

13-42

HOBBS OCD

JAN 24 2014

OCD Hobbs

Form 3160-3
(April 2004)

RECEIVED

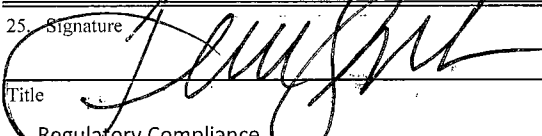
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NM-0392082A	
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. of Colorado		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. Hallertau 4 Federal 6H <39100>	
3b. Phone No. (include area code) 432-571-7800		9. API Well No. 30-025- 41628	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At Surface 330' FNL & 2260' FWL At proposed prod. Zone 330' FSL & 2290' FWL Horizontal Bone Spring test		10. Field and Pool, or Exploratory Jennings Upper <97838> Wildcat Bone Spring shale	
11. Sec., T, R, M, or Blk. and Survey or Area 4-26S-32E		12. County or Parish Lea	
13. State NM		14. Distance in miles and direction from nearest town or post office* 29 miles west of Jal, NM	
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 1400.49	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 280'	19. Proposed Depth MD 15129' TVD 10679' Pilot Hole 11200'	20. BLM/BIA Bond No. on File NM2575; NMB000835	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3307' GR	22. Approximate date work will start* 02.20.14	23. Estimated duration 25-30 days	
24. Attachments			

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

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

25. Signature 	Name (Printed/Typed) Terri Stathem	Date 10.4.12
Title Regulatory Compliance		
Approved By (Signature) /s/ STEPHEN J. CAFFEY	Name (Printed/Typed)	Date JAN 21 2014
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.

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.

* (Instructions on page 2)

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

Carlsbad Controlled Water Basin

JAN 28

AM

Drilling Plan
Hallertau 4 Federal 6H
Cimarex Energy Co. of Colorado
Unit C, Section 4
T26S-R32E, Lea County, NM

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

- 1 **Location:** SHL 330' FNL & 2260' FWL
BHL 330' FSL & 2290' FWL
- 2 **Elevation above sea level:** 3307' 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:** MD 15129' TVD 10679' Pilot Hole 11200'
- 6 **Estimated tops of geological markers:**

OSE Ground Water	275'	
Rustler	1094'	
Top Salt	1700'	
Base Salt	4315	
Bell Canyon	4525'	Possible oil
Cherry Canyon	5680'	
Brushy Canyon	8385'	
Bone Spring	8580'	
Bone Spring "A" Shale	8685'	
Bone Spring "B" Carb	9125'	Possible oil
Bone Spring "C" Shale	9260'	Possible oil
1st Bone Spring SS	9580'	
Pilot Hole TD	9900'	

7 **Proposed Mud Circulating System:**

Depth			Mud Wt	Visc	Fluid Loss	Type Mud
0'	to	1144'	8.4 - 8.6	28	NC	FW
1144'	to	4500'	10	30-32	NC	Brine water
4500'	to	15129'	8.4-9.5	30-32	NC	FW and brine, 2% KCL in the lateral

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.

Proposed Drilling Plan

After drilling and setting surface and intermediate casing, drill 7 7/8" or 8 3/4" hole to 9900' and log. Pump 30 bbls MUDPUSHII 12 ppg, followed by 425 sks Type H cement, D080 (Dispersant) 0.080 gal/sk, D177 (Retarder) 0.045 gal/sk 17.5 ppg yield 0.95 & 0% excess from 11200' to 10172'. Set whipstock and kick off 7 7/8" or 8 3/4" lateral @ 10172' and drill to TD @ 15129' MD, 10679' TVD. Run 5 1/2" casing and cement per plan.

Drilling Plan
Hallertau 4 Federal 6H
 Cimarex Energy Co. of Colorado
 Unit C, Section 4
 T26S-R32E, Lea County, NM

8 Casing & Cementing Program:

See COA

String	Hole Size	Depth	1215'	Casing OD	Weight	Collar	Grade
Surface	17 1/2"	0' to	1144'	New 13 3/8"	48#	STC	H-40
Intermediate	12 1/4"	0' to	3400'	New 9 5/8"	36#	LTC	J-55
Intermediate	12 1/4"	3400' to	4500'	New 9 5/8"	40#	LTC	N-80
Production	8 3/4" or 7 7/8"	0' to	10172'	New 5 1/2"	17#	LTC	P-110
Production	8 3/4" or 7 7/8"	10172' to	15129'	New 5 1/2"	17#	BTC	P-110

9 Cementing:

See COA

Surface	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	727	1.75	13.5	1272	Class C + Bentonite + Calcium Chloride + LCM
Tail	148	1.34	14.8	199	Class C + LCM

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

Intermediate	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	1009	1.88	12.9	1897	35:65 (poz/C) + Salt + Bentonite + LCM + retarder
Tail	263	1.34	14.8	352	Class C + retarder + LCM

TOC: Surface 80% Excess

See COA

Production	Sacks	Yield (cuft/sx)	Weight (ppg)	Cubic Feet	Cement Blend
Lead	492	2.4	11.9	1180	35:65 (poz/H) + salt + Sodium Metasilicate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
Tail	1392	1.24	14.5	1726	50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder

Cement volumes will be adjusted depending on hole size.

TOC: 4,000' 25% Excess Centralizers every 3rd joint through the curve or legal location hardline to provide adequate cement coverage every 100' unless hole conditions require greater spacing between centralizers.

<u>Collapse Factor</u>	<u>Burst Factor</u>	<u>Tension Factor</u>
1.125	1.125	1.6

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.

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.

Drilling Plan
Hallertau 4 Federal 6H
Cimarex Energy Co. of Colorado
Unit C, Section 4
T26S-R32E, Lea County, NM

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. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

11 Testing, Logging and Coring Program:

- A. Mud logging program: 2 man unit from 4500 to TD
- B. Electric logging program: CNL / LDT / CAL / GR, DLL / CAL / GR Surface to TD
- C. No DSTs or cores are planned at this time.

12 Potential Hazards:

SA
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 **4455 psi** Estimated BHT **130°**

13 Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved.

Drilling expected to take 30-35 days

If production casing is run an additional 30 days will be required to complete and construct surface facilities.

14 Other Facets of Operations:

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

Bone Spring pay will be perforated and stimulated.

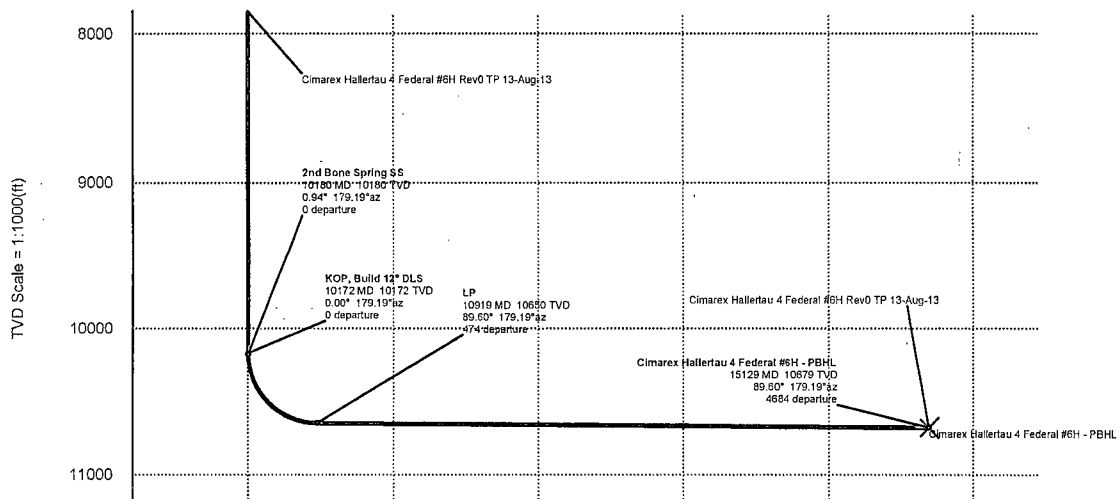
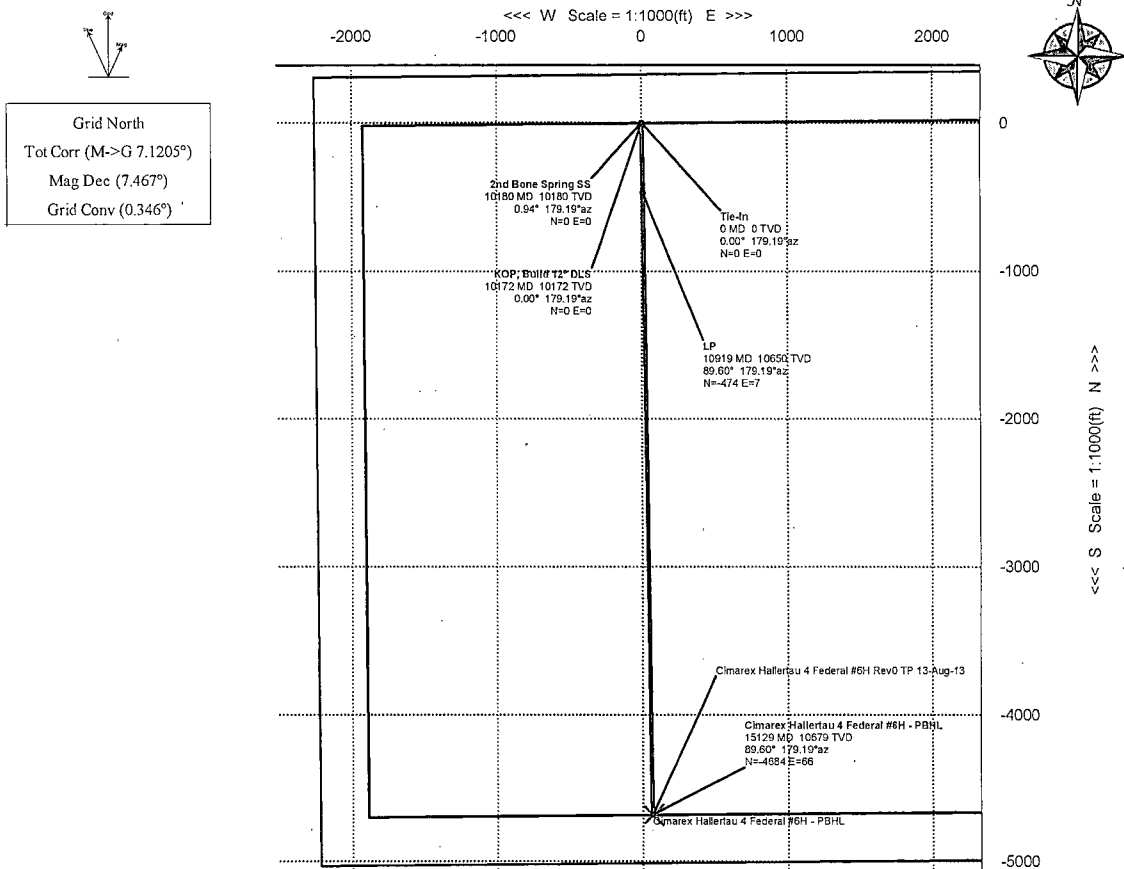
The proposed well will be tested and potentialized as **an oil well.**



Cimarex Energy

PATHFINDER
A Schlumberger Company

WELL	Hallertau 4 Federal #6H	FIELD	NM Lea County (NAD 83)	STRUCTURE	Cimarex Hallertau 4 Federal #6
Magnetic Parameters	Dip: 59.931° Model: BGM 2012 Mag Dec: 7.467°	Date: August 13, 2013 F5: 48266.2m	Surface Location Lat: N 32 443.440 Lon: W 103 40 52.960	Wellbore NAD83 New Mexico State Plane, Eastern Zone, US Feet 309991.40 RJG 743265.00 RJG Grid Conv: 0.346° Scale Fact: 0.8095579	Miscellaneous Stat: Hallertau 4 Federal #6H Plan: Cimarex Hallertau 4 Federal #6H TVD Ref: Unknown (33078 above NLS) ID: 48266.2m, 13-Aug-2013



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In	0.00	0.00	179.19	0.00	0.00	0.00	0.00	
KOP, Build 12° DLS	10172.16	0.00	179.19	10172.16	0.00	0.00	0.00	0.00
2nd Bone Spring SS	10180.00	0.94	179.19	10180.00	0.06	-0.06	0.00	12.00
LP	10918.82	89.60	179.19	10649.61	474.13	-474.08	6.71	12.00
Cimarex Hallertau 4 Federal #6H - PBHL	15128.88	89.60	179.19	10679.00	4684.09	-4683.62	66.30	0.00

Cimarex Hallertau 4 Federal #6H Rev0 TP 13-Aug-13 Proposal Report

(Def Plan)

Report Date: August 13, 2013 - 05:08 PM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Hallertau 4 Federal #6H / Hallertau 4 Federal #6H
Well: Hallertau 4 Federal #6H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Hallertau 4 Federal #6H Rev0 TP 13-Aug-13
Survey Date: August 13, 2013
Tort / AHD / DDI / ERD Ratio: 89.600 ° / 4684.086 ft / 5.774 / 0.439
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 4' 43.44860", W 103° 40' 52.95956"
Location Grid N/E Y/X: N 392991.400 ftUS, E 743265.000 ftUS
CRS Grid Convergence Angle: 0.3463 °
Grid Scale Factor: 0.99995579

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.189 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: Unknown
TVD Reference Elevation: 3307.000 ft above MSL
Seabed / Ground Elevation: 3307.000 ft above MSL
Magnetic Declination: 7.467 °
Total Field Strength: 48266.153 nT
Magnetic Dip Angle: 59.931 °
Declination Date: August 13, 2013
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.3463 °
Total Corr Mag North->Grid North: 7.1205 °
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	179.19	0.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	N/A
	100.00	0.00	179.19	100.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	200.00	0.00	179.19	200.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	300.00	0.00	179.19	300.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	400.00	0.00	179.19	400.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	500.00	0.00	179.19	500.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	600.00	0.00	179.19	600.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	700.00	0.00	179.19	700.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	800.00	0.00	179.19	800.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	900.00	0.00	179.19	900.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1000.00	0.00	179.19	1000.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1100.00	0.00	179.19	1100.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1200.00	0.00	179.19	1200.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1300.00	0.00	179.19	1300.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1400.00	0.00	179.19	1400.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1500.00	0.00	179.19	1500.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1600.00	0.00	179.19	1600.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1700.00	0.00	179.19	1700.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1800.00	0.00	179.19	1800.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	1900.00	0.00	179.19	1900.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2000.00	0.00	179.19	2000.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2100.00	0.00	179.19	2100.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2200.00	0.00	179.19	2200.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2300.00	0.00	179.19	2300.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2400.00	0.00	179.19	2400.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2500.00	0.00	179.19	2500.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2600.00	0.00	179.19	2600.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2700.00	0.00	179.19	2700.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2800.00	0.00	179.19	2800.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	2900.00	0.00	179.19	2900.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	3000.00	0.00	179.19	3000.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS ("/100ft)
	8600.00	0.00	179.19	8600.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	8700.00	0.00	179.19	8700.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	8800.00	0.00	179.19	8800.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	8900.00	0.00	179.19	8900.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9000.00	0.00	179.19	9000.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9100.00	0.00	179.19	9100.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9200.00	0.00	179.19	9200.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9300.00	0.00	179.19	9300.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9400.00	0.00	179.19	9400.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9500.00	0.00	179.19	9500.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9600.00	0.00	179.19	9600.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9700.00	0.00	179.19	9700.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9800.00	0.00	179.19	9800.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	9900.00	0.00	179.19	9900.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	10000.00	0.00	179.19	10000.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
	10100.00	0.00	179.19	10100.00	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
KOP, Build 12" DLS	10172.16	0.00	179.19	10172.16	0.00	0.00	0.00	392991.40	743265.00	N 32 4 43.45	W 103 40 52.96	0.00	0.00	0.00
2nd Bone Spring SS	10180.00	0.94	179.19	10180.00	0.06	-0.06	0.00	392991.34	743265.00	N 32 4 43.45	W 103 40 52.96	0.06	179.19	12.00
	10200.00	3.34	179.19	10199.98	0.81	-0.81	0.01	392990.59	743265.01	N 32 4 43.44	W 103 40 52.96	0.81	179.19	12.00
	10300.00	15.34	179.19	10298.48	17.01	-17.01	0.24	392974.39	743265.24	N 32 4 43.28	W 103 40 52.96	17.01	179.19	12.00
	10400.00	27.34	179.19	10391.45	53.34	-53.33	0.76	392938.07	743265.75	N 32 4 42.92	W 103 40 52.95	53.34	179.19	12.00
	10500.00	39.34	179.19	10474.84	108.20	-108.19	1.53	392883.21	743266.53	N 32 4 42.38	W 103 40 52.95	108.20	179.19	12.00
	10600.00	51.34	179.19	10545.00	179.20	-179.18	2.54	392812.22	743267.54	N 32 4 41.68	W 103 40 52.94	179.20	179.19	12.00
	10700.00	63.34	179.19	10598.86	263.24	-263.21	3.73	392728.20	743268.73	N 32 4 40.84	W 103 40 52.93	263.24	179.19	12.00
	10800.00	75.34	179.19	10634.08	356.64	-356.60	5.05	392634.81	743270.05	N 32 4 39.92	W 103 40 52.93	356.64	179.19	12.00
	10900.00	87.34	179.19	10649.11	455.32	-455.27	6.45	392536.15	743271.44	N 32 4 38.94	W 103 40 52.92	455.32	179.19	12.00
LP	10918.82	89.60	179.19	10649.61	474.13	-474.08	6.71	392517.34	743271.71	N 32 4 38.76	W 103 40 52.91	474.13	179.19	12.00
	11000.00	89.60	179.19	10650.18	555.31	-555.25	7.86	392436.17	743272.86	N 32 4 37.95	W 103 40 52.91	555.31	179.19	0.00
	11100.00	89.60	179.19	10650.87	655.31	-655.24	9.28	392336.19	743274.28	N 32 4 36.96	W 103 40 52.90	655.31	179.19	0.00
	11200.00	89.60	179.19	10651.57	755.30	-755.23	10.69	392236.21	743275.69	N 32 4 35.97	W 103 40 52.89	755.30	179.19	0.00
	11300.00	89.60	179.19	10652.27	855.30	-855.21	12.11	392136.22	743277.11	N 32 4 34.99	W 103 40 52.88	855.30	179.19	0.00
	11400.00	89.60	179.19	10652.97	955.30	-955.20	13.52	392036.24	743278.52	N 32 4 34.00	W 103 40 52.87	955.30	179.19	0.00
	11500.00	89.60	179.19	10653.67	1055.30	-1055.19	14.94	391936.26	743279.94	N 32 4 33.01	W 103 40 52.86	1055.30	179.19	0.00
	11600.00	89.60	179.19	10654.36	1155.29	-1155.18	16.35	391836.28	743281.35	N 32 4 32.02	W 103 40 52.85	1155.29	179.19	0.00
	11700.00	89.60	179.19	10655.06	1255.29	-1255.16	17.77	391736.29	743282.77	N 32 4 31.03	W 103 40 52.84	1255.29	179.19	0.00
	11800.00	89.60	179.19	10655.76	1355.29	-1355.15	19.18	391636.31	743284.18	N 32 4 30.04	W 103 40 52.83	1355.29	179.19	0.00
	11900.00	89.60	179.19	10656.46	1455.29	-1455.14	20.60	391536.33	743285.60	N 32 4 29.05	W 103 40 52.82	1455.29	179.19	0.00
	12000.00	89.60	179.19	10657.16	1555.28	-1555.13	22.01	391436.34	743287.01	N 32 4 28.06	W 103 40 52.81	1555.28	179.19	0.00
	12100.00	89.60	179.19	10657.85	1655.28	-1655.11	23.43	391336.36	743288.43	N 32 4 27.07	W 103 40 52.80	1655.28	179.19	0.00
	12200.00	89.60	179.19	10658.55	1755.28	-1755.10	24.85	391236.38	743289.84	N 32 4 26.08	W 103 40 52.79	1755.28	179.19	0.00
	12300.00	89.60	179.19	10659.25	1855.28	-1855.09	26.26	391136.40	743291.26	N 32 4 25.09	W 103 40 52.78	1855.28	179.19	0.00
	12400.00	89.60	179.19	10659.95	1955.27	-1955.08	27.68	391036.41	743292.68	N 32 4 24.10	W 103 40 52.78	1955.27	179.19	0.00
	12500.00	89.60	179.19	10660.65	2055.27	-2055.07	29.09	390936.43	743294.09	N 32 4 23.11	W 103 40 52.77	2055.27	179.19	0.00
	12600.00	89.60	179.19	10661.35	2155.27	-2155.05	30.51	390836.45	743295.51	N 32 4 22.12	W 103 40 52.76	2155.27	179.19	0.00
	12700.00	89.60	179.19	10662.04	2255.27	-2255.04	31.92	390736.46	743296.92	N 32 4 21.13	W 103 40 52.75	2255.27	179.19	0.00
	12800.00	89.60	179.19	10662.74	2355.26	-2355.03	33.34	390636.48	743298.34	N 32 4 20.14	W 103 40 52.74	2355.26	179.19	0.00
	12900.00	89.60	179.19	10663.44	2455.26	-2455.02	34.75	390536.50	743299.75	N 32 4 19.15	W 103 40 52.73	2455.26	179.19	0.00
	13000.00	89.60	179.19	10664.14	2555.26	-2555.00	36.17	390436.52	743301.17	N 32 4 18.16	W 103 40 52.72	2555.26	179.19	0.00
	13100.00	89.60	179.19	10664.84	2655.26	-2654.99	37.59	390336.53	743302.58	N 32 4 17.17	W 103 40 52.71	2655.26	179.19	0.00
	13200.00	89.60	179.19	10665.53	2755.25	-2754.98	39.00	390236.55	743304.00	N 32 4 16.19	W 103 40 52.70	2755.25	179.19	0.00
	13300.00	89.60	179.19	10666.23	2855.25	-2854.97	40.42	390136.57	743305.41	N 32 4 15.20	W 103 40 52.69	2855.25	179.19	0.00
	13400.00	89.60	179.19	10666.93	2955.25	-2954.95	41.83	390036.58	743306.83	N 32 4 14.21	W 103 40 52.68	2955.25	179.19	0.00
	13500.00	89.60	179.19	10667.63	3055.25	-3054.94	43.25	389936.60	743308.24	N 32 4 13.22	W 103 40 52.67	3055.25	179.19	0.00
	13600.00	89.60	179.19	10668.33	3155.24	-3154.93	44.66	389836.62	743309.66	N 32 4 12.23	W 103 40 52.66	3155.24	179.19	0.00

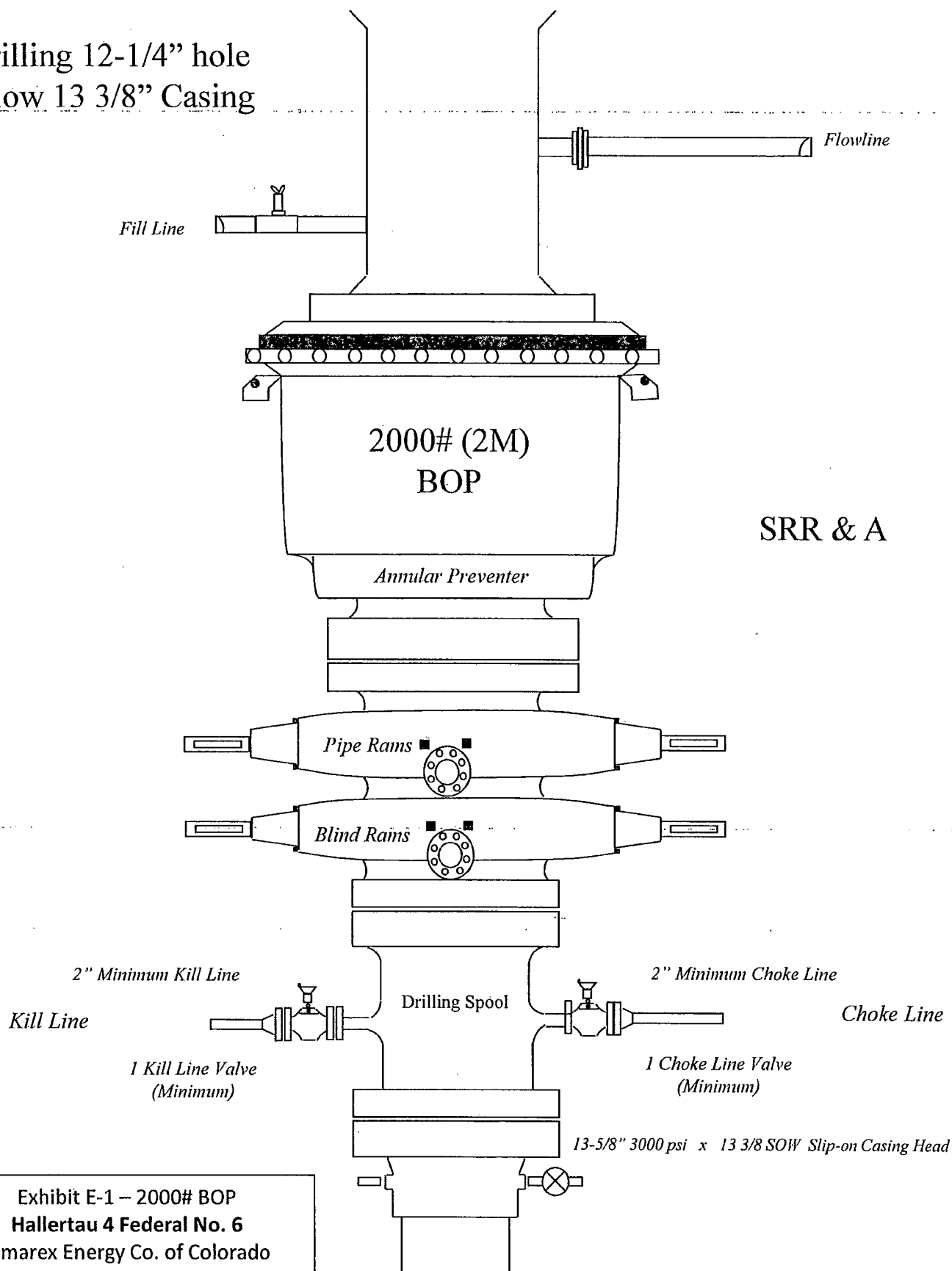
Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (%/100ft)
	13700.00	89.60	179.19	10669.02	3255.24	-3254.92	46.08	389736.63	743311.08	N 32 4 11.24	W 103 40 52.65	3255.24	179.19	0.00
	13800.00	89.60	179.19	10669.72	3355.24	-3354.90	47.49	389636.65	743312.49	N 32 4 10.25	W 103 40 52.64	3355.24	179.19	0.00
	13900.00	89.60	179.19	10670.42	3455.24	-3454.89	48.91	389536.67	743313.91	N 32 4 9.26	W 103 40 52.63	3455.24	179.19	0.00
	14000.00	89.60	179.19	10671.12	3555.23	-3554.88	50.32	389436.69	743315.32	N 32 4 8.27	W 103 40 52.62	3555.23	179.19	0.00
	14100.00	89.60	179.19	10671.82	3655.23	-3654.87	51.74	389336.70	743316.74	N 32 4 7.28	W 103 40 52.61	3655.23	179.19	0.00
	14200.00	89.60	179.19	10672.52	3755.23	-3754.85	53.16	389236.72	743318.15	N 32 4 6.29	W 103 40 52.61	3755.23	179.19	0.00
	14300.00	89.60	179.19	10673.21	3855.23	-3854.84	54.57	389136.74	743319.57	N 32 4 5.30	W 103 40 52.60	3855.23	179.19	0.00
	14400.00	89.60	179.19	10673.91	3955.22	-3954.83	55.99	389036.75	743320.98	N 32 4 4.31	W 103 40 52.59	3955.22	179.19	0.00
	14500.00	89.60	179.19	10674.61	4055.22	-4054.82	57.40	388936.77	743322.40	N 32 4 3.32	W 103 40 52.58	4055.22	179.19	0.00
	14600.00	89.60	179.19	10675.31	4155.22	-4154.80	58.82	388836.79	743323.81	N 32 4 2.33	W 103 40 52.57	4155.22	179.19	0.00
	14700.00	89.60	179.19	10676.01	4255.22	-4254.79	60.23	388736.81	743325.23	N 32 4 1.34	W 103 40 52.56	4255.22	179.19	0.00
	14800.00	89.60	179.19	10676.70	4355.21	-4354.78	61.65	388636.82	743326.65	N 32 4 0.35	W 103 40 52.55	4355.21	179.19	0.00
	14900.00	89.60	179.19	10677.40	4455.21	-4454.77	63.06	388536.84	743328.06	N 32 3 59.36	W 103 40 52.54	4455.21	179.19	0.00
	15000.00	89.60	179.19	10678.10	4555.21	-4554.75	64.48	388436.86	743329.48	N 32 3 58.37	W 103 40 52.53	4555.21	179.19	0.00
	15100.00	89.60	179.19	10678.80	4655.21	-4654.74	65.89	388336.87	743330.89	N 32 3 57.39	W 103 40 52.52	4655.21	179.19	0.00
Cimarex Hallertau 4 Federal #6H - PBHL	15128.88	89.60	179.19	10679.00	4684.09	-4683.62	66.30	388308.00	743331.30	N 32 3 57.10	W 103 40 52.52	4684.09	179.19	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	10172.000	1/100.000	30.000	30.000	SLB_NSG+MSHOT	Original Borehole / Cimarex Hallertau 4 Federal #6H Rev0 TP
	10172.000	15128.879	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Hallertau 4 Federal #6H Rev0 TP

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



SRR & A

Exhibit E-1 – 2000# BOP
Hallertau 4 Federal No. 6
Cimarex Energy Co. of Colorado
4-26S-32E
SHL 330 FNL & 2260 FWL
BHL 330 FSL & 2290 FWL
Lea County, NM
M

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

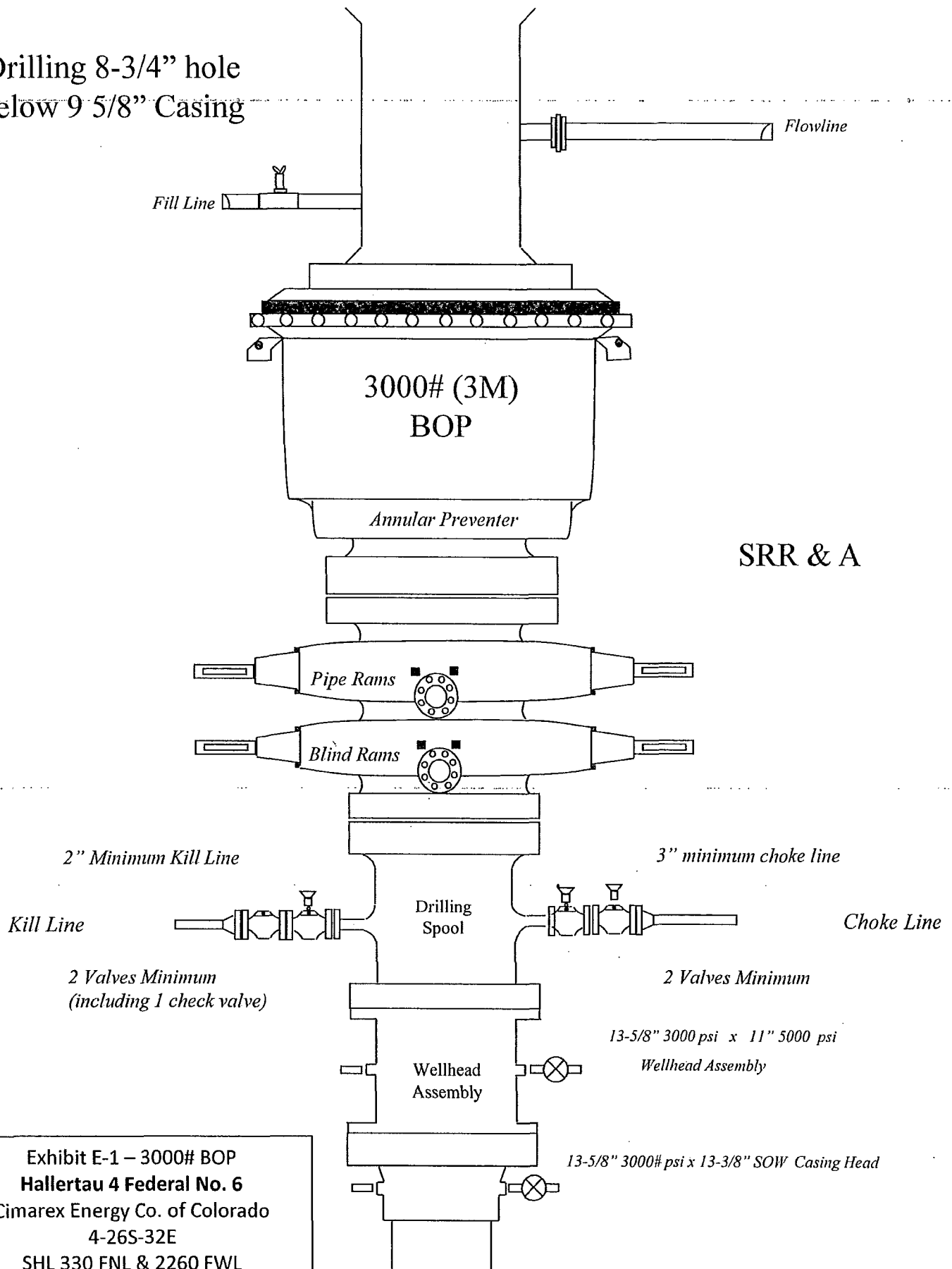
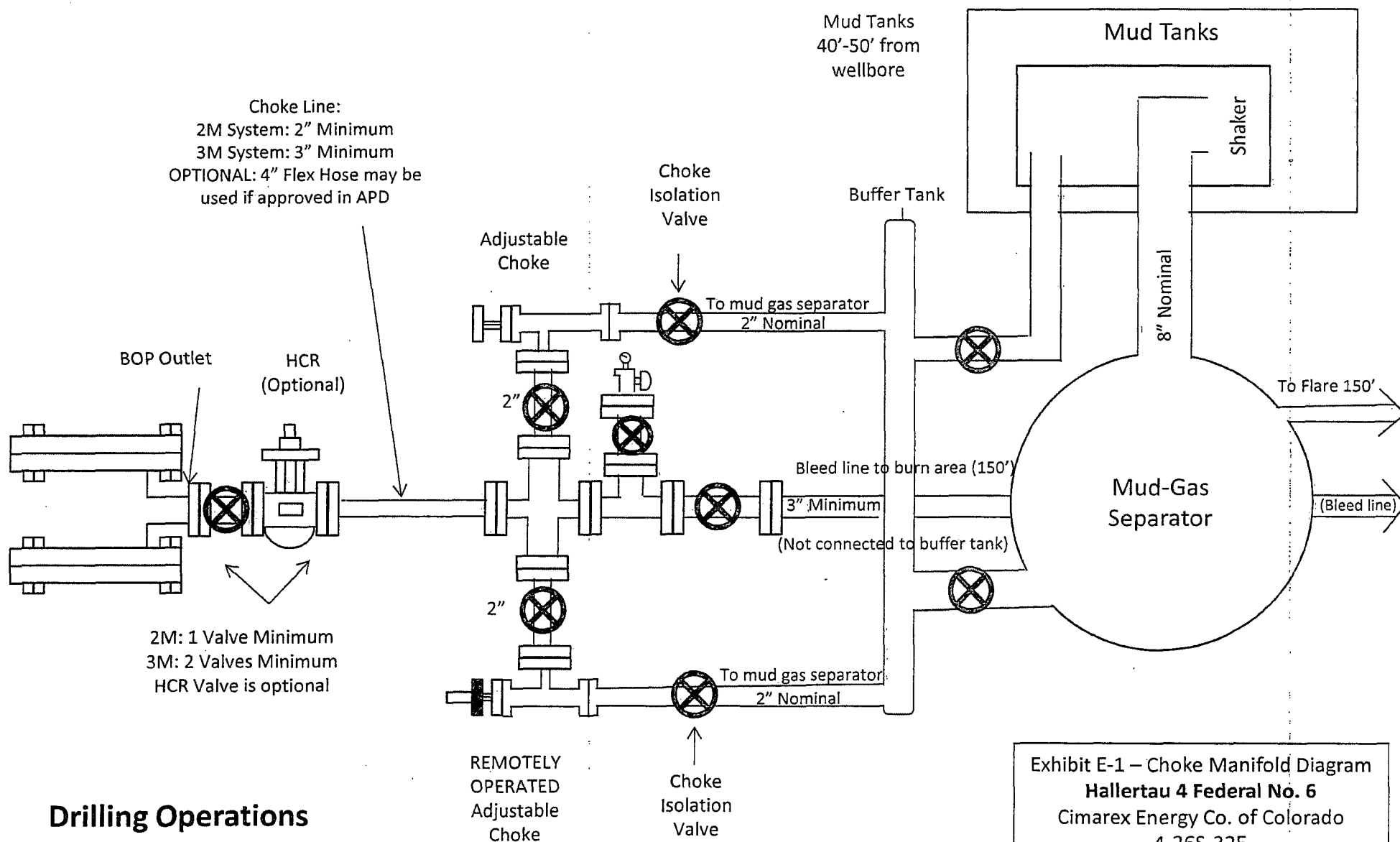


Exhibit E-1 – 3000# BOP
Hallertau 4 Federal No. 6
Cimarex Energy Co. of Colorado
4-26S-32E
SHL 330 FNL & 2260 FWL
BHL 330 FSL & 2290 FWL
Lea County, NM



Drilling Operations Choke Manifold 2M/3M Service

Exhibit E-1 – Choke Manifold Diagram
Hallertau 4 Federal No. 6
 Cimarex Energy Co. of Colorado
 4-26S-32E
 SHL 330 FNL & 2260 FWL
 BHL 330 FSL & 2290 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. James Jones</i>	Approved: <i>Kevin [Signature]</i>



Midwest Hose
& Specialty, Inc.

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

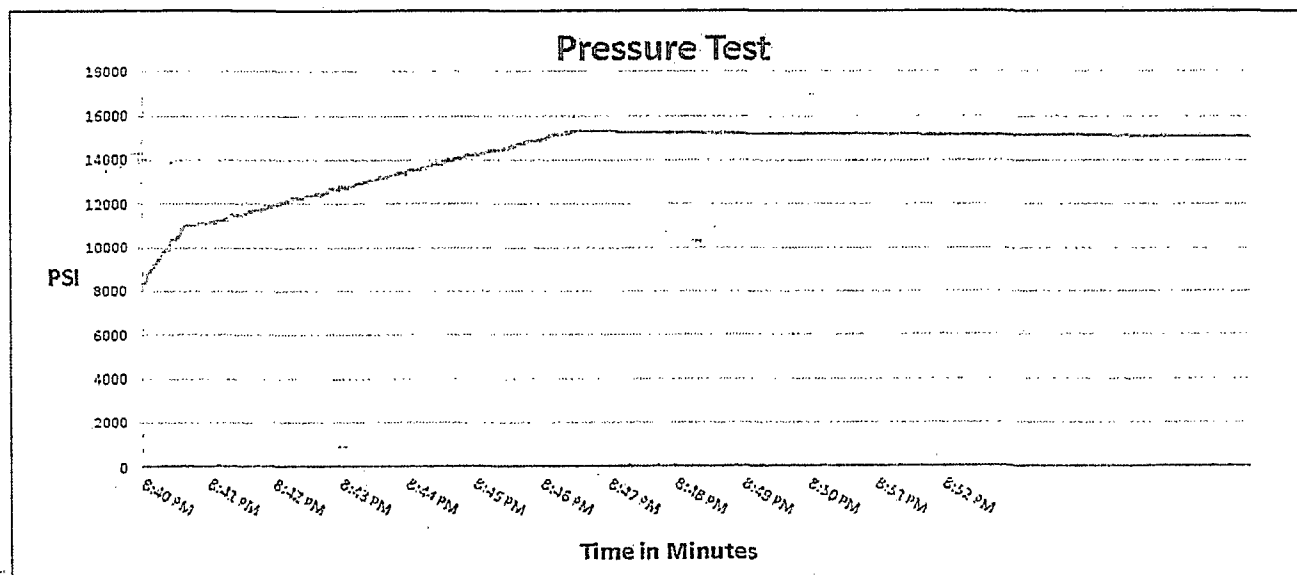
Pick Ticket #: 94260

Hose Specifications

<u>Hose Type</u>	<u>Length</u>
C & K	45'
<u>I.D.</u>	<u>O.D.</u>
4"	6.09"
<u>Working Pressure</u>	<u>Burst Pressure</u>
10000 PSI	Standard Safety Multiplier Applies

Verification

<u>Type of Fitting</u>	<u>Coupling Method</u>
41/16 10K	Swage
<u>Die Size</u>	<u>Final O.D.</u>
6.38"	6.25"
<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
5544	79793



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

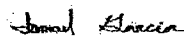
[Signature]

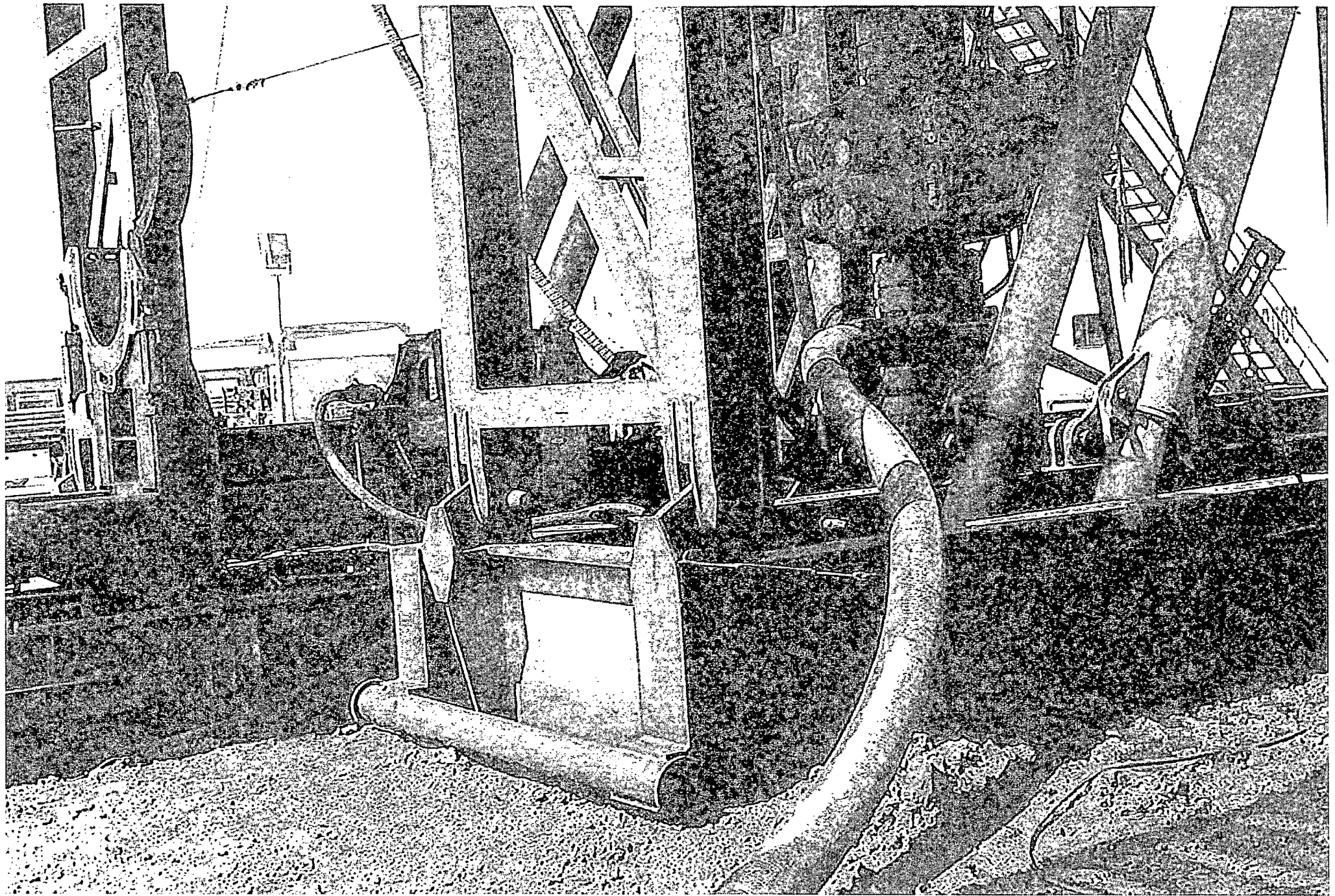
[Signature]

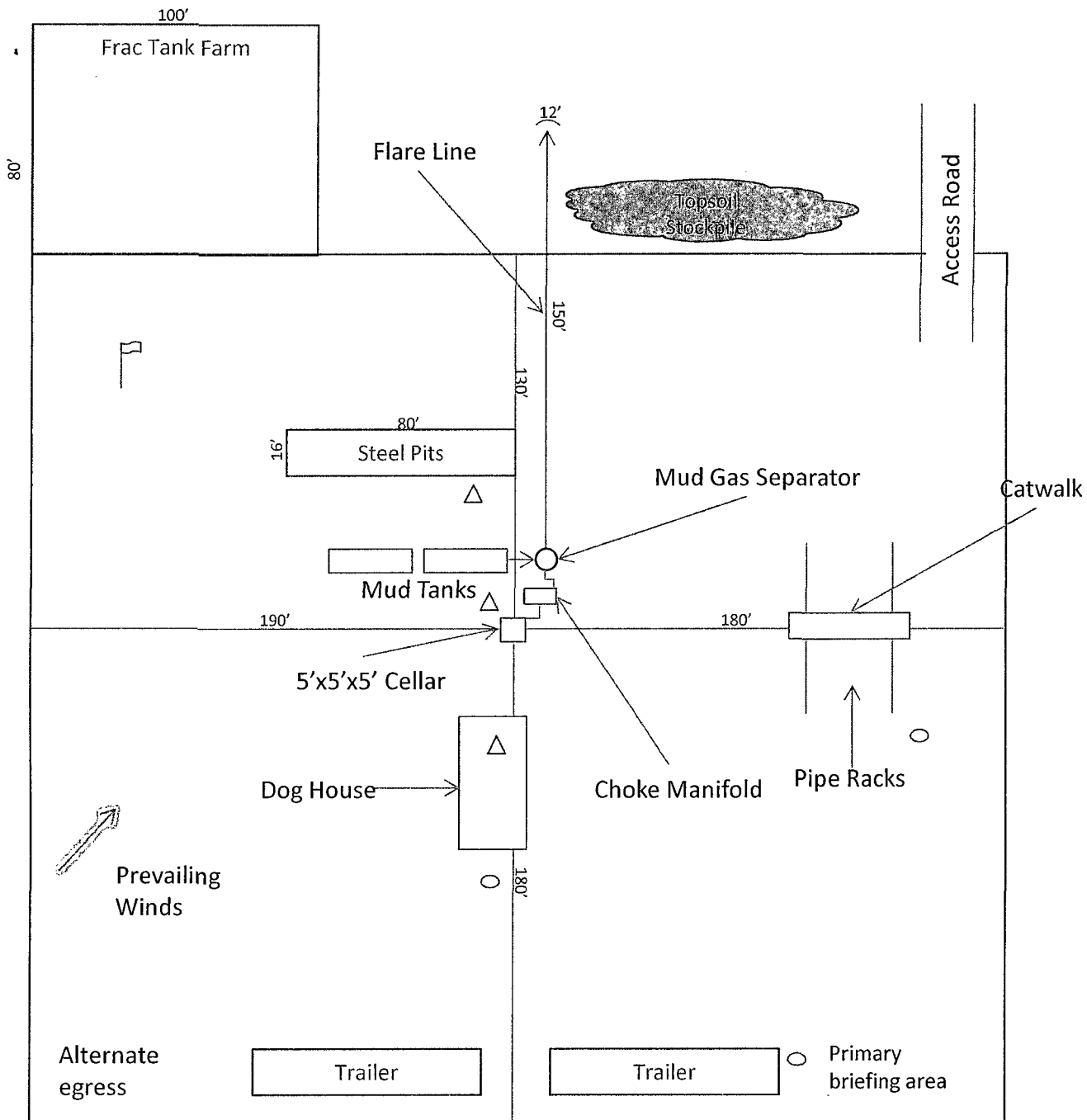


Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer:		PO
DEM		ODYD-271
SPECIFICATIONS		
Sales Order	Dated:	
79793	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





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



Exhibit D – Rig Diagram
Hallertau 4 Federal No. 6
 Cimarex Energy Co. of Colorado
 4-26S-32E
 SHL 330 FNL & 2260 FWL
 BHL 330 FSL & 2290 FWL
 Lea County, NM