite + Calcium Chloride + LCM, 8.829 gpg water
	Tail	227	1.34	14.80	303	Class C + LCM, 6.32 gpg water
	TOC: 0		45% Excess			Centralizers per Onshore Order 2.III.8.1f
Intermediate	Lead	930	1.88	12.90	1747	35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gpg water
	Tail	292	1.34	14.80	391	Class C + retarder + LCM, 6.32 gpg water
	TOC: 0		44% Excess			
Production	Lead	668	2.40	11.90	1603	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gpg water
	Tail	1208	1.24	14.50	1497	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gpg water
	TOC: 4800		17% 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: 10,475'

EOC: 11,223'

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.

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 6 Federal 2H
Cimarex Energy Co.
UL: 3, Sec. 6, 22S, 34E
Lea Co., NM

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:

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: 160 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.

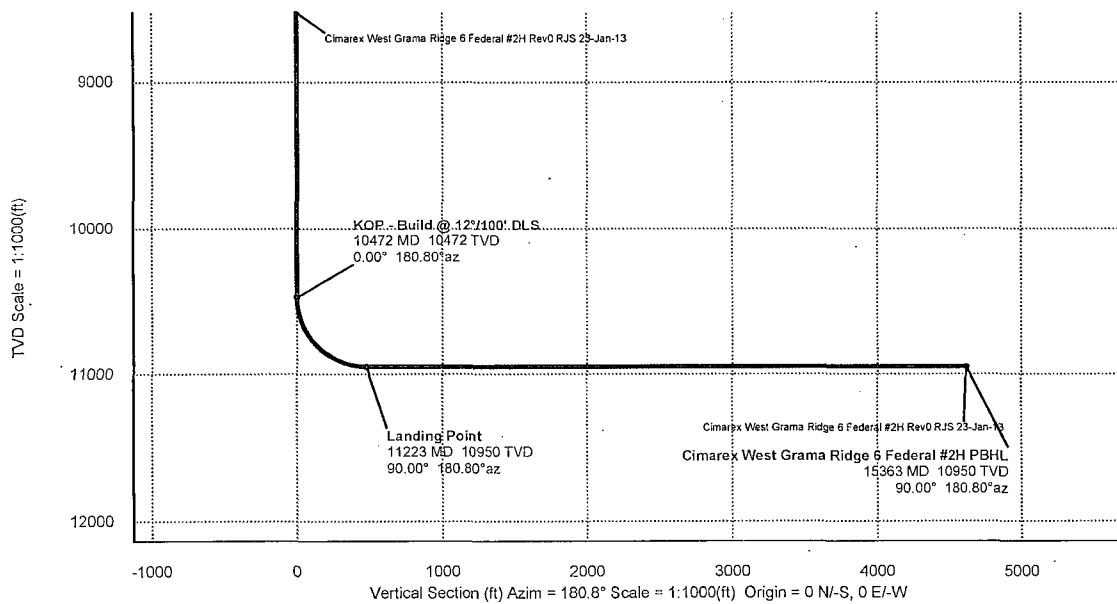
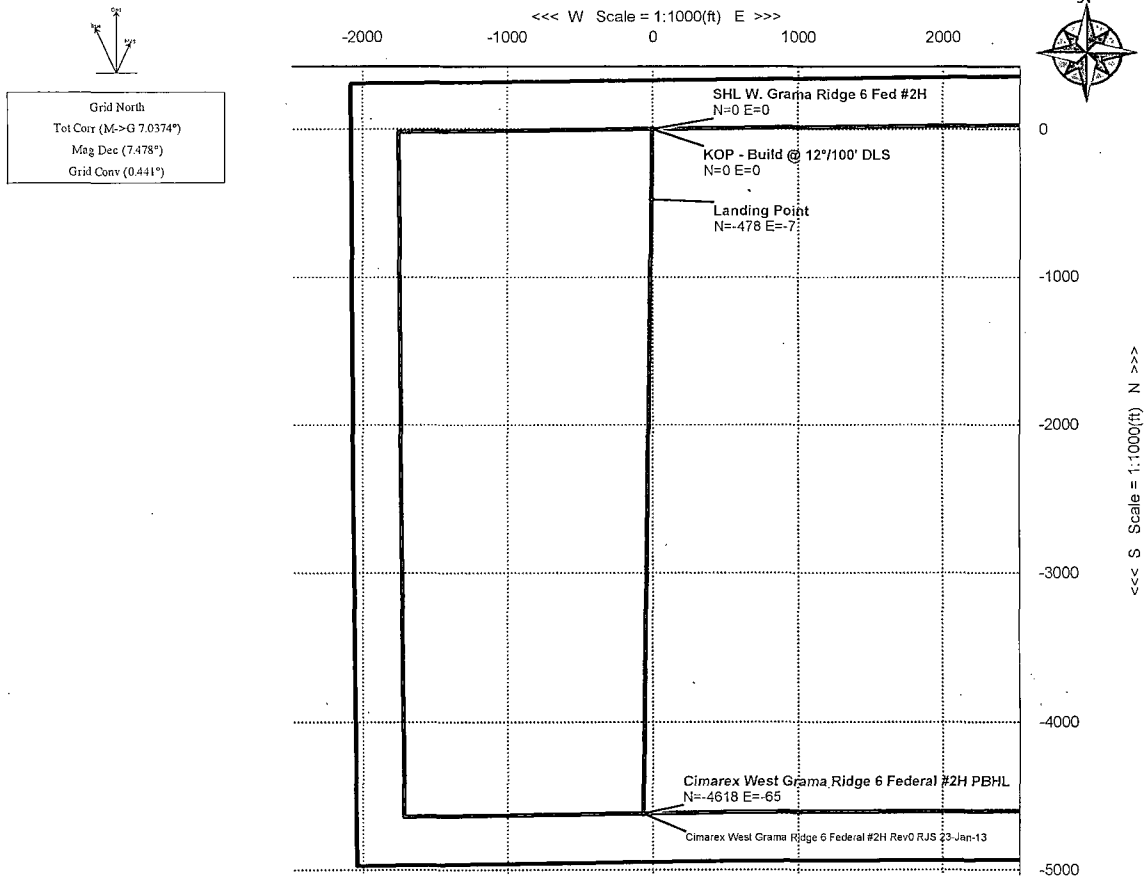
The proposed well will be tested and potential as **Oil**



Cimarex



WELL		FIELD		NM Lea County		STRUCTURE		TBD	
Magnetic Parameters									
Model	BSM 2012	Dip	60.308°	Date	January 23, 2013				
		Mag Dec	7.478°	FB	48568 SMT	Lat	N 32 25 37.60S	Northing	705121.94 RUS
						Lon	W 103 30 38.947	Easting	756121.94 RUS
								Scale Fact	0.99998285
						Macellaneous			
						Sht	West Grama Ridge 6 Federal #2H Rev0 RJS 23-Jan-13		
						Plan	Rev0 RJS 23-Jan-13	Shty Date	January 23, 2013
						Ground Level (3621ft above MSL)			



Critical Point		Critical Points						
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL W. Grama Ridge 6 Fed #2H	0.00	0.00	180.80	0.00	0.00	0.00	0.00	
KOP - Build @ 12°/100' DLS	10472.00	0.00	180.80	10472.00	0.00	0.00	0.00	0.00
Landing Point	11222.84	90.00	180.80	10950.00	478.00	-477.95	-6.67	11.99
Cimarex West Grama Ridge 6 Federal #2H PBHL	15362.82	90.00	180.80	10950.00	4617.98	-4617.53	-64.60	0.00



Cimarex West Grama Ridge 6 Federal #2H Rev0 RJS 23-Jan-13 Proposal Report (Non-Def Plan)



Report Date: January 23, 2013 - 04:52 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: TBD / Cimarex West Grama Ridge 6 Federal #2H
Well: Cimarex West Grama Ridge 6 Federal #2H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex West Grama Ridge 6 Federal #2H Rev0 RJS 23-Jan-13
Survey Date: January 23, 2013
Tort / AHD / DDI / ERD Ratio: 90.003 ° / 4617.980 ft / 5.766 / 0.422
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 25' 37.60869", W 103° 30' 38.94716"
Location Grid N/E Y/X: N 520091.880 ftUS, E 795121.940 ftUS
CRS Grid Convergence Angle: 0.4411 °
Grid Scale Factor: 0.99998285

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 180.802 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Ground Level
TVD Reference Elevation: 3621.000 ft above MSL
Seabed / Ground Elevation: 3621.000 ft above MSL
Magnetic Declination: 7.478 °
Total Gravity Field Strength: 998.4834mgn (9.80665 Based)
Total Magnetic Field Strength: 48566.925 nT
Magnetic Dip Angle: 60.308 °
Declination Date: January 23, 2013
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.4411 °
Total Corr Mag North->Grid North: 7.0374 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
SHL W. Grama Ridge 6 Fed #2H	0.00	0.00	180.80	0.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	N/A
	100.00	0.00	180.80	100.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	200.00	0.00	180.80	200.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	300.00	0.00	180.80	300.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	400.00	0.00	180.80	400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	500.00	0.00	180.80	500.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	600.00	0.00	180.80	600.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	700.00	0.00	180.80	700.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	800.00	0.00	180.80	800.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	900.00	0.00	180.80	900.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1000.00	0.00	180.80	1000.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1100.00	0.00	180.80	1100.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1200.00	0.00	180.80	1200.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1300.00	0.00	180.80	1300.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1400.00	0.00	180.80	1400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1500.00	0.00	180.80	1500.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1600.00	0.00	180.80	1600.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1700.00	0.00	180.80	1700.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1800.00	0.00	180.80	1800.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	1900.00	0.00	180.80	1900.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2000.00	0.00	180.80	2000.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2100.00	0.00	180.80	2100.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2200.00	0.00	180.80	2200.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2300.00	0.00	180.80	2300.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2400.00	0.00	180.80	2400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2500.00	0.00	180.80	2500.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2600.00	0.00	180.80	2600.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2700.00	0.00	180.80	2700.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	2800.00	0.00	180.80	2800.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
	8400.00	0.00	180.80	8400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	8500.00	0.00	180.80	8500.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	8600.00	0.00	180.80	8600.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	8700.00	0.00	180.80	8700.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	8800.00	0.00	180.80	8800.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	8900.00	0.00	180.80	8900.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9000.00	0.00	180.80	9000.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9100.00	0.00	180.80	9100.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9200.00	0.00	180.80	9200.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9300.00	0.00	180.80	9300.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9400.00	0.00	180.80	9400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9500.00	0.00	180.80	9500.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9600.00	0.00	180.80	9600.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9700.00	0.00	180.80	9700.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9800.00	0.00	180.80	9800.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	9900.00	0.00	180.80	9900.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10000.00	0.00	180.80	10000.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10100.00	0.00	180.80	10100.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10200.00	0.00	180.80	10200.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10300.00	0.00	180.80	10300.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10400.00	0.00	180.80	10400.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
KOP - Build @ 12"/100' DLS	10472.00	0.00	180.80	10472.00	0.00	0.00	0.00	520091.88	795121.94	N 32 25 37.61	W 103 30 38.95	0.00	0.00	0.00
	10500.00	3.36	180.80	10499.98	0.82	-0.82	-0.01	520091.06	795121.93	N 32 25 37.60	W 103 30 38.95	0.82	180.80	11.99
	10600.00	15.34	180.80	10598.48	17.04	-17.03	-0.24	520074.85	795121.70	N 32 25 37.44	W 103 30 38.95	17.04	180.80	11.99
	10700.00	27.33	180.80	10691.45	53.35	-53.35	-0.74	520038.53	795121.20	N 32 25 37.08	W 103 30 38.96	53.35	180.80	11.99
	10800.00	39.32	180.80	10774.86	108.19	-108.18	-1.51	519983.70	795120.43	N 32 25 36.54	W 103 30 38.97	108.19	180.80	11.99
	10900.00	51.30	180.80	10845.06	179.15	-179.13	-2.50	519912.75	795119.44	N 32 25 35.84	W 103 30 38.99	179.15	180.80	11.99
	11000.00	63.29	180.80	10898.99	263.14	-263.12	-3.67	519828.77	795118.27	N 32 25 35.01	W 103 30 39.01	263.14	180.80	11.99
	11100.00	75.28	180.80	10934.30	356.51	-356.47	-4.98	519735.41	795116.96	N 32 25 34.08	W 103 30 39.04	356.51	180.80	11.99
	11200.00	87.26	180.80	10949.45	455.17	-455.12	-6.36	519636.77	795115.58	N 32 25 33.11	W 103 30 39.06	455.17	180.80	11.99
Landing Point	11222.84	90.00	180.80	10950.00	478.00	-477.95	-6.67	519613.94	795115.27	N 32 25 32.88	W 103 30 39.07	478.00	180.80	11.99
	11300.00	90.00	180.80	10950.00	555.16	-555.11	-7.75	519536.79	795114.19	N 32 25 32.12	W 103 30 39.09	555.16	180.80	0.00
	11400.00	90.00	180.80	10950.00	655.16	-655.10	-9.15	519436.80	795112.79	N 32 25 31.13	W 103 30 39.11	655.16	180.80	0.00
	11500.00	90.00	180.80	10950.00	755.16	-755.09	-10.54	519336.81	795111.40	N 32 25 30.14	W 103 30 39.14	755.16	180.80	0.00
	11600.00	90.00	180.80	10950.00	855.16	-855.08	-11.94	519236.82	795110.00	N 32 25 29.15	W 103 30 39.16	855.16	180.80	0.00
	11700.00	90.00	180.80	10950.00	955.16	-955.07	-13.34	519136.83	795108.60	N 32 25 28.16	W 103 30 39.19	955.16	180.80	0.00
	11800.00	90.00	180.80	10950.00	1055.16	-1055.06	-14.73	519036.84	795107.21	N 32 25 27.17	W 103 30 39.21	1055.16	180.80	0.00
	11900.00	90.00	180.80	10950.00	1155.16	-1155.05	-16.13	518936.86	795105.81	N 32 25 26.18	W 103 30 39.24	1155.16	180.80	0.00
	12000.00	90.00	180.80	10950.00	1255.16	-1255.04	-17.53	518836.87	795104.41	N 32 25 25.19	W 103 30 39.26	1255.16	180.80	0.00
	12100.00	90.00	180.80	10950.00	1355.16	-1355.03	-18.93	518736.88	795103.01	N 32 25 24.20	W 103 30 39.29	1355.16	180.80	0.00
	12200.00	90.00	180.80	10950.00	1455.16	-1455.02	-20.32	518636.89	795101.62	N 32 25 23.21	W 103 30 39.31	1455.16	180.80	0.00
	12300.00	90.00	180.80	10950.00	1555.16	-1555.01	-21.72	518536.90	795100.22	N 32 25 22.22	W 103 30 39.34	1555.16	180.80	0.00
	12400.00	90.00	180.80	10950.00	1655.16	-1655.00	-23.12	518436.91	795098.82	N 32 25 21.24	W 103 30 39.37	1655.16	180.80	0.00
	12500.00	90.00	180.80	10950.00	1755.16	-1754.99	-24.52	518336.93	795097.42	N 32 25 20.25	W 103 30 39.39	1755.16	180.80	0.00
	12600.00	90.00	180.80	10950.00	1855.16	-1854.98	-25.92	518236.94	795096.02	N 32 25 19.26	W 103 30 39.42	1855.16	180.80	0.00
	12700.00	90.00	180.80	10950.00	1955.16	-1954.97	-27.31	518136.95	795094.63	N 32 25 18.27	W 103 30 39.44	1955.16	180.80	0.00
	12800.00	90.00	180.80	10950.00	2055.16	-2054.96	-28.71	518036.96	795093.23	N 32 25 17.28	W 103 30 39.47	2055.16	180.80	0.00
	12900.00	90.00	180.80	10950.00	2155.16	-2154.95	-30.11	517936.97	795091.83	N 32 25 16.29	W 103 30 39.49	2155.16	180.80	0.00
	13000.00	90.00	180.80	10950.00	2255.16	-2254.94	-31.51	517836.98	795090.43	N 32 25 15.30	W 103 30 39.52	2255.16	180.80	0.00
	13100.00	90.00	180.80	10950.00	2355.16	-2354.93	-32.91	517737.00	795089.03	N 32 25 14.31	W 103 30 39.54	2355.16	180.80	0.00
	13200.00	90.00	180.80	10950.00	2455.16	-2454.92	-34.31	517637.01	795087.63	N 32 25 13.32	W 103 30 39.57	2455.16	180.80	0.00
	13300.00	90.00	180.80	10950.00	2555.16	-2554.91	-35.71	517537.02	795086.23	N 32 25 12.33	W 103 30 39.59	2555.16	180.80	0.00
	13400.00	90.00	180.80	10950.00	2655.16	-2654.90	-37.11	517437.03	795084.83	N 32 25 11.34	W 103 30 39.62	2655.16	180.80	0.00
	13500.00	90.00	180.80	10950.00	2755.16	-2754.89	-38.51	517337.04	795083.44	N 32 25 10.35	W 103 30 39.64	2755.16	180.80	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	180.80	10950.00	2855.16	-2854.88	-39.91	517237.05	795082.04	N 32 25 9.36	W 103 30 39.67	2855.16	180.80	0.00
	13700.00	90.00	180.80	10950.00	2955.16	-2954.87	-41.30	517137.07	795080.64	N 32 25 8.37	W 103 30 39.69	2955.16	180.80	0.00
	13800.00	90.00	180.80	10950.00	3055.16	-3054.86	-42.70	517037.08	795079.24	N 32 25 7.39	W 103 30 39.72	3055.16	180.80	0.00
	13900.00	90.00	180.80	10950.00	3155.16	-3154.85	-44.10	516937.09	795077.84	N 32 25 6.40	W 103 30 39.74	3155.16	180.80	0.00
	14000.00	90.00	180.80	10950.00	3255.16	-3254.84	-45.50	516837.10	795076.44	N 32 25 5.41	W 103 30 39.77	3255.16	180.80	0.00
	14100.00	90.00	180.80	10950.00	3355.16	-3354.83	-46.91	516737.11	795075.04	N 32 25 4.42	W 103 30 39.80	3355.16	180.80	0.00
	14200.00	90.00	180.80	10950.00	3455.16	-3454.82	-48.31	516637.12	795073.64	N 32 25 3.43	W 103 30 39.82	3455.16	180.80	0.00
	14300.00	90.00	180.80	10950.00	3555.16	-3554.81	-49.71	516537.14	795072.23	N 32 25 2.44	W 103 30 39.85	3555.16	180.80	0.00
	14400.00	90.00	180.80	10950.00	3655.16	-3654.80	-51.11	516437.15	795070.83	N 32 25 1.45	W 103 30 39.87	3655.16	180.80	0.00
	14500.00	90.00	180.80	10950.00	3755.16	-3754.79	-52.51	516337.16	795069.43	N 32 25 0.46	W 103 30 39.90	3755.16	180.80	0.00
	14600.00	90.00	180.80	10950.00	3855.16	-3854.78	-53.91	516237.17	795068.03	N 32 24 59.47	W 103 30 39.92	3855.16	180.80	0.00
	14700.00	90.00	180.80	10950.00	3955.16	-3954.77	-55.31	516137.18	795066.63	N 32 24 58.48	W 103 30 39.95	3955.16	180.80	0.00
	14800.00	90.00	180.80	10950.00	4055.16	-4054.76	-56.71	516037.19	795065.23	N 32 24 57.49	W 103 30 39.97	4055.16	180.80	0.00
	14900.00	90.00	180.80	10950.00	4155.16	-4154.75	-58.11	515937.21	795063.83	N 32 24 56.50	W 103 30 40.00	4155.16	180.80	0.00
	15000.00	90.00	180.80	10950.00	4255.16	-4254.74	-59.51	515837.22	795062.43	N 32 24 55.51	W 103 30 40.02	4255.16	180.80	0.00
	15100.00	90.00	180.80	10950.00	4355.16	-4354.73	-60.92	515737.23	795061.02	N 32 24 54.53	W 103 30 40.05	4355.16	180.80	0.00
	15200.00	90.00	180.80	10950.00	4455.16	-4454.72	-62.32	515637.24	795059.62	N 32 24 53.54	W 103 30 40.07	4455.16	180.80	0.00
	15300.00	90.00	180.80	10950.00	4555.16	-4554.71	-63.72	515537.25	795058.22	N 32 24 52.55	W 103 30 40.10	4555.16	180.80	0.00
Cimarex West Grama Ridge 6 Federal #2H PBHL	15362.82	90.00	180.80	10950.00	4617.98	-4617.53	-64.60	515474.44	795057.34	N 32 24 51.93	W 103 30 40.12	4617.98	180.80	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	15362.821	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex West Grama Ridge 6 Federal #2H Rev0

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

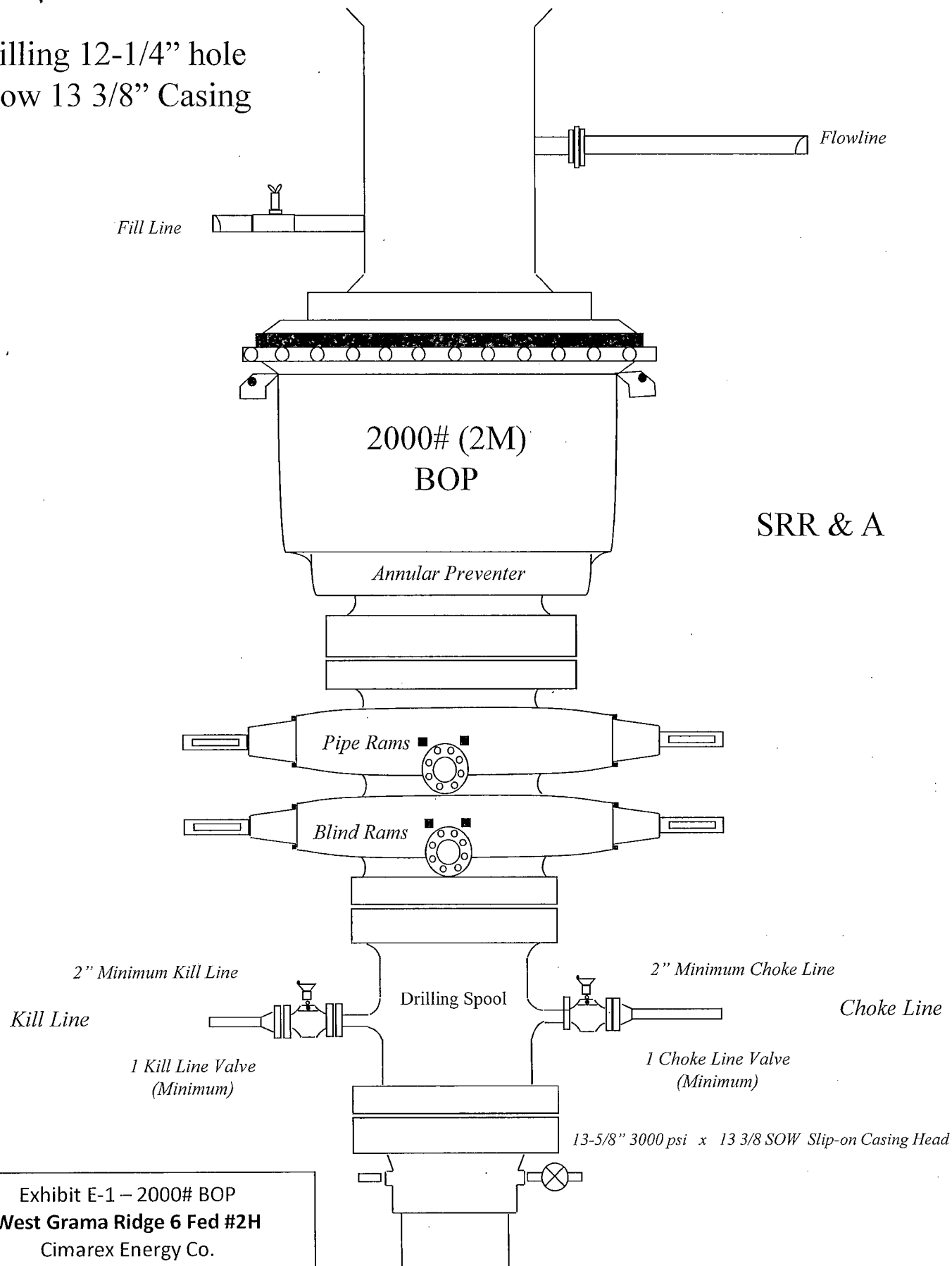
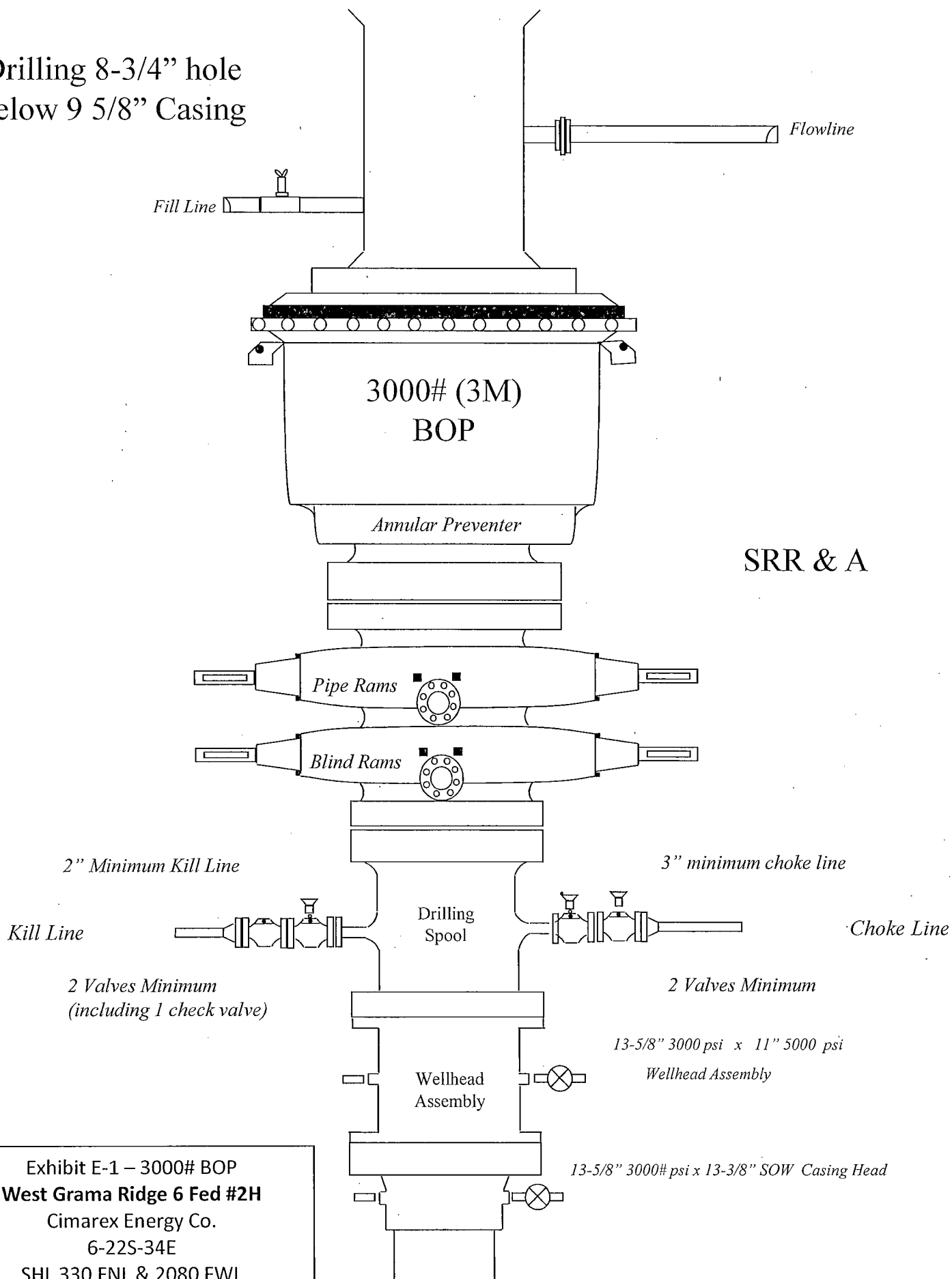


Exhibit E-1 – 2000# BOP
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM

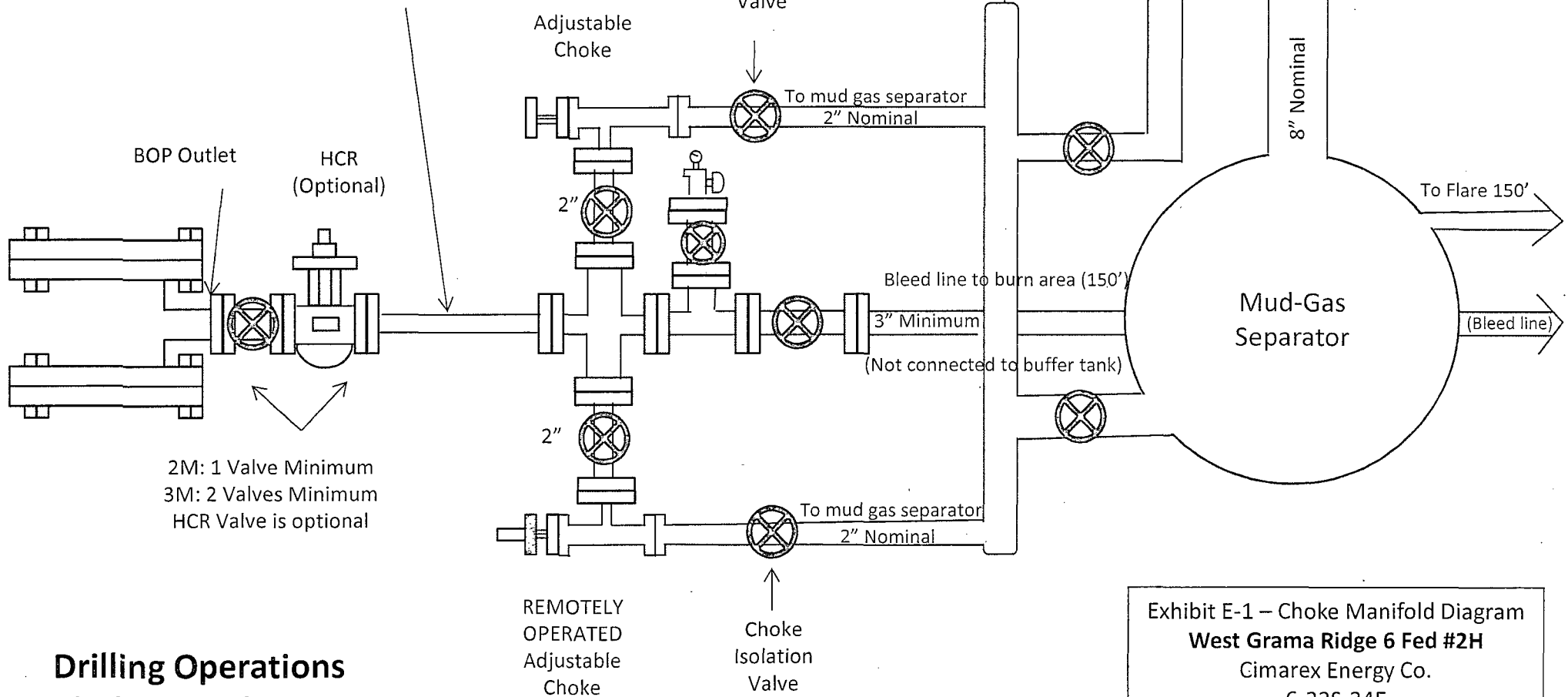
Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

Exhibit E-1 – 3000# BOP
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 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



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
West Grama Ridge 6 Fed #2H
 Cimarex Energy Co.
 6-22S-34E
 SHL 330 FNL & 2080 FWL
 BHL 330 FSL & 1980 FWL
 Lea County, NM

Exhibit F-1 – Co-Flex Hose Hydrostatic Test

West Grama Ridge 6 Fed #2H

Cimarex Energy Co.

6-22S-34E

SHL 330 FNL & 2080 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>CA. Jaime Serna</i>		Approved: <i>Kevin Lee</i>

March 3, 2011

Internal Hydrostatic Test Graph



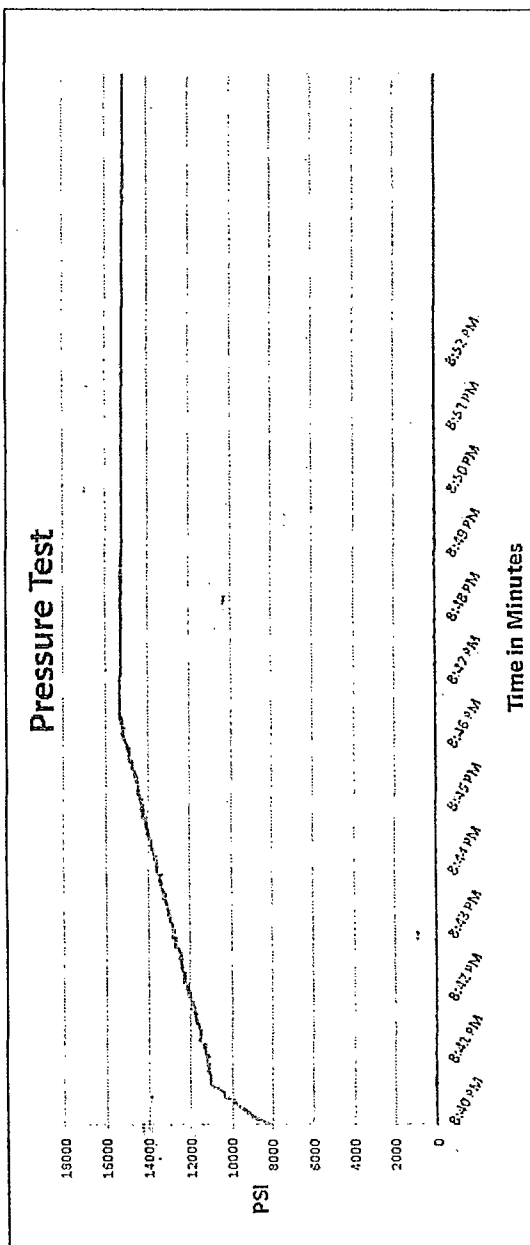
Midwest Hose
& Specialty, Inc.

Customer: Houston

Pick Ticket #: 94260

Hose Specifications		Verification	
Hose Type C & K	Length 45'	Type of Fittings 41/16 10K	Coupling Method Swage
I.D. 4"	O.D. 6.09"	Die Size 6.38"	Enal O.D. 6.25"
Working Pressure 10000 PSI	Burst Pressure Standard Safety Multiplier Applied	Hose Serial # 5544	Hose Assembly Serial # 79793

Exhibit F-1 – Co-Flex Hose Hydrostatic Test
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM



Test Pressure
15000 PSI

Time Held at Test Pressure
11 Minutes

Actual Burst Pressure

Peak Pressure
15483 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]



Midwest Hose
& Specialty, Inc.

Exhibit F -3- Co-Flex Hose
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 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 componets. 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-2 – Co-Flex Hose
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

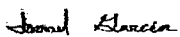
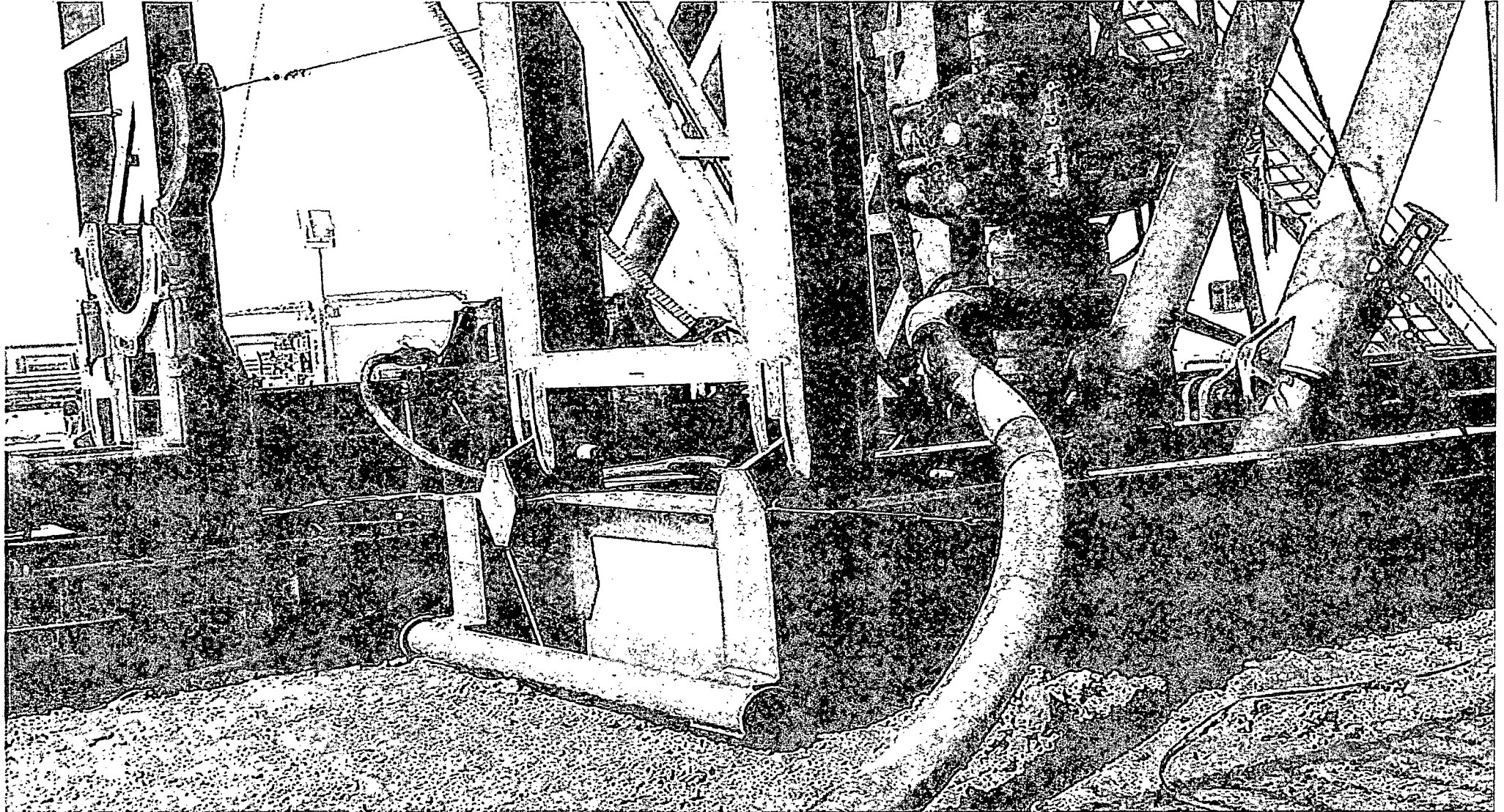
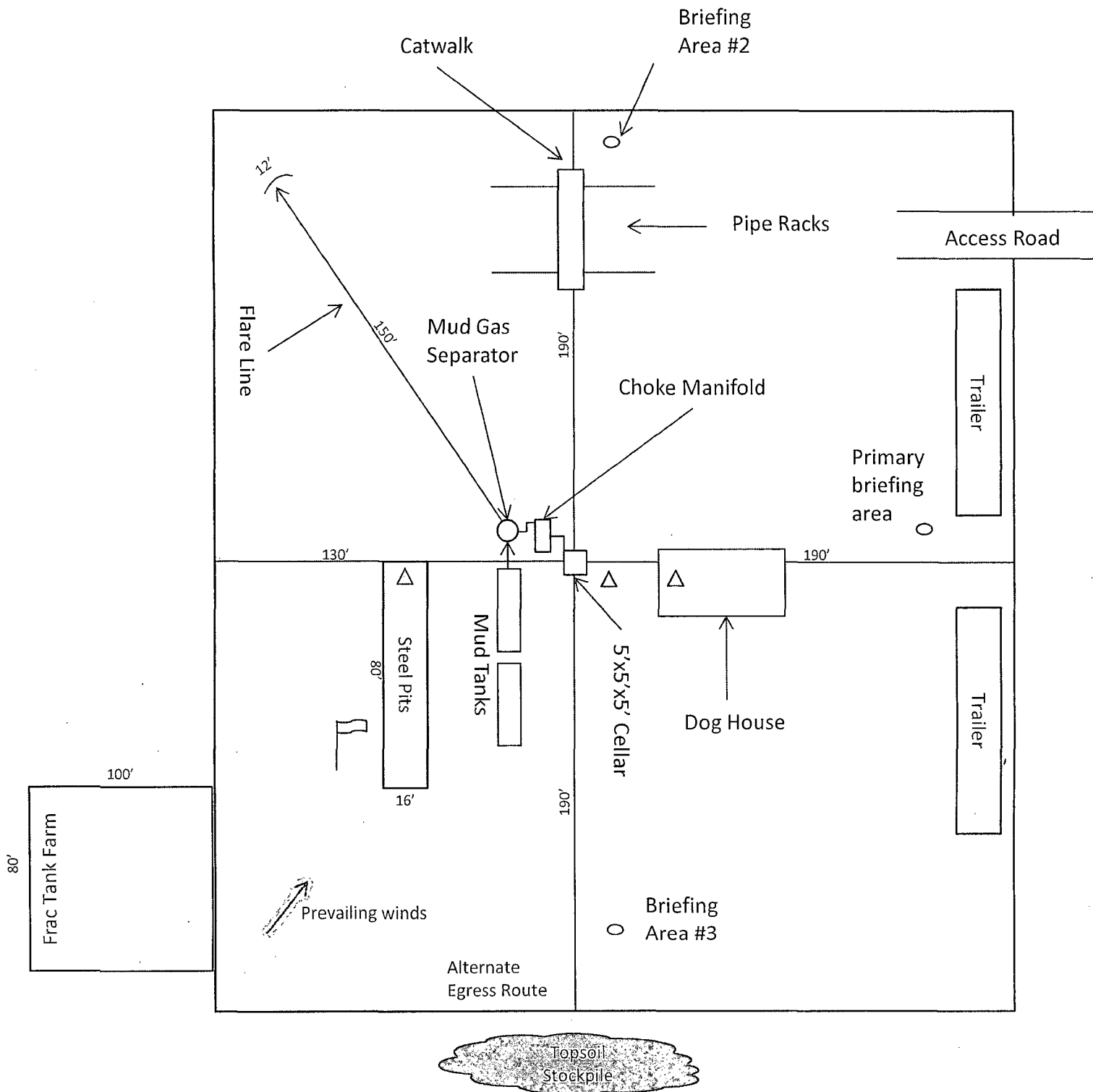
Customer: DEM		PO ODYD-271
SPECIFICATIONS		
Sales Order 79793	Dated: 3/8/2011	
We hereby certify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards Supplier: Midwest Hose & Specialty, Inc. 10640 Tanner Road Houston, Texas 77041		
Comments:		
Approved: 		Date: 3/8/2011

Exhibit F – Co-Flex Hose
West Grama Ridge 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 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 6 Fed #2H
Cimarex Energy Co.
6-22S-34E
SHL 330 FNL & 2080 FWL
BHL 330 FSL & 1980 FWL
Lea County, NM