			Carlsbad I	Field Offic	e		
		Q	Carlsbad	Artesia	15-276		
			CULATION SERVATION				
		NM OI	CONSERICT RTESIA DISTRICT				
Form 3160-3 March 2012)	; .	A	SEP 21 2015	FORM APP OMB No. 10 Expires Octobe	04-0137		
DEPARTMEN	ED STATES I OF THE INTER AND MANAGEM	IOR	RECEIVED	5. Lease Serial No. Other: Fee; SHL\BHL: N	<u> </u>		
APPLICATION FOR PER		Y	RECE	6. If Indian, Allotee or Tr	be Name		
a. Type of Work DRILL			· · · · .	7. If Unit or CA Agreeme			
Ib. Type of Well Gas Well Gas Well	Other	Single Zor	e Multiple Zone	8. Lease Name and Well Black River 25 Fed C			
Name of Operator Cimarex Energy Co.				9. API Well No.	-43377		
a. Address		No. (include area code)		10. Field and Pool, or Ex	ploratory		
202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 7410.				Wildcat; Bone Spring			
. Location of Well (Report location clearly and in accordant At Surface 192 FSL & 2167 FWL		rrements.*)		11. Sec,. T. R. M. or Blk.	and Survey and Area		
At proposed prod. Zone 330 FNL & 1980 FWI		Bone Sprin	g	25, 24S, 26E			
4. Distance in miles and direction from nearest town or post	office*			12. County or Parish 13. State			
Carlsbad, NM is 17 miles norherly				Eddy	NM		
 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line if any) 192 	16. No of acres in leas NMNM132062=48 Fee=0.00 acres		100.00				
 Distance from proposed* location to nearest well, drilling, completed, 	19. Proposed Depth Pilot Hole TD: N/A		20, BLM/BIA Bond N. RU	ust be in compliand ule 5.9 prior to tran roduct.	sporting/selling		
applied for, on this lease, ft. 40' to the #1H	11.700 MD	7,195 TVD	NMB001188	AD			
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date	work will start*	23. Estimated duration	-			
3312 GR	12/	29/14	35	5 days			
		24. Attachments	<u></u>				
The following, completed in accordance with the requirement Well plat certified by a registered surveyor	s of Onshore Oil and Ga		ached to this form: cover the operations unless cov	ered by an existing bond on file	e (see Item 20 above).		
 A Drilling Plan A Surface Use Plan (if the location is on National Fores SUPO shall be filed with the appropriate Forest Service 			Certification er site specific information and		the authorized officer.		
25. Signature	Nan	ne (Printed/Typed)		Date			
Title	~	Aricka E	asterling	12/8/1	4		
Regulatory Compliance	Nau	ne (Printed/Turned)	· .	SEP 1	2013		
		ne (Printed/Typed)					
Approved By (Signature)	- HY 10m	UAILODE	DILLUVI	entitle the applicant to	· · · · · · · · · · · · · · · · · · ·		
Title FIELD MANAGE Application approval does not warrant or certify that the appli- conduct operations thereon.	cant holds legal or equita				•:		
Fite FIELD MANAGE Application approval does not warrant or certify that the appli conduct operations thereon. Conditions of approval, if any, are attached. Fitle 18 U.S.S. Section 1001 and Title 43 U.S.C. Section 121	cant holds legal or equita APPR 2, make it a crime for an	OVAL FOR T	WO YEARS	THE STREET			
Fite FIELD MANAGE Application approval does not warrant or certify that the appli conduct operations thereon. Conditions of approval, if any, are attached.	cant holds legal or equita APPR 2, make it a crime for an intations as to any matter	OVAL FOR T	WO YEARS	nent or agency of the United	ECT TO REMENTS		

Operator Certification Statement Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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.

I am responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43, 25 or 36 CFR for lease activities is being provided by Cimarex Energy Co. under their (Lease, Statewide, Nationwide, Unit or Permit) Bond, BLM/BIA/FS Bond No. <u>NMB001188</u>.

Executed_this 8 day of _ December NAME: Aricka Easterling

TITLE: Regulatory Compliance ADDRESS: 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103 TELEPHONE: 918-585-1100 EMAIL: AEasterling@cimarex.com Field Representative: Same as above



BEGINNING AT THE INTERSECTION OF OLD CAVERN HIGHWAY/CR 748 AND HIGHWAY 720 LOCATED IN THE SE 1/4 OF SECTION 6, T24S, R27E, N.M.P.M. PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 3.9 MILES TO THE THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE WEST; TURN RIGHT AND PROCEED IN A WESTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 0.9 MILES TO THE BEGINNING OF THE PROPOSED ACCESS FOR THE BLACK RIVER 25 FEDERAL COM 3H WELL PAD TO THE NORTHWEST; FOLLOW ROAD FLAGS IN A NORTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 2378' TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 1588' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF OLD CAVERN HIGHWAY/CR 748 AND HIGHWAY 720 LOCATED IN THE SE 1/4 OF SECTION 6, T24S, R27E, N.M.P.M. TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 5.5 MILES.

CIMAREX ENERGY CO.

BLACK RIVER 25 FEDERAL COM 1H & 2H SECTION 25, T24S, R26E, N.M.P.M. SE 1/4 SW 1/4

UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 DRAWN BY: M.M.

DATE DRAWN: 09-15-14 REV: 10-10-14

ROAVD DESCRIPTION





















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1. Geological Formations

TVD of target 7,195Pilot Hole TD N/AMD at TD 11,790Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards	
Rustler	<i>: : :</i> 0	N/A i i i	÷:::::	1 1 1
OSE Groundwater	50	N/A		
Salado	1225	N/A		
Castille ⁻	1822	N/A ·		
Bell Canyon	2031	N/A		
Delaware	· · · · 2031	N/A:		
Cherry Canyon	2983	N/A .		
Brushy Canyon	3989	N/A		•
Brushy Canyon Lower	5357	N/A		
Bone Spring	5528	Hydrocarbons		
Bone Spring A Shale	. 5618	Hydrocarbons		
Bone Spring C Shale	5930	Hydrocarbons		
1st Bone Spring Ss	6474	Hydrocarbons		
2nd Bone Spring Ss	6889	Hydrocarbons		
2nd BS Ss Horz Target	7225	Hydrocarbons		
3rd BS Limestone	7286	Hydrocarbons		

2. Casing Program

Hole Size	Casing Depth From	Casing Depth	Casing: Ŝize	(15/14)	Grade	Çonn:	SF, Collapse	SF Burst	SF Tension
17 1/2		450	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	3.59	8.40	14.91
12 1/4	0	2011	9-5/8"	36.00	J-55	LT&C	1.89	3.30	6.26
8 3/4	. ó	6700	5-1/2"	17.00	00 L-80 LT&C		1.96	2.41	2.76
8 3/4	6700	11790	5-1/2"	17.00	L-80	BT&C	1.83	2.25	. 47.18
				BLM	Minimum Sa	ifety Factor	1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Cimarex Energy Co., Black River 25 Fed Com #2H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1 4	Y
Does casing meet API specifications? If no, attach casing specification sheet.	N
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Ŷ.
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	Y
If yes, are there two strings cemented to surface?	Y
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N

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3. Cementing Program

1436---

Casing	# Sks	Wt. Ib/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description					
Surface	91	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite					
: : :	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM	· · · · · · · · · · · · · · · · · · ·				
Intermediate	380	12.90	1.88	9.65	30	Lead: 35:65 (Poz:C) + Salt + Ben	tonite				
	118	14.80	1.34	6.32	6.32 9.5 Tail: Class C + LCM						
Production	654	10.80	2.35	9.60	17:43	Lead: Tuned Light I Class H					
	1089	14.20	1.30	5.86	5.86 14:30 Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS						
•											
Casing String	ىغۇرىيى بەرمىرىي ئۇلۇچى ئ	ж. "«т 2. – ст 2. – ст	5 k. 19	TOC			% Excess				
Surface .						0	3:				
Surface .						0	33				
Intermediate						0	4.				
Intermediate					0						
Production	•					1811	1				
Production					· .	1811					

4. Pressure Control Equipment

[A variance is requested for t	he use of a diverter on t	he surface casing. See at	tached for schematic.	· · · · · · · · · · · · · · · · · · ·	
÷	BOP installed and tested before drilling which hole?	Siže	Min, Required WP	Type		Tested To
Ī	12 1/4	13 5/8	2M	Annular	x	50% of working pressure
				Blind Ram	x	
				Pipe Ram		2M
	· · · · ·		· · ·	Double Ram	X	
	•			Other		
	8 3/4	13 5/8	3M	Annular	. X	50% of working pressure
*	· .			Blind Ram	X	
				Pipe Ram		3M
			•	Double Ram	Х	
	Men.			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Formation integrity test will be performed per Onshore Order #2.

On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.

X A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.

N Are anchors required by manufacturer?

5. Mud Program

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0' to 450'	FW Spud Mud	8.30 - 8.80	28	N/C
450' to 2011'	Brine Water	9.70 - 10.20	30-32	N/C
2011' to 11790'	FW/Cut Brine	8.70 - 9.20	30-32	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid? PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

 Logging: Coring and Testing

 X
 Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.

 No logs are planned based on well control or offset log information.

 Drill stem test?

 Coring?

Additional Logs Planned

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	3238 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM. X H2S is present

X H2S plan is attached

8. Other Facets of Operation

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Ne.	I. K.V.	736
	Adder Port	

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Cimarex Black River 25 Fed Com 2H Rev1 mcs 20Nov14 Proposal Geodetic

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PATHEINDER

		Unitares L		251 60 60		lev i mes zun	10V 14 FT	opusai Ge	ouelic						
					Rep	ort								• •,	
					(Non-De										
					(
Report Date:		November 20, 2014	- 11:53 AM			Survey / DLS Computat	tion: Mit	nimum Curvature /	Lubinski			•		•.	
Client:		Cimarex				Vertical Section Azimut	th: 35	6.949 ° (Grid North)						
Field:		NM Eddy County (N	AD 83)			Vertical Section Origin:	0.0	000 ft, 0.000 ft							
Structure / Slot:	÷	Čimarex Black River 2H	r 25 Fed Com 2H / (Cimarex Black River	25 Fed Com	TVD Reference Datum:	Gr	ound Level							
Well:		Cimarex Black River	r 25 Fed Com 2H			TVD Reference Elevatio	on: 33	12.800 ft above							
Borehole:		Original Borehole				Seabed / Ground Eleval	tion: 33	12.800 ft above							
UWI / API#:		Unknown / Unknowi				Magnetic Declination:		′23 °							
Survey Name:		Cimarex Black River	r 25 Fed Com 2H Re	ev1 mcs 20Nov14		Total Gravity Field Stree	-	8.4421mgn (9.8066	35 Based)						
Survey Date: Tort / AHD / DDI / ERD	Dation	October 02, 2014 97.806 ° / 4830.282	H / E 997 / 0 660			Gravity Model:		RM							
Coordinate Reference		NAD83 New Mexico		ro Zopa LIS East		Total Magnetic Field Str Magnetic Dip Angle:		276.211 nT .969 °							
Location Lat / Long:		N 32° 10' 53.08041			-	Declination Date:		vember 20, 2014				•			
Location Grid N/E Y/X	:	N 429742.530 ftUS,				Magnetic Declination M		GM 2014							
CRS Grid Convergend	ce Angle:	0.0454 °				North Reference:		id North							
Grid Scale Factor:		0.99990989				Grid Convergence Used)454 °				•		·.*	
Version / Patch:		2.7.1043.0				Total Corr Mag North->(Grid North: 7.6	775 °							
						Local Coord Reference		ucture Reference F	Point						
							u 10. 00		onn					•	
	MD	Incl	Azim Grid	TVD	TVDSS	VSEC	NS	EW	DLS	Closure	Closure	Northing	Easting	Latitude	Longitude
Comments	(ft)		(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(%100ft)	Azimuth	(ft)	(ftUS)	(ftUS)	(N/S ° ' ")	(E/W °' ")
SHL: 2166'FWL										(°)					
192'FSL	0.00		333.40	0.00	-3312.80	0.00	0.00	0.00	N/A	0.00	0.00	429742.53		N 32 10 53.08 V	
	100.00 200.00		333.40 333.40	100.00 200.00	-3212.80 -3112.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	300.00		333.40	300.00	-3012.80	0.00 0.00	0,00 0,00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 , 0.00	429742.53 429742.53		N 32 10 53.08 V N 32 10 53.08 V	
	400,00		333.40	400.00	-2912.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N,32 10 53.08 V	
															•
	500.00		333.40	500.00	-2812.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	600.00 700.00		333.40 333.40	600.00 700.00	-2712.80 -2612.80	0.00	. 0.00 0.00	0.00	0.00 0.00	0.00	0.00	429742.53 429742.53		N. 32 10 53.08 V N 32 10 53.08 V	
	800.00		333.40	800.00	-2512.80	0.00	0.00	0.00 0.00	0.00	0.00 0.00	0.00	429742.53		N 32 10 53.08 V	
	900.00	0.00	333.40	900.00	-2412.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
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	1000.00	0.00	333.40	1000.00	-2312.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	1100.00 1200.00	0.00 0.00	333.40 333.40	1100.00 1200.00	-2212.80 -2112.80	0.00 0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 V N=32 10 53.08 V	
	1300.00	0.00	333.40	1300.00	-2012.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	1400.00	0.00	333.40	1400.00	-1912.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
												· ·			
	1500.00	0.00	333.40	1500.00	-1812.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	1600.00 1700.00	0.00 0.00	333.40 333.40	1600.00 1700.00	-1712.80 -1612.80	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 W N 32 10 53.08 W	
	1800.00	0.00	333.40	1800.00	-1512.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53 08 W	
	1900.00	0.00	333.40	1900.00	-1412.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 W	
		0.00	000.40												
	2000.00 2100.00	0.00	333.40 333.40	2000.00 2100.00	-1312.80 -1212.80	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0,00	0.00	0.00 0.00	429742.53 429742.53		N ¹¹ 32 10 53.08 W N 32 10 53.08 W	
	. 2200.00	0.00	333.40	2200.00	-1112.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	2300.00	0.00	333.40	2300.00	-1012.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N32 10 53.08 V	
	2400.00	0.00	333.40	2400.00	-912.80	0.00	0.00 .	0:00	0.00	0.00	0.00	429742.53	567700.99	N 32 10 53.08 W	/ 104 14 53.23
	2500.00	0.00	333.40	2500.00	-812.80	0.00	0.00	0,00	0.00	0.00	0.00	429742.53	567700 99	N., 32 10 53.08 V	/ 104 14 53 23
	2600.00	0.00	333.40	2600.00	-712.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 W	
	2700.00	0.00	333.40	2700.00	-612.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 W	
	2800.00	0.00	333.40	2800.00	-512.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 V	
	2900.00	0.00	333.40	2900.00	-412.80	0.00	0.00	0.00	. 0.00	0.00	0.00	429742.53	567700.99	N ²³² 10 53,08 W	/ 104 14 53.23
	3000.00	0.00	333.40	3000.00	-312.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53	567700 99	N 32 10 53.08 W	/ 104 14 53 23
	3100.00	0.00	333.40	3100.00	-212.80	0.00	0.00	0.00	0.00	0.00	0.00	429742.53		N 32 10 53.08 W	

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Comments	MD (ft)	inci (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude ., (N/S ° ' '')	Longitude (E/W ° ','')
	3200.00 3300.00 3400.00	0,00 0.00 0.00	333.40 333.40 333.40	3200.00 3300.00 3400.00	-112.80 -12.80 87.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99 567700.99 567700.99	N 32 10 53.08 N 32 10 53.08 N- 32 10 53.08	W 104 14 53.23
	3500.00 3600.00	0.00 0.00	333.40 333.40	3500.00 3600.00	187.20 287.20	0.00 0.00	0.00 0.00	0.00 0.00 -	0.00 0.00	0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 N., 32 10 53.08	
	3700.00 3800.00 3900.00	0,00 0.00 0.00	333.40 333.40 333.40	3700.00 3800.00 3900.00	387.20 487.20 587.20	0,00 0,00 0,00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 - 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99	N 32 10 53.08 N 32 10 53.08 N 32 10 53.08	W 104 14 53.23
	4000.00 4100.00	0.00 0.00	333.40 333.40	4000.00 4100.00	687.20 787.20	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 N 32 10 53.08	
	4200.00 4300.00 4400.00	0.00 0.00 0.00	333.40 333.40 333.40	4200.00 4300.00 4400.00	887.20 987.20 1087.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0,00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99	N * 32 10 53.08 N 32 10 53.08 N 32 10 53.08	W 104 14 53.23
	4500.00 4600.00	0.00 0.00	333.40 333.40	4500.00 4600.00	1187.20 1287.20	0.00 0.00	0.00	0.00 0.00	0.00 0.00	` 0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 N 32 10 53.08	
	4700.00 4800.00 4900.00	0.00 0.00 0.00	333.40 333.40 333.40	4700.00 4800.00 4900.00	1387.20 1487.20 1587.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99 567700.99	N 32 10 53.08 N 32 10 53.08 N 32 10 53.08	W 104 14 53.23 W 104 14 53.23
	5000.00 5100.00 5200.00	0.00 0.00 0.00	333.40 333.40 333.40	5000.00 5100.00 5200.00	1687.20 1787.20 1887.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99	N * 32 10 53.08 N 32 10 53.08	W 104 14 53.23
	5300.00 5400.00	0.00 0.00	333.40 333.40	5300.00 5400.00	1987.20 2087.20	0.00	0.00	0.00	0.00	0.00 0.00	0.00	429742.53 429742.53 429742.53	567700.99	N 32 10 53.08 N 32 10 53.08 N 32 10 53.08	W 104 14 53.23
	5500.00 5600.00 5700.00	0.00 0.00 0.00	333.40 333.40 333.40	5500.00 5600.00 5700.00	2187.20 2287.20 2387.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	. 0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99	N., 32 10 53.08 N. 32 10 53.08 N. 32 10 53.08	W 104 14 53.23
	5800.00 5900.00	0.00 0.00	333.40 333.40	5800.00 5900.00	2487.20 2587.20	0.00	0.00	0.00	0.00	0.00	0.00	4297 <u>42</u> .53 429742.53	567700.99	N 32 10 53.08 N" 32 10 53.08	W 104 14 53.23
	6000.00 6100.00 6200.00	0.00 0.00 0.00	333.40 333.40 333.40	6000.00 6100.00 6200.00	2687.20 2787.20 2887.20	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	429742.53 429742.53 429742.53	567700.99	N 32 10 53.08 N 32 10 53.08 N 32 10 53.08	W 104 14 53.23
	6300.00 6400.00	0.00 0.00	333.40 333.40	6300.00 6400.00	2987.20 3087.20	0.00 0.00	0.00 0.00	0.00	0.00 .000	0.00 0.00	0.00 0.00	429742.53 429742.53		N 32 10 53.08 N., 32 10 53.08	
Build 10%100	6500.00 6600.00 6627.50	0.00 0.00 0.00	333.40 333.40 333.40	6500.00 6600.00 6627.50	3187.20 3287.20	0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00	0.00	429742.53 429742.53	567700.99	N 32 10 53.08 N 32 10 53.08	W 104 14 53.23
DLS	6700.00 6800.00	7.25 17.25	333.40 333.40 333.40	6699.81 6797.41	3314.70 3387.01 3484.61	0.00 4.20 23.63	0.00 4.10 23.04	0.00 -2.05 -11.54	0.00 10.00 10.00	0.00 333.40 333.40	0.00 4.58 25.77	429742.53 429746.63 429765.57	567698.94	N 32 10 53.08 ¹ N 32 10 53.12 ¹ N 32 10 53.31 ¹	W 104 14 53.25
	6900.00 7000.00 7100.00	27.25 37.25 47.25	333.40 333.40 333.40	6889.84 6974.31 7048.24	3577.04 3661.51 3735.44	58.29 107.15 168.71	56.86 104.51 164.55	-28.47 -52.34 -82.40	10.00 10.00 10.00	333.40 333.40 333.40	63.59 116.88 184.03	429799.38 429847.03 429907.07	567648.66	N 32 10 53.64 N 32 10 54.11 N 32 10 54.71	W 104 14 53.83
Build/Turn 10°/100' DLS	7177.50	55.00	333.40	7096.84	3784.04	223.97	218.46	-109.40	10.00	333.40	244.32	429960.97	567591.60	N 32 10 55.24	W 104 14 54.50
	7200.00	56.74 64.73	335.12 342.03	7109.46	3796.66 3845.56	241.16 323.87	235.24	-117.48	. 10.00	333.46	262.94	429977.75		N 32 10 55.41	
	7400.00 7500.00 7600.00	72.99 81.42 89.92	348.08 353.60 358.88	7194.42 7216.56 7224.11	3845.56 3881.62 3903.76 3911.31	415.03 511.88 611.46	316,38 406.40 502.56 601.94	-149.10 -172.98 -188.41 -194.91	10.00 10.00 10.00 10.00	334.77 336.94 339.45 342.06	349.76 441.69 536.72 632.71	430058.89 430148.90 430245.05 430344.41	567528.02 567512.60	N 32 10 56.21 N 32 10 57.10 N 32 10 58.05 N 32 10 59.04	W 104 14 55.24 W 104 14 55.41
Landing Point: 1980'FWL	7605.56	90.40	359.17	7224.09	3911.29	617.02	607.50	-195.01	10.00	342.20	638.03	430349.97		N 32 10 59.09	
	7700.00 7800.00 7900.00 8000.00 8100.00	90.40 90.40 90.40 90.40 90.40	359.17 359.17 359.17 359.17 359.17	7223.43 7222.74 7222.04 7221.35 7220.65	3910.63 3909.94 3909.24 3908.55 3907.85	711.38 811.30 911.22 1011.15 1111.07	701.92 801.91 901.90 1001.89 1101.87	-196.37 -197.81 -199.25 -200.70 -202.14	0.00 0.00 0.00 0.00 0.00	344.37 346.14 347.54 348.67 349.60	728.88 825.95 923.65 1021.79 1120.26	430444.39 430544.37 430644.35 430744.32 430844.30	567503.20 567501.76 567500.31	N32 11 0.03 V N 32 11 1.02 V N 32 11 2.01 V N 32 11 3.00 V N 32 11 3.99 V	W 104 14 55.52 W 104 14 55.54 W 104 14 55.55
	8200.00 8300.00 8400.00	90.40 90.40 90.40	359.17 359.17 359:17	7219.96 7219.26 7218.57	3907.16 3906.46 3905.77	1210.99 1310.91 1410.84	1201.86 1301.85 1401.83	-203.58 -205.02 -206.46	0.00 0.00 0.00	350:39 351.05 351.62	1218.98 1317.89 1416.96	430944.28 431044.26 431144.24	567495.99	N 32 11 4.97 N 32 11 5.96 N 32 11 6.95	W 104 14 55.60

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	DVT (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Closure Azimuth (°)	Closure (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' '')
<u>.</u>	8500.00	90,40	359.17	7217.87	3905.07	1510.76	1501.82	-207.91	0.00	352.12	1516,14	431244.21	567493.10	N 32 11 7.94 W	/ 104 14 55.63
	8600.00	90.40	359.17	7217.18	3904.38	1610.68	1601.81	-209.35	0.00	352.55	1615.43	431344.19		N. 32 11 8.93 W	
	8700.00	90.40	359.17	7216.48	3903.68	1710.60	1701.80	-210.79	. 0.00	352.94	1714.80	431444.17		N 3211 9.92 W	
	8800.00	90.40	359.17	7215.79	3902.99	1810.52	1801.78°	-212.23	0.00	353.28	1814.24	431544.15		N 32 11 10.91 W	
	8900.00	90.40	359.17	7215.09	3902.29	1910.45	1901.77	-213.67	0.00	353.59	1913.74	431644.13		N 32 11 11.90 W	
	9000.00	90.40	359.17	7214.40	3901.60	2010.37	2001.76	-215.12	0.00	353.87	2013.28	431744.10		N 321112.89 W	
	9100.00	90.40	359.17	7213.70	3900.90	2110.29	2101.75	-216.56	0.00	354.12	2112.87	431844.08	567484.45	N 32 11 13.88 W	/ 104 14 55.73
	9200.00	90.40	359.17	7213.01	3900.21	2210.21	2201.73	-218.00	0.00	354.35	2212.50	431944.06		N 321114.87 W	
	9300.00	90.40	359.17	7212.31	3899.51	2310.14	2301.72	-219.44	0.00	354.55	2312.16	432044.04		N 321115.86 W	
	9400.00	90.40	359.17	7211.62	3898.82	2410.06	2401.71	-220.89	0.00	354.75	2411.84	432144.02	567480.13	N • 32 11 16.85 W	/ 104 14 55.77
	9500,00	90.40	359.17	7210.92	3898.12	2509.98	2501.69	-222.33	0.00	354.92	2511.55	432243.99	567478.68	N 321117.84 W	/ 104 14 55.79
	9600.00	90.40	359.17	7210.22	3897.42	2609.90	2601.68	-223.77	0.00	355.08	2611,29	432343.97	567477.24	N 321118.83 W	/ 104 14 55.81
	9700.00	90.40	359.17	7209.53	3896,73	2709.83	2701.67	-225.21	0.00	355.23	2711.04	432443.95	567475 00	N 32 11 19.82 W	1 104 14 55 92
	9800.00	90.40	359.17	7208.83	3896.03	2809.75	2801.66	-226.65	0.00	355.37	2810.81	432543.93		N 32 11 20.81 W	
	9900.00	90.40	359.17	7208.14	3895.34	2909.67	2901.64	-228.10	0.00	355.51	2910.59	432643.91		N 32 11 20.01 W	
	10000.00	90.40	359.17	7208.14	3894.64	3009.59	3001.63	-229.54	0.00	355.63	3010.39	432743.88		N ^{°°} 32 11 22.78 W	
	10100.00	90.40	359.17	7206.75	3893.95	3109.59	3101.62	-229.54	0.00	355.63	3110.21	432843.86		N 32 11 23.77 W	
	10100.00	30.40	355.17	7200.75	3033.33	3109.01	3101.02	-230.98	0.00		5110.21	432043.00	507470.05	N 52 11 25.77 V	/ 104 14 33.85
	10200.00	90.40	359.17	7206.05	3893.25	3209.44	3201.60	-232.42	0.00	355.85	3210.03	432943.84		N 32 11 24.76 W	
	10300.00	90.40	359.17	7205.36	3892.56	3309.36	3301.59	-233.86	0.00	355.95	3309.86	433043.82	567467.15	N 32 11 25.75 W	/ 104 14 55.92
	10400.00	90.40	359.17	7204.66	3891.86	3409.28	3401.58	-235.31	0.00	356.04	3409.71	433143.80	567465.71	N 321126.74 W	/ 104 14 55.93 ·
	10500.00	90.40	359.17	7203.97	3891.17	3509.20	3501.57	-236.75	0.00	356.13	3509.56	433243.77	567464.26	N, 32 11 27.73 W	/ 104 14 55.95
	10600.00	90.40	359.17	7203.27	3890.47	3609.13	3601.55	-238.19	0.00	356.22	3609.42	433343.75	567462.82	N 321128.72 W	/ 104 14 55.96
	10700.00	90.40	359.17	7202.58	3889,78	3709.05	3701.54	-239.63	0.00	356.30	3709.29	433443.73	567461.38	N. 32 11 29.71 W	/ 104 14 55.98
	10800.00	90.40	359.17	7201.88	3889.08	3808.97	3801.53	-241.08	0.00	356.37	3809.16	433543.71	567459.94	N 32 11 30.70 W	/ 104 14 56.00
	10900.00	90.40	359.17	7201.19	3888.39	3908.89	3901.51	-242.52	0.00	356.44	3909.04	433643.69	567458.49	N 32 11 31.69 W	/ 104 14 56.01
	11000.00	90.40	359.17	7200.49	3887.69	4008.81	4001.50	-243.96	0.00	356.51	4008.93	433743.66	567457.05	N 321132.68 W	/ 104 14 56.03
	11100.00	90.40	359.17	7199.80	3887.00	4108.74	4101.49	-245.40	0.00	356.58	4108.82	433843.64	567455.61	N**32 11 33.67 W	/.104 14 56.04
	11200.00	90.40	359.17	7199.10	3886.30	4208.66	4201.48	-246.84	0.00	356.64	4208.72	433943.62	567454.17	N 32 11 34.66 W	104 14 56.06
	11300.00	90.40	359.17	7198.41	3885.61	4308,58	4301.46	-248.29	0.00	356,70	4308.62	434043.60	567452.73	N32 11 35.65 W	104 14 56.08
	11400.00	90.40	359.17	7197:71	3884.91	4408.50	4401.45	-249.73	0.00	356.75	4408.53	434143.58		N 32 11 36.64 W	
	11500.00	90.40	359.17	7197.02	3884.22	4508,43	4501.44	-251,17	0.00	356.81	4508.44	434243.55		N 32 11 37.62 W	
	11600.00	90.40	359.17	7196.32	3883.52	4608.35	4601.42	-252.61	0.00	356.86	4608.35	434343.53		N_ 32 11 38.61 W	
	11700.00	90.40	359.17	7195.63	3882.83	4708.27	4701.41	-254.05	0.00	356.91	4708.27	434443.51	567446.96	N. 32 11 39.60 W	/ 104 14 56.14
PBHL:													•		
1980'FWL 330'FNL	11790.07	90.40	· 359.17	7195.00	3882.20	4798.27	4791.47	-255.35	0.00	356.95	4798.27	434533.56	567445.66	N ^{**} 32 11 40.49 W	/ 104 14 56.15
SOUTHE															

Survey Type:

Non-Def Plan

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

Survey Error Model: Survey Program:

Description	Part	MD From	MD To	EOU Freq Hole Size Casing Diameter		Survey Tool Type	Borehole / Survey	
besenption	Fait	(ft)	(ft)	(ft)	(in)	(in)	Survey root type	Borenole / Barvey
	1	0.000	11790.071	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Black River 25 Fed Com 2H Rev1 mcs

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Exhibit F – Co-Flex Hose Black River 25 Fed Com 2H Cimarex Energy Co. 25-24S-26E Eddy County, NM



Exhibit F-1 – Co-Flex Hose Hydrostatic Te Black River 25 Fed Com 2H Cimarex Energy Co. 25-24S-26E Eddy County, NM



Midwest Hose & Specialty, Inc.

INTERNAL	HYDROST	ATIC TEST	REPORT		
Customer: Oc	lerco Inc		P.O. Number odyd-2		
	HOSE SPECI	ICATIONS			
Type: Stainless S Choke & Ki			Hose Length:	45'ft.	
I.D. 4	INCHES	 O D.		INCHES	
WORKING PRESSURE	TEST PRESSUR		BURST PRESSUR	• •	
10,000 PSI	15,000	PSI	0	PSI	
	COUF	LINGS			
Stem Part No. OKC OKC	Ferrule No. OKC OKC				
Type of Coupling:			· · · · · · · · · · · · · · · · · · ·	-	
Swage-It					
	PROC	EDURE			
Hose assembly.	pressure tested wi	th water at ambien	t temperature		
	TEST PRESSURE		URST PRESSURE:		
15	MIN.		O	PSI	
Hose Assembly Seria 79793	Hose Serial Number: OKC				
Comments:			<u> </u>		
Date: 3/8/2011	Tested: (1.	Journe Some	Approved:	let-	



Cir	t F-2 – Co-Flex Hose River 25 Fed Com 2H harex Energy Co. 25-24S-26E ddy County, NM	Mr		
	Midw & Spe	æst Hose cialty, Inc		
	Certificate	of Conform	nity	
	Customer: DEM	3	PO ODYD-271	
	SPECI	FICATIONS		
	Sales Order 79793	Dated:	3/8/2011	
			· · · · · · · · · · · · · · · · · · ·	
	We hereby cerify that t	ho motorial o		
	for the referenced purc according to the require order and current indus	hase order to ements of the	be true purchase	
	for the referenced purc according to the require	hase order to ements of the stry standards	be true purchase	
	for the referenced purc according to the require order and current indus Supplier: Midwest Hose & Specie 10640 Tanner Road	hase order to ements of the stry standards	be true purchase	
	for the referenced purc according to the require order and current indus Supplier: Midwest Hose & Specie 10640 Tanner Road	hase order to ements of the stry standards	be true purchase	

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Exhibit F -3- Co-Flex Hose Black River 25 Fed Com 2H Cimarex Energy Co. 25-24S-26E Eddy County, NM

Midwest Hose & Specialty. Inc.

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 vermculite 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, unibolt 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)

P.O. Box 96558 - 1421 S.E. 29th St. Oklahoma City, OK 73143 * (405) 670-6718 * Fax: (405) 670-6816



Hydrogen Sulfide Drilling Operations Plan Black River 25 Federal Com 2H Cimarex Energy Co.

UL: N, Sec. 25, 24S, 26E Eddy Co., NM

1 All Company and Contract personnel admitted on location must be trained by a qualified

H2S safety instructor to the following:

- A. Characteristics of H₂S
- B. Physical effects and hazards
- C. Principal and operation of H2S detectors, warning system and briefing areas.
- D. Evacuation procedure, routes and first aid.
- E. Proper use of safety equipment & life support systems
- F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.
- 2 H₂S Detection and Alarm Systems:
 - A. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may play placed as deemed necessary.
 - An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
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Windsock on the rig floor and / or top doghouse should be high enough to be visible.

- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.
- 5 Well control equipment:
 - A. See exhibit "E-1"
- 6 Communication:
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs r cores are planned at this time.

- 8 Drilling contractor supervisor will be required to be familiar with the effects H₂S has on tubular goods and other mechanical equipment.
- 9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

H₂S Contingency Plan Black River 25 Federal Com 2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must:

- « Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- « Evacuate any public places encompassed by the 100 ppm ROE.
- « Be equipped with H₂S monitors and air packs in order to control the release.
- « Use the "buddy system" to ensure no injuries occur during the response.
- « Take precautions to avoid personal injury during this operation.
- « Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the:
- Detection of H₂S, and
- · Measures for protection against the gas,
- Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

Cimarex Energy Co. of Colorado's personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H₂S Contingency Plan Emergency Contacts

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Black River 25 Federal Com 2H

Cimarex Energy Co.

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UL: N, Sec. 25, 24S, 26E

Edd. Ca	N10.4		
Eddy Co	NIVI	2	

		000 000		
Cimarex Energy Co. of Colc Co. Office and After-Hours		800-969-4789		
office and Airer Hours				
Key Personnel	· · · · · ·			
Name	Title	Office		Mobile
Larry Seigrist	Drilling Manager	432-620-1934		580-243-8485
Doug McQuitty	Drilling Superintendent	432-620-1933		806-640-2605
Scott Lucas	Drilling Superintendent	432-620-1989		432-894-5572
Roy Shirley	Construction Superintendent			432-634-2136
<u>Artesia</u> Ambulance	· · · · · · · · · · · · · · · · · · ·	911		
State Police		575-746-2703		
City Police		575-746-2703		
Sheriff's Office		57,5-746-9888		
Fire Department		575-746-2701		
Local Emergency Plannir	ng Committee	575-746-2122		<u> </u>
New Mexico Oil Conserv	and the second	575-748-1283		
City Police Sheriff's Office Fire Department Local Emergency Plannir US Bureau of Land Mana Santa Fe		575-885-2111 575-887-7551 575-887-3798 575-887-6544 575-887-6544		
	Response Commission (Santa Fe)	505-476-9600		
	Response Commission (Santa Fe) 24 Hrs	505-827-9126		
	gency Operations Center	505-476-9635	, <u>.</u>	
National				
National Emergency Res	ponse Center (Washington, D.C.)	800-424-8802		
Medical				
Flight for Life - 4000 24tl	h St. · Lubbock TX	806-743-9911		
Aerocare - R3, Box 49F; I		806-747-8923		
	D1 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433		· · · ·
	5 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949	<u>.</u>	
		<u> </u>		
<u>Other</u>				
Boots & Coots IWC		800-256-9688	or	281-931-8884
Curled Datasets Constraint		432-699-0139	or	432-563-3356
Cudd Pressure Control				
Halliburton		575-746-2757		

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The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what is submitted in this surface use plan without approval. If any other disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be submitted for approval prior to any new surface disturbance.

1. Existing Roads:

Area access roads and general road maps:

- Exhibit B: General Highway Map
- Exhibit C: USGS Topographic Map
- Exhibit C-1: Public Access Road Map
- Exhibit C-2: Existing and proposed access roads plat

The maximum width of the driving surface will be 14.' The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

Existing access road route to the proposed project is depicted on the public access point map if applicable. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwiswe noted in the New or Reconstructed Access Roads section of the surface use plan.

BEGINNING AT THE INTERSECTION OF OLD CAVERN HIGHWAY/CR 748 AND HIGHWAY 720 LOCATED IN THE SE 1/4 OF SECTION 6, T24S, R27E, N.M.P.M. PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 3.9 MILES TO THE THE BEGINNING OF THE PROPOSED ACCESS FOR THE BLACK RIVER 25 FEDERAL 3H WELL PAD TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN NORTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 6987' TO THE BEGINNING OF THE PROPOSED ACCESS TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY THEN NORTHERLY DIRECTION APPROXIMATELY 1588' TO THE PROPOSED LOCATION.

If existing roads are used, the operator will improve or maintain existing roads in a condition the same as or better than before the operations began. The operator will repair pot holes, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deterioated beyond practical use.

The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events. The operator will obtain written BLM approval prior to the application of surfactants, binding agents, or other dust suppression chemicals on the roadways.

2. New of Reconstructed Access Roads:

A new road will be constructed for this project.

Cimarex Energy plans to construct 1588' of off-lease access road to service the well. The proposed access road does cross lease boundaries, a right of way grant will be submitted to and obtained from the BLM.

The maximum width of the driving surface will be 14'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

Proposed and existing access road route to the proposed wellsite is depicted on Exhibit C-2. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done without prior approval from the BLM.

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Surface Use Plan Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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3. Planned Electric Line:

No new electric lines are planned.

4. Location of Existing Well in a One-Mile Radius -Exhibit A:

- Water Wells None known
- Disposal Wells None known
- Drilling Wells None known
- Producing Wells As shown on Exhibit A
- Abandoned Wells As shownd on Exhibit A

5. Location of Existing or Proposed Production Facilities:

If on completion this well is a producer, a tank battery will be used and the necessary production equipment will be installed on a private/state surface.

Cimarex Energy plans to construct private surface flowlines to service the well.

Specifications of Polyline: 1 HP polyline for oil, gas, and water production. 1 HP polyline for gas lift.

Both lines will be buried 10'-20' South of the access road.

Length: 1737'

MAOP: 1500 psi. Anticipated working pressure: 200-300 psi.

Allocation will be based on well test. Route is off lease, please see Exhibit G-1. Any changes to on lease route will be submitted via sundry notice. If route is off lease, a right of way will be submitted to the BLM for approval.

6. Location and Type of Water Supply:

Water will be purchased locally from a commercial source and trucked over the access roads.

7. Source of Construction Material:

If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
- An approximate 120' x 120' area is used within the proposed well site to remove caliche.
- Subsoil is removed and piled alongside the 120' by 120' area within the pad site.
- When caliche is found, material will be stockpiled within the pad site to build the location and road.
- Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
- Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is
 picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will
 be stockpiled along the edge of the pad as depicted in Exhibit D Rig Layout Diagram.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM-approved caliche pit.

Surface Use Plan Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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8. Methods of Handling Waste

- Drilling fluids, produced oil, and water from the well during drilling and completion operations will be stored safely and disposed of properly in a NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal site.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste will be removed and disposed of properly at a state approved disposal site.
- The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

9. Ancillary Facilities:

No camps or airstrips to be constructed.

10. Well Site Layout:

- Exhibit D: Rig Layout
- Exhibit D-2: Well Site layout plat
- Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit D-1: Interim Reclamation Diagram.

Surface Use Plan Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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11. Plans for Restoration of Surface:

Rehabilitation of the location will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

In areas planned for interim and final reclamation, surfacing materials will be removed and returned to a mineral pit or recycled to repair or build roads and well pads.

Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be recountoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, those areas of the location not essential to porduction facilities and operations will be reclaimed and seeded per BLM requirements. Exhibit D-1 illustrates the proposed Interim Reclamation.

12. Other Information:

- Topography consists of a sloping plane with loose tan sands. Vegetation is mainly yucca, mesquite and shin oak.
- Archeological survey will be conducted for the well pad/location and proposed road and the arch report will be filed with the BLM.
- There are no known dwellings within 1½ miles of this location.

13. On Site Notes and Information:

Onsite with BLM (Jesse Rice and Steve Daly), Lone Mountain Archaeology, Grazing Lease holder (Lisa Ogden), Barry Hunt and Randall Kirkes on August 19, 2014. All of the wells were moved south and east due to the close proximity to Black River and the numerous drainage systems to the river. The 1H was in one of the main tributaries into Black River and was moved to the #2H well pad. : V-Door East. Frac pad Northwest corner (west). Top soil east. Interim reclamation: All sides. Berm to be constructed around entire pad. Access road from southeast corner, following ridgeline, east, to the 3H. Gas lift/Production line staked 30' south of access road, to the battery at the #3H.

14. Surface Ownership:

The wellsite is on surface owned by Bureau of Land Management, , . A copy of Surface Use Agreement has been given to the surface owner. The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.

Surface Use Plan Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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Operator Certification Statement Black River 25 Fed Com #2H Cimarex Energy Co. UL: N, Sec. 25, 24S, 26E Eddy Co., NM

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.

I am responsible under the terms and conditions of the lease to conduct lease operations in conjunction with the application. Bond coverage pursuant to 43, 25 or 36 CFR for lease activities is being provided by Cimarex Energy Co. under their (Lease, Statewide, Nationwide, Unit or Permit) Bond, BLM/BIA/FS Bond No. <u>NMB001188</u>.

Executed_this 8 day of December , 2014 NAME: Aricka Easterling

TITLE: Regulatory Compliance ADDRESS: 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103 TELEPHONE: 918-585-1100 EMAIL: AEasterling@cimarex.com Field Representative: Same as above



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PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	
LEASE NO.:	NM132062
WELL NAME & NO.:	2H-Black River 25 Fed Com
SURFACE HOLE FOOTAGE:	192'/S & 2167'/W
BOTTOM HOLE FOOTAGE	330'/N & 1980'/W
LOCATION:	Section 25, T. 24 S., R.26 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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Archaeology, Paleontology, and Historical Sites
Noxious Weeds
Special Requirements
Communitization Agreement
Cave/Karst
Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
Road Section Diagram
🔀 Drilling
Cement Requirements
High Cave/Karst
Logging Requirements
Waste Material and Fluids
Production (Post Drilling)
Well Structures & Facilities
Pipelines
Interim Reclamation
Final Abandonment & Reclamation

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lesseés, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> on the sign.

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.

- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain $1\frac{1}{2}$ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cavebearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%}$ + 100' = 200' lead-off ditch interval

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.





VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. If the drilling rig is removed without approval an Incident of Non-Compliance will be written and will be a "Major" violation.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
- 4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado and Castile. Possibility of lost circulation in the Delaware.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS <u>REQUIRED IN HIGH CAVE/KARST AREAS.</u> THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. ON A THREE STRING DESIGN; IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

- The 13-3/8 inch surface casing shall be set at approximately 450 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt. Excess calculates to 14% Additional cement may be required.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

 \cdot 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Excess calculates to 16% - Additional cement may be required.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

- 3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
 - a. For surface casing only: If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
- 4. Minimum working pressure of the blowout preventer (BOP) and related equipment
 (BOPE) required for drilling below the 9-5/8 intermediate casing shoe shall be
 3000 (3M) psi.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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IX. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heateŕ-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, <u>Shale Green</u> from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

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STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;
- b. Activities of other parties including, but not limited to:
 - (1) Land clearing
 - (2) Earth-disturbing and earth-moving work
 - (3) Blasting
 - (4) Vandalism and sabotage;
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will

be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

X. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored. Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 4, for Gypsum Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Specie	<u>lb/acre</u>
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed