UNORTHODOX

Cannot Produce until Non Standard Proration Unit & Simultaneous Dedication are approved.

	LOCATION	\		1
Form 3160-3 (March 2012)		OCD Artesla	FORM API OMB No. 1 Expires Octob	004-0137
DEPARTMENT (O STATES OF THE INTERIOR ND MANAGEMENT	-	5. Lease Serial No. SHL: Fee; BHL: NMNM114	1350 3/3/2
APPLICATION FOR PERM	IIT TO DRILL OR REENTER		6. If Indian, Allotee or T	ribe Name
1a. Type of Work DRILL / par type	REENTER		7. If Unit or CA Agreem	ent, Name and No.
1b. Type of Well Oil Well Gas Well	Other Single Zone	Multiple Zone	8. Lease Name and Well Medwick 32 Federal	
2. Name of Operator Cimarex Energy Co.	-2	US'099 >	9. API Well No.	42175
3a. Address 202 S. Cheyenne Ave., Ste 1000, Tulsa, OK 74103	3b. Phone No. (include area code) 918-585-1100	WC	10. Field and Pool, or E. Wildcat Wolfcamp	128A; wcl
4. Location of Well (Report location clearly and in accordance At Surface 210 FSL & 750 FEL; Sec			11. Sec;. T. R. M. or Blk	and Survey and Area
At proposed prod. Zone 660 FNL & 750 FEL; Se	cc.29, 26S, 27E Wolfcamp		32, 26S, 27E	
14. Distance in miles and direction from nearest town or post offi	ice*		12. County or Parish	13. State
Malaga, NM is 17.3 miles Northeasterly of location	- 2 # - 1 1. - 12.		Eddy	NM ·
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line if any) 210	16. No of acres in lease Fee=0.00 acres NMNM114350=1200.00 acres	17. Spacing Unit dedicated to the	224.00	,
	19. Proposed Depth	20. BLM/BIA Bond No. on Fil	· FRE	CEIVED

	24. <i>A</i>	ttachments			
The following, completed in accordance with the requirements of	f Onshore Oil and Gas Order N	Io. 1, shall be attached to this form:			
1. Well plat certified by a registered surveyor		4. Bond to cover the operations	unless covered by an ex	tisting bond on file (see Item 20 above).
2. A Drilling Plan				•	
 A Surface Use Plan (if the location is on National Forest S SUPO shall be filed with the appropriate Forest Service On 		Operator Certification Such other site specific inform	nation and/or plans as n	nay be required by the authorized offic	er.
25. Signature	Name (Print	ed/Typed)	Date		_
Mone Maula	- 12. 2.	Hope Knauls		. 10/30/13	
Title	1'' 1''				
Regulatory Compliance	\$		•		
	Name (Print	ed/Typed) James A.	Arec Date	3-3-14	
Title FIELD WANAGER	Office	CADI CDAD EIEI D OFFIC		- 	

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

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to

22. Approximate date work will start*

6/16/14

(Continued on page 2) JLE ATTACHED FOR CONDITIONS OF APPROVAL

applied for, on this lease, ft

conduct operations thereon.

Conditions of approval, if any, are attached.

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

3183 GR

40' to the #

Approval Subject to General Requirements
& Special Stipulations Attached

NM2575; NMB000835

35 days

23. Estimated duration

MAR 07 2014

NMOCD ARTESIA

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Operator Certification Statement Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E 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.

Executed this 30 day of

Octobel , Wis

Aricka Fasterlin

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

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 District III 1000 Rio Brazos Road, Aztec, NM 87410

Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

1 API Number

Section

29

Township

26S

13. Joint or Infill

Range

27E

Lot Idn

14 Consolidation Code

Phone: (505) 476-3460 Fax: (505) 476-3462

UL or lot no.

12 Dedicated Acres

446.55

State of New Mexico

Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

AMENDED REPORT

County

EDDY

WELL LOCATION AND ACREAGE DEDICATION PLAT 11116-015

4093	ode /		7,0	.	Froperty N MEDWICK 32 FEI				6 Well Number 11H
⁷ OGRID N 215099	0.	•			Operator N CIMAREX ENI				⁹ Elevation 3183'
		,			¹⁰ Surface	Location			
UL or lot no.	Section 32	Township 26S	Range 27E	Lot Idn	Feet from the 210	North/South line SOUTH	Feet from the 750	East/West line EAST	County EDDY

North/South line

NORTH

Feet from the

750

3-3

East/West line

EAST

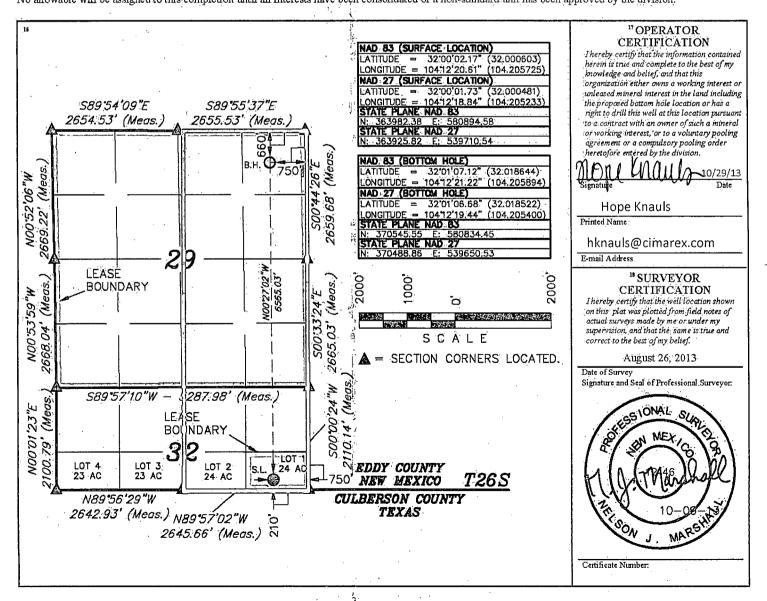
15899

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

5 Order No.

Feet from the

660



CIMAREX ENERGY CO. MEDWICK 32 FEDERAL COM 10H, 11H & 12H SECTION 32, T26S, R27E, N.M.P.M.

BEGINNING AT WHITES CITY ROAD PROCEED IN A SOUTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 9.0 MILES TO THE BEGINNING OF THE PROPOSED ACCESS FOR THE MEDWICK 32 FEDERAL COM 7H, 8H & 9H TO THE NORTH; FOLLOW ROAD FLAGS IN A NORTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 4,326' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE NORTH; FOLLOW ROAD FLAGS IN A NORTHERLY DIRECTION APPROXIMATELY 25' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM WHITES CITY ROAD TO THE PROPOSED LOCATION IS APPROXIMATELY 9.8 MILES.

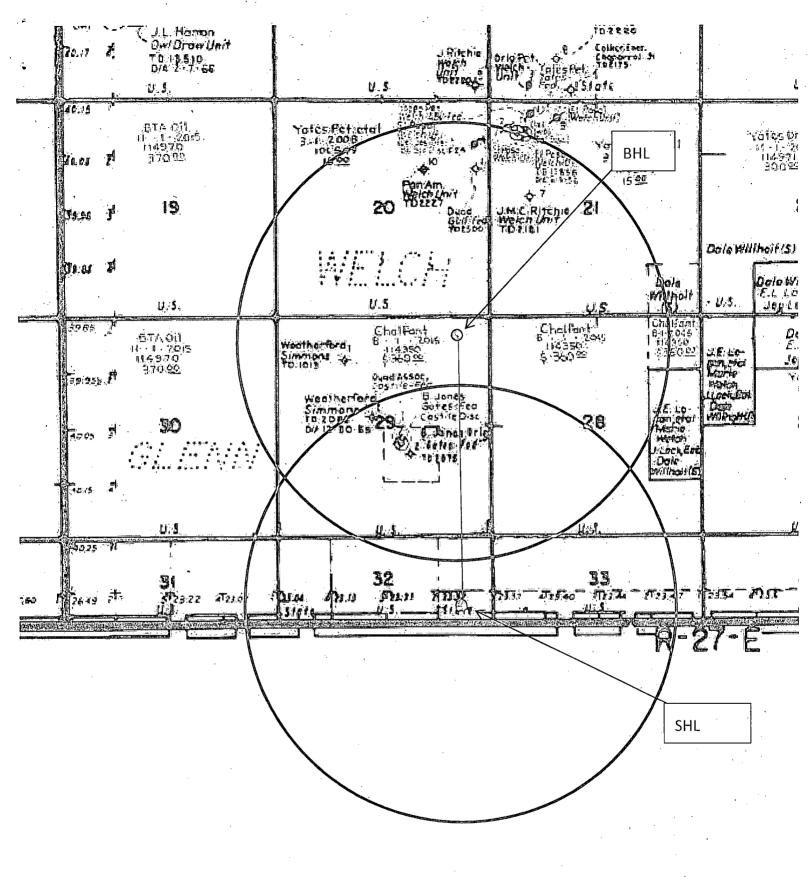


Exhibit A – One Mile Radius Map **Medwick 32 Federal Com 11H** Cimarex Energy Co.

32-26S-27E SHL 210 FSL & 750 FEL BHL 660 FNL & 750 FEL Eddy County, NM

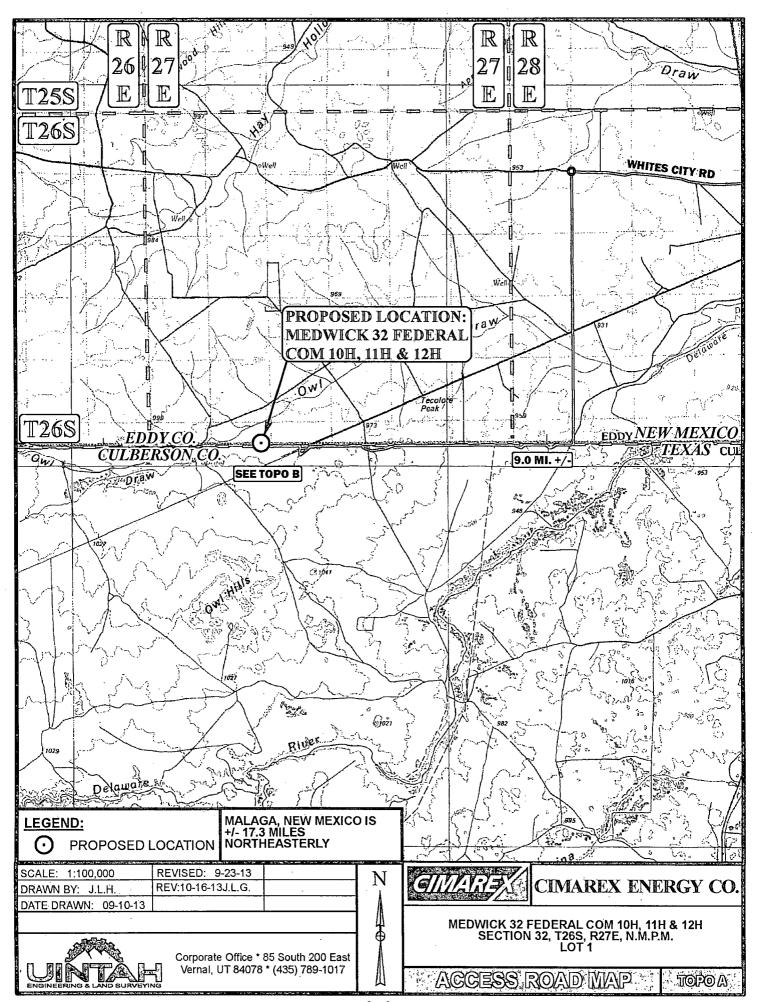


Exhibit B

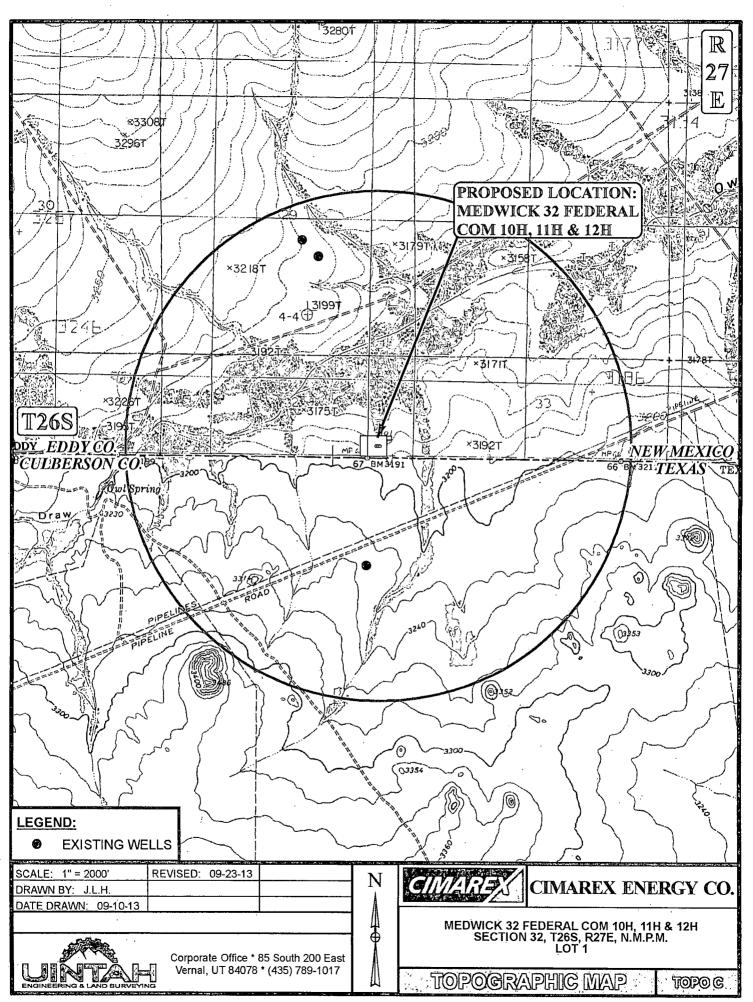


Exhibit C

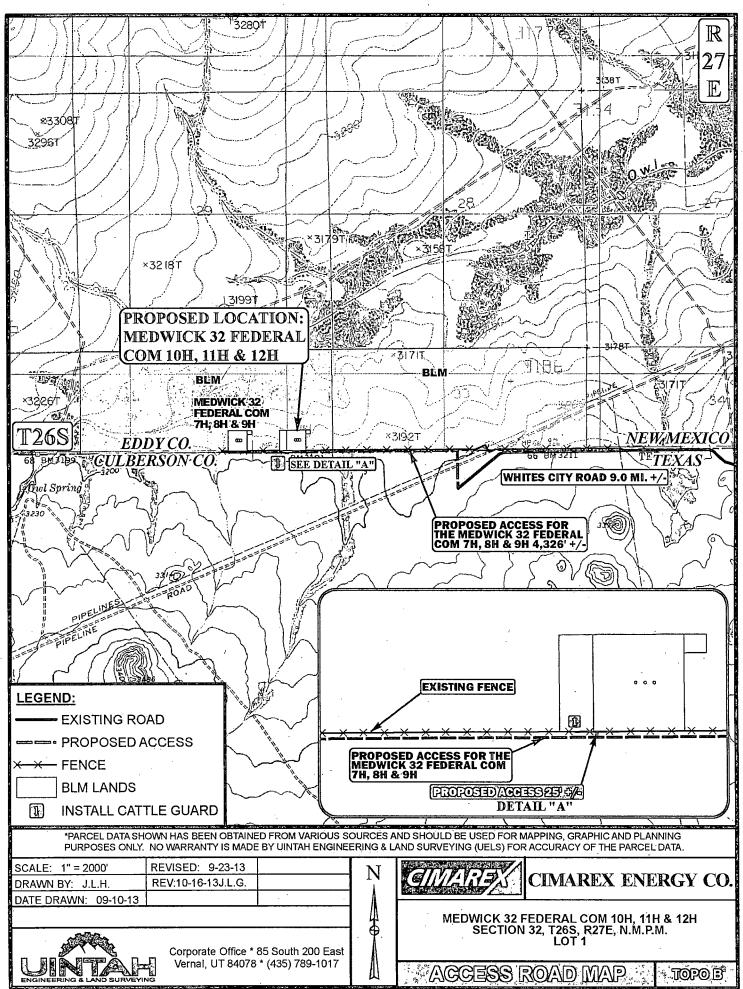
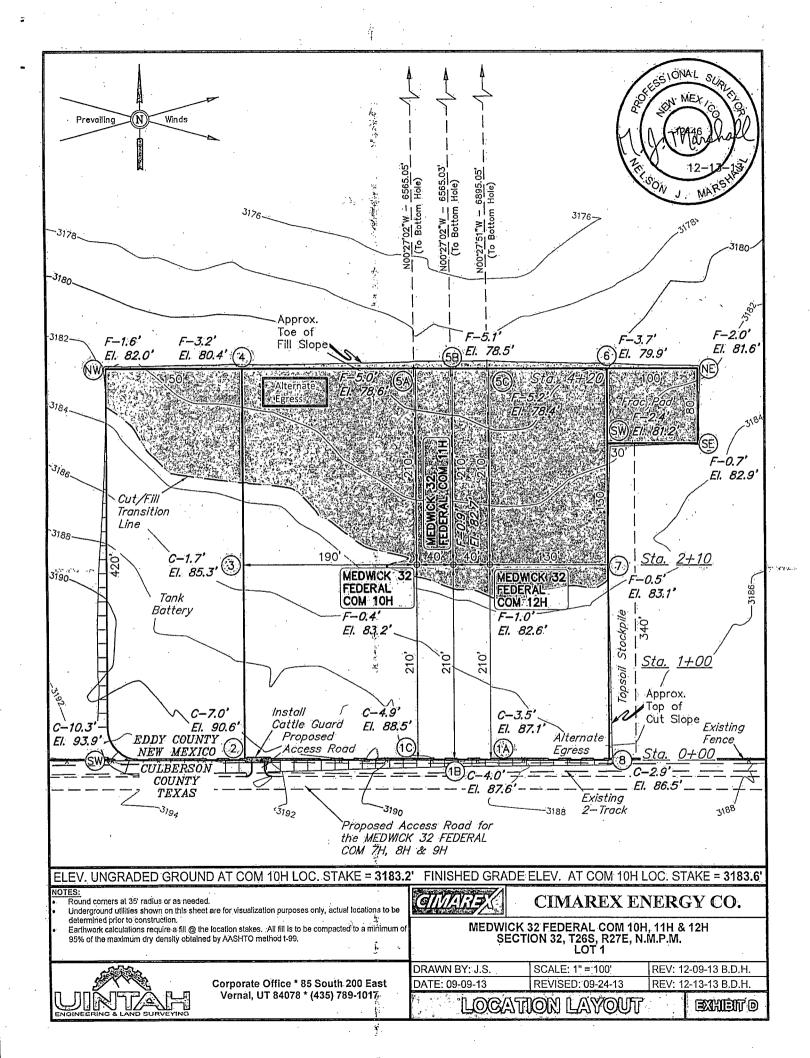
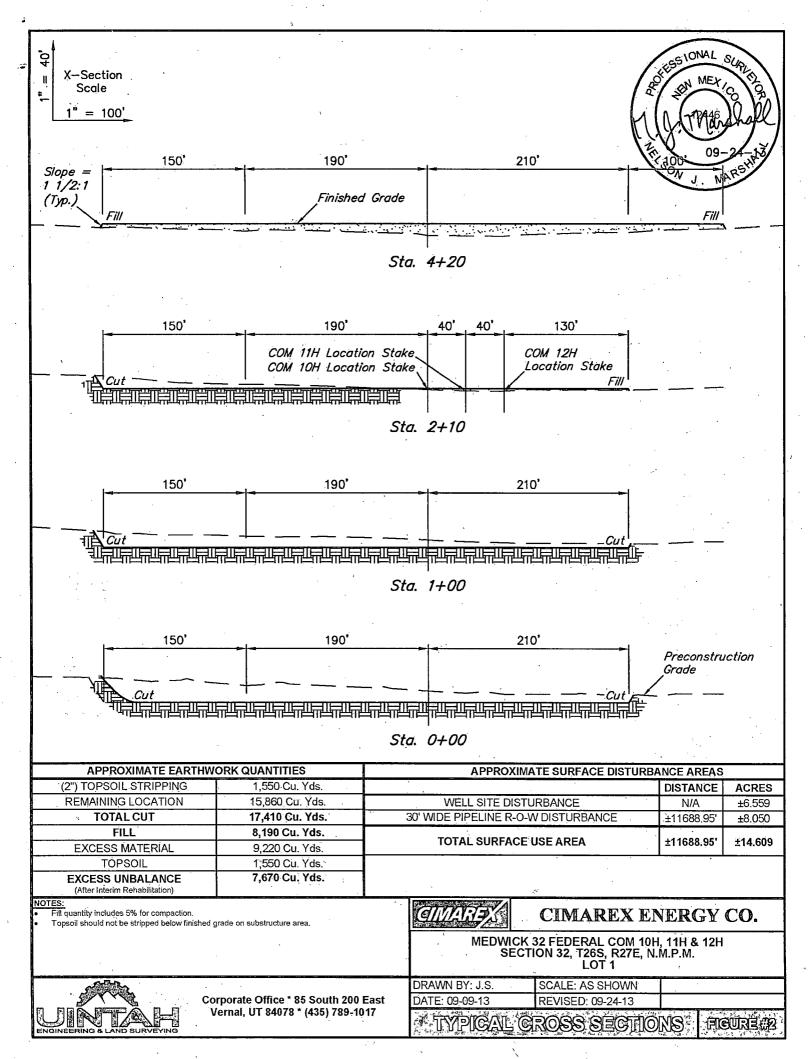
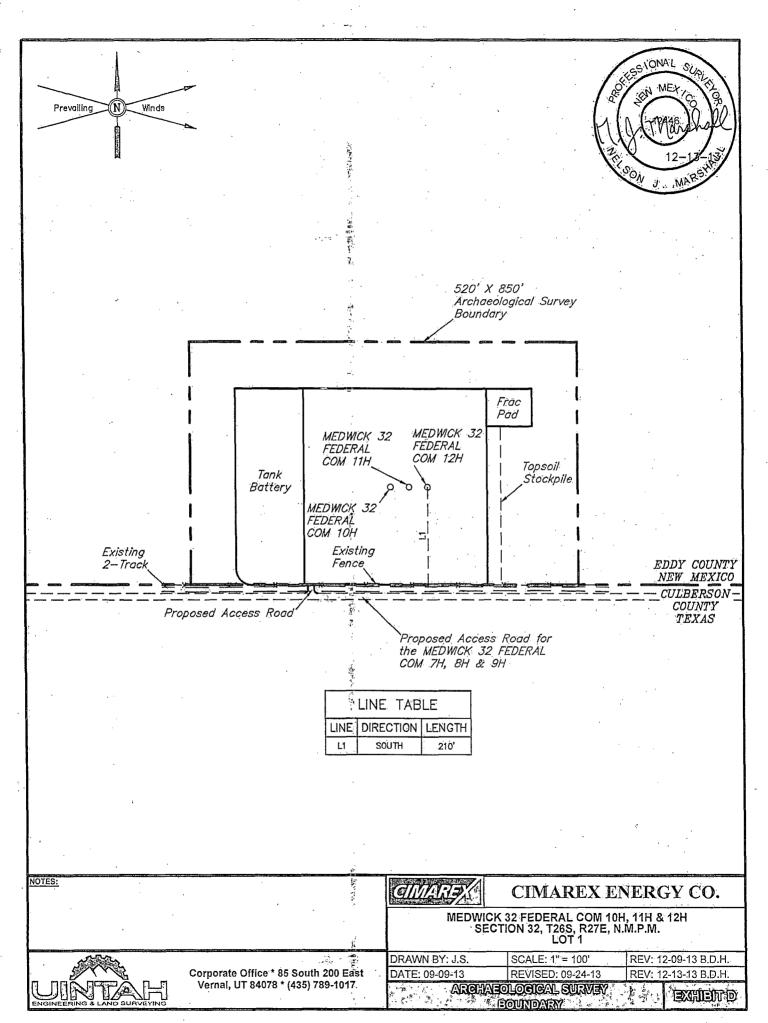


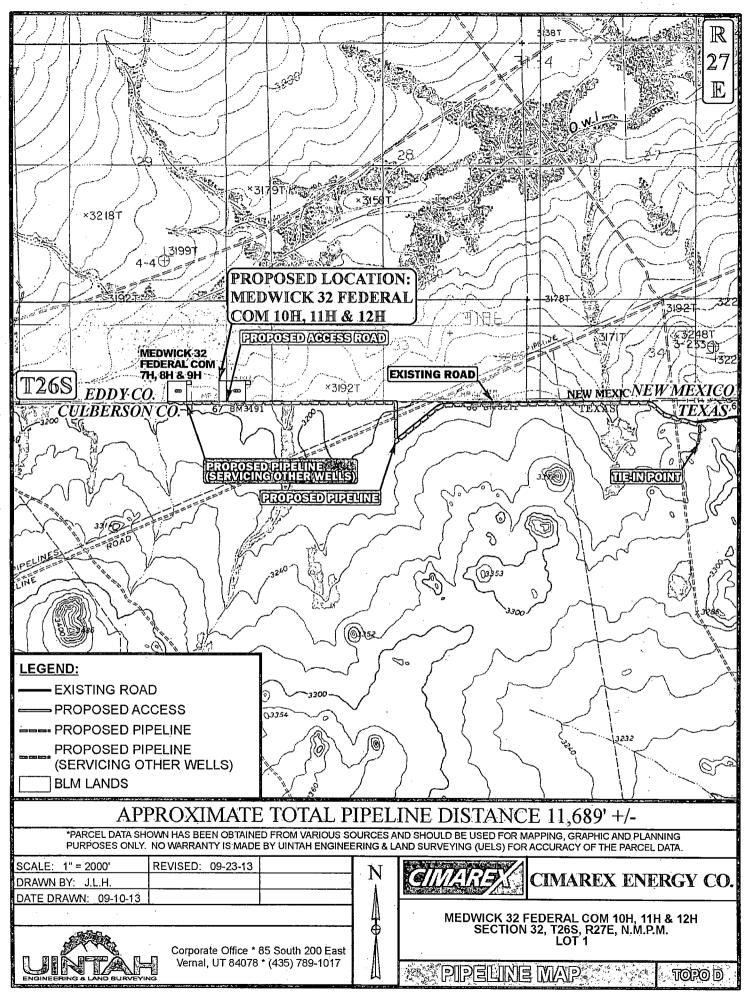
Exhibit C-1







缉



SECTION 6, BLOCK 59, T-1. T.&P.R.R. CO. SURVEY. CULBERSON COUNTY. TEXAS BEGINNING OF PROPOSED PIPELINE CORRIDOR RIGHT-OF-WAY Proposed MEDWICK 32 FEDERAL STA. 0+00 COM 10H, 11H & 12H Well Pad (At Edge of MEDWICK 32 FEDERAL COM 10H, 11H & 12H Tank Battery) ·S89°57'18"E - 12587.58' (Meas.)-(Not Set on Ground) EDDY COUNTY S89'57'18"E - 5391.17' (Meas.) - -T26S CULRERSON 6 1 COUNTY - S89'55'51"E S89 58'10"E -'3369.76' (Meas.) TEXAS 2021.41' (Meas.) END OF PROPOSED PIPELINE CORRIDOR RIGHT-OF-WAY STA. 35+94.27 (At Section Line) Sec. NO0'21 09 LINE TABLE LINE DIRECTION LENGTH S00°01'34"W 61.18 THE PARTE OF TAKE S89'57'21"E 3533.09 SCALE 6 #2198 5 Calculated Corner (Not Set on Ground) 6 N89 50'18"W - 5389.97' (Meas.) 7 12 8 PIPELINE CORRIDOR RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

BEGINNING AT A POINT ON THE NORTH LINE OF THE NW 1/4 OF SECTION 6, BLOCK 59, T-1, T.&P.R.R. CO. SURVEY CULBERSON COUNTY, TEXAS, WHICH BEARS N87'43'03"W 163:80' FROM MP 67, THENCE S00'01'34"W 61.18'; THENCE S89'57'21"E 3533.09' TO A POINT ON THE EAST LINE OF THE NE 1/4 OF SAID SECTION 6, BLOCK 59, WHICH BEARS S89'01'28"E 3369.89' FROM MP 67. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 2.475 ACRES MORE OR LESS.

RIGHT-OF-WAY LENGTHS												
DESCRIPTION	FEET	ACRES	RODS									
SECTION 6, BLOCK 59	3594.27	2.475	217.83									

▲ = SECTION CORNERS LOCATED.

▲ = SECTION CORNERS CALCULATED. (Not Set on Ground.)

BEGINNING OF PIPELINE CORRIDOR STA. 0+00 BEARS N87'43'03"W 163.80' FROM MP 67, CULBERSON COUNTY, TEXAS.

END OF PIPELINE CORRIDOR STA, 35+94.27 BEARS S89'01'28"E 3369.89' FROM MP 67, CULBERSON COUNTY, TEXAS.

CERTIFICATE

. I HEREBY CERTIFY THAT, THIS PLAT CORRECTLY REPRESENTS WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



NOTES:

The proposed pipeline corridor contains 2 sales lines

Exhibit H

DRAWN BY: J.S

CIMAREX ENERGY CO.

MEDWICK 32 FEDERAL COM 10H, 11H & 12H SECTION 32, T26S, R27E, N.M.P.M. LOT 1

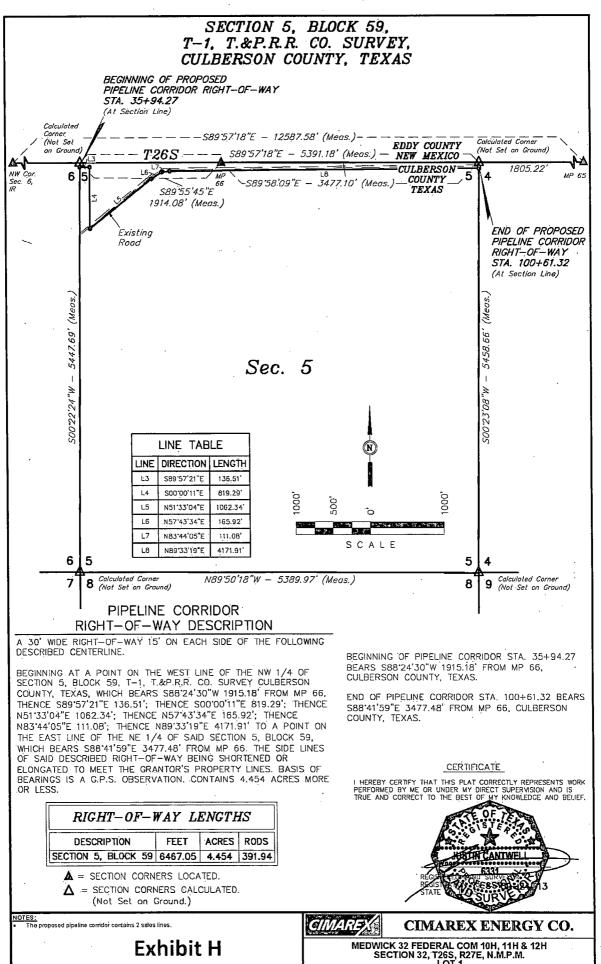
SCALE: 1" = 1000"

Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

REVISED: 09-24-13 DATE: 09-07-13

PIPELINE R-O-W

FIGURE #5A



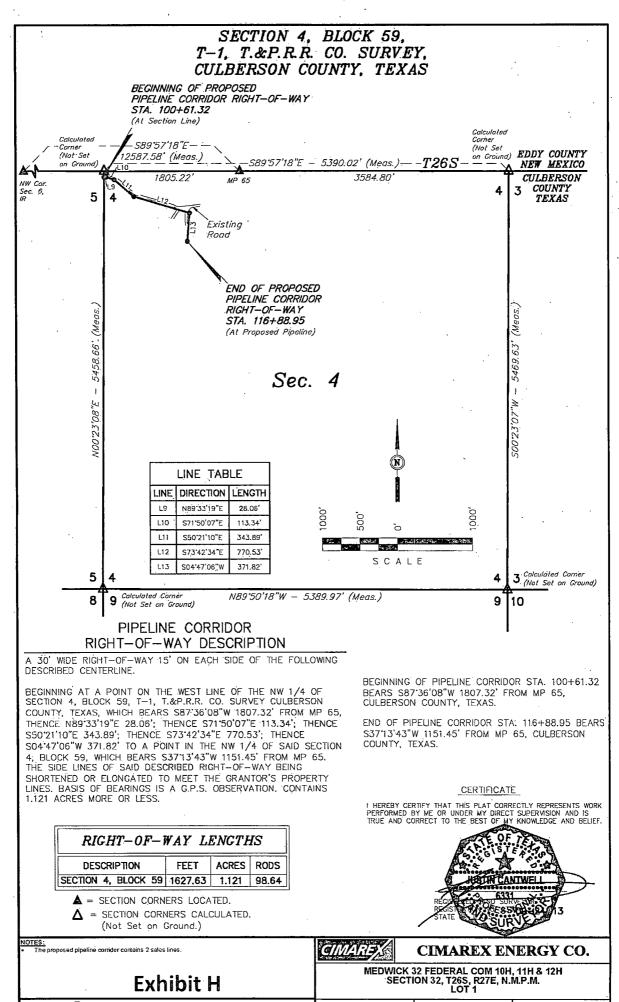
Cornorate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

LOT 1

DRAWN BY: J.S. SCALE: 1" = 1000 DATE: 09-07-13 REVISED: 09-24-13

PIPELINE R-O-W

FIGURE #5B



UINTAH

Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 DRAWN BY: J.S. SCALE: 1" = 1000'
DATE: 09-07-13 REVISED: 09-24-13

PIPELINE R-O-W

FIGURE #5C



PHOTO: VIEW OF LOCATION STAKES

CAMERA ANGLE: WESTERLY

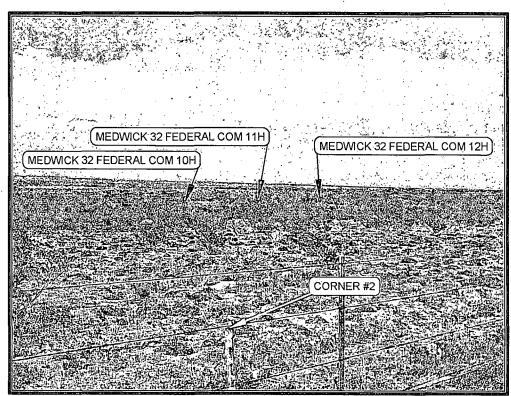


PHOTO: VIEW FROM CORNER #2 TO LOCATION STAKES

CAMERA ANGLE: NORTHEASTERLY

NOTES:



CIMAREX ENERGY CO.

MEDWICK 32 FEDERAL COM 10H, 11H & 12H SECTION 32, T26S, R27E, N.M.P.M. LOT 1



Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

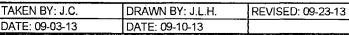


PHOTO SHEET

Application to Drill Medwick 32, Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

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

1. Location:

SHL 210 FSL & 750 FEL; Sec. 32, 26S, 27E

BHL 660 FNL & 750 FEL; Sec.29, 26S, 27E

2. Elevation Above Sea Level: 3,183' GR

3. Geologic Name of Surface Formation: Quaternary Alluvium Deposits

4. Drilling Tools and Associated Equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal

5. Proposed Drilling Depth: 15,899 MD 9,560 TVD Pilot Hole TD: N/A

6. Estimated Tops of Geological Markers:

Formation	Est Top	Bearing
Top Salt	1347	N/A
Base Salt	1816	N/A
Delaware	1999	N/A
Cherry Canyon	3019	N/A
Brushy Canyon	4159	.N/A
Brushy Canyon Lower	5397	N/A
Bone Spring	5592	Hydrocarbons
Bone Spring A Shale	5719	Hydrocarbons
Bone Spring C Shale	6222	Hydrocarbons
1st Bone Spring Ss	6599	Hydrocarbons
2nd Bone Spring Ss	7026	Hydrocarbons
2nd BS Ss Lower	7870	Hydrocarbons
3rd Bone Spring Ss	8337	Hydrocarbons
Wolfcamp	8663	Hydrocarbons
Wolfcamp B	9317	Hydrocarbons
Wolfcamp C	9440	Hydrocarbons
Wolfcamp C Horz Target	9540	l Hydrocarbons
Wolfcamp D	9580	Hydrocarbons
Wolfcamp E	10192	Hydrocarbons

7. Possible Mineral Bearing Formation: Shown above

7A. OSE Ground Water Estimated Depth: 100'

8. Casing Program:

ع	e COA	Casing Depth From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft)TVD	Open Hole Size (inches)	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread Thread	Condition	BHP (psig)	Anticipated Mud Weight (ppg)	Collapse SF at Full Evacuation(1.125)	Collapse SF at 1/3	_	Burst SF (1.125)	Cumulative Air Weight	Cumulative Bouyed Weight (lbs)	Bouyant Tension SF (1.8)
	Surface	0	400	400	17 1/2	13-3/8"	48.00	H-40	ST&C	, New	172	8.3	4.29			10.02	19,200	16,767	19.20
	Intermediate	0	-1960	1960	12 1/4	9-5/8"	36.00) · J-55	LT&C	New	1019	10.0			1.98	3.45	70,560	59,787	7.58
	Production	0	9063		.8 3/4	:7"	32.00) L-80	LT&C	New	4241	9.0	2.03	3,	:	2.13	305,920	263,885	2.55
	Production	9063	9811	-	8 3/4	17"	32.00	0 · L-80	BT&C	New	4474	9.0	1.92	2:	;	1.89	15,904	13,719	54.31
- 1	Completion System	9063	15899	9560	6	4-1/2"	11.60	P-110	BT&C	New	5716	11.5	1.33	3.		1.87	79,297	65,375	5.61

Application to Drill Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

8A. Casing Design and Casing Loading Assumptions:

Surface	Tension	A 1.8 design factor with effects of buoyancy: 8.30 ppg.
	Collapse	A 1.125 design factor with full internal evacuation and a collapse force equal to a 8.30 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Intermediate	Tension	A 1.8 design factor with effects of buöyancy: 10.00 ppg.
	Collapse	A 1.125 design factor evacuated 1/3 TVD of next casing string with a collapse force equal to a 10.00 ppg mud gradient.
	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.
Production and\or	Tension	A 1.8 design factor with effects of buoyancy: 9.00 ppg.
Production	Collapse	A 1.125 design factor with full internal evacuation of next casing string with a collapse force equal to a 9.00 ppg mud gradient.
Completion System	Burst	A 1.125 design with a surface pressure equal to the fracture gradient at setting depth less gas gradient to surface.

Note: The liner SFt is calculated for the worse case scenario of running in the hole. 4 1/2" completion system will be ran in the hole and cemented from the 4 1/2" shoe up to previous 7" casing shoe with a 10% OH Excess. A liner hanger with an isolation packer or HES versaset liner hanger will be set at the top of the 4 1/2" completion system close to the KOP. The length of liner overlap is to help with the fracture treatment efficiency during the pumping down of guns/plugs.

9. Cementing Program:

Casing Type	Туре	Sacks	Yield	Weight	Cubic Feet Cement Blend
Surface	Lead	. 79	1.75	13.50	0 138 ! Class C + Bentonite + Calcium Chloride + LCM, 8.829 gps water
54.0	Tail	19	1.34	14.80	0 260 Class C + LCM, 6.32 gps water
COM-	TOC: 0		44% Ex	cess	Centralizers per Onshore Order 2.III.B.1f
Intermediate	Lead	450	1.88	12.90	0 857 · 35:65 (poz/C) + Salt + Bentonite + LCM + retarder, 9.65 gps water
	Tail	11!	1.34	14.80	0 153! Class C + retarder + LCM, 6.32 gps water
	TOC: 0		82% Ex	cess	
Production	Lead	530	2.40	11.90	0; 1271 35:65 (poz/H) + salt + Sodium Metasilcate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder, 13.80 gps water
Ser	Tail	190	1.24	14.50	0! 235 50:50 (poz/H) + Bentonite + Salt + Fluid Loss + Dispersant + LCM + Retarder, 5.55 gps water
COH	TOC: عر	160	25% Ex	cess	No centralizers planned in the lateral section. 1 every jt from EOC to KOP 1 every 4th joint from KOP to 500' inside previous casing.
Completion System	Tail	52	1.24	14.50	0
Selcon	TOC: 98	311 TOL	10% Ex	cess	No centralizers planned in the lateral section.

Cement volumes will be adjusted depending on hole size 👔

9a. Proposed Drilling Plan:

Pilot Hole TD: No Pilot

KOP: 9,063'

EOC: 9,811'

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

Application to Drill Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

10. Pressure Control Equipment:

Exhibit "E-1". A BOP consisting of two rams with blind rams and pipe rams, and one annular preventer. Below the surface casing, a 2M system will be used. Below the intermediate casing, a 3M system will be used. Below the Production Casing, a 5M system will be used. See attachments for BOP and choke manifold diagrams. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A Rotating head may be installed as needed. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

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

BOPS will be tested by an independent service company. The ram preventers, choke manifold, and safety valves will be tested as follows: On the surface casing, pressure tests will be made to 250 psi low and 2000 psi high. On the intermediate casing, pressure tests will be made to 250 psi low and 3000 psi high. On the production casing, pressure tests will be made to 250 psi low and 5000 psi high.

The Annular Preventer will be tested to 250 psi low and 1000 psi high on the surface casing, and 250 low and 1500 high on the intermediate casing, and 250 low and 2500 high on the production casing.

Cimarex Energy Co. of Colorado requests a variance to drill this well using a co-flex line between the BOP and choke manifold.

Certification for proposed co-flex hose is attached (please see Exhibit F, F-1, F-2, F-3). The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

11. Proposed Mud Circulating System:

Depth	Mud Weight	Visc	Fluid Loss	Type Mud
0' to 400'	. 8.30	28	NC	FW Spud Mud
400' to 1860' - 1-900	10.00	30-32	NC	[†] Brine Water
1960' to 9811'	9.00	30-32	NC .	· FW/Cut Brine
9811' to 15899'	11.50	50-70	5-15	; Oil Based Mud

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

The Mud Monitoring System is an electronic Pason System satisfying requirements of Onshore Order 1.

12. Testing, Logging and Coring Program:

A. Mud logging program: 2 man unit from 1960 to TD

B. Electric logging program: CNL / LDT / CAL / GR, DLL /GR -- Inter. Csg to TD

CNL/GR -- Surf to Inter. Csg

C. No DSTs or cores are planned at this time

D.CBL w/ CCL from as far as gravity will let it fall to TOC

13. Potential Hazards: 500 COA

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

Estimated BHP: 4302 psi £ Estimated BHT: 156°

14. Construction and Drilling:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take: 35 days.

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

Application to Drill Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

15. Other Facets of Operations:

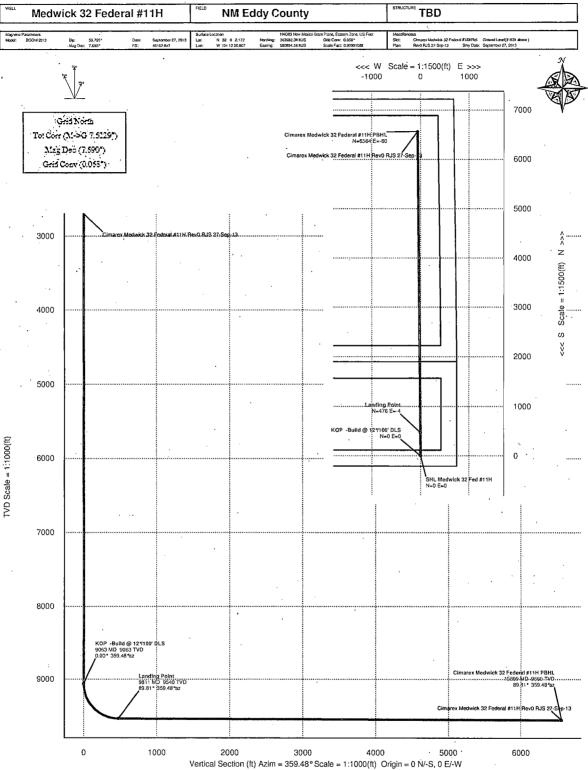
If production casing is run an additional 30 days will be required to complete and construct surface facilities. Wolfcamp pay will be perforated and stimulated.

The proposed well will be tested and potentialed as Oil



Cimarex





*				Critical Poin	ts			
Critical Point	<u>MD</u>	INCL	<u>AZIM</u>	<u>TVD</u>	<u>VSEC</u>	N(+) / S(-)	E(+) / W(-)	<u>DLS</u>
SHL Medwick 32 Fed #11H	0.00	0.00	359.48	0.00	0.00	0.00	0.00	
KOP -Build @ 12°/100' DLS	9062.50	0.00	359.48	9062.50	0.00	0.00	0.00	0.00
Landing Point	9810.98	89.81	359.48	9540.00	475.92	475.90	-4.36	12.00
Cimarex Medwick 32 Federal #11H PBHL	15899.13	89.81	359.48	9560.00	6564.04	6563.77	-60.14	0.00



Cimarex Medwick 32 Federal #11H Rev0 RJS 27-Sep-13 Proposal Report 100' Interpolated

(Non-Def Plan)

Report Date: Client:

Field:

Structure / Slot:

Well:

Borehole: UWI / API#:

Survey Name: Survey Date:

Tort / AHD / DDI / ERD Ratio: Coordinate Reference System: Location Lat / Long:

Location Grid N/E Y/X: CRS Grid Convergence Angle:

Grid Scale Factor:

October 04, 2013 - 04:41 PM

Cimarex

NM Eddy County (NAD 83)

TBD / Cimarex Medwick 32 Federal #11H

Cimarex Medwick 32 Federal #11H

Original Borehole Unknown / Unknown

Cimarex Medwick 32 Federal #11H Rev0 RJS 27-Sep-13

September 27, 2013

89.814 ° / 6564.044 ft / 5.991 / 0.687

NAD83 New Mexico State Plane, Eastern Zone, US Feet

N 32° 0' 2.17231", W 104° 12' 20.60693" N 363982.380 ftUS, E 580894.580 ftUS

0.0676°

0.99991088

Survey / DLS Computation:

Vertical Section Azimuth: Vertical Section Origin:

Minimum Curvature / Lubinski 359.475 ° (Grid North)

0.000 ft, 0.000 ft Ground Level

TVD Reference Datum:

TVD Reference Elevation: Seabed / Ground Elevation: Magnetic Declination:

3183.000 ft above 3183,000 ft above 7.690°

Total Gravity Field Strength:

Total Magnetic Field Strength:

998.4899mgn (9.80665 Based) 48162.801 nT

59.795 ° September 27, 2013

Magnetic Dip Angle: Declination Date:

Magnetic Declination Model: North Reference:

BGGM 2013 Grid North

Grid Convergence Used;

0.0676°

Total Corr Mag North->Grid North: 7.6229 °

Local Coord Referenced To:

Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W°'")	Closure Clos	ure Azimuth (°)	DLS (°/100ft)
SHL Medwick 32 Fed #11H	0.00	0.00	359.48	0.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	N/A
100 #1111	100.00	0.00	359.48	100.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	200,00	0.00	359,48	200,00	0.00	0.00	0.00	363982.38			W 104 12 20,61	0.00	0.00	0.00
	300,00	0.00	359.48	300.00	0.00	0.00	0.00	363982.38			W 104 12 20.61	0.00	0.00	0.00
	400.00	0.00	359.48	400,00	0.00	0.00	0.00	363982.38	580894.58	N 32 Q 2.17	W 104 12 20.61	0.00	0.00	0.00
	500.00	0.00	359,48	500.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
*	600.00	0.00	359,48	600.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	700,00	0.00	359.48	700.00	0.00	0:00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	800.00	0.00	359.48	800.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0,00	0.00	0.00
	900.00	0.00	359,48	900.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1000.00	0.00	359.48	1000.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1100.00	0.00	359.48	1100.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1200.00	0.00	359.48	1200.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1300.00	0.00	359.48	1300.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	1400.00	0.00	359,48	1400.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1500.00	0.00	359.48	1500.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	. 0.00	0.00
	1600.00	0.00	359.48	1600.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	1700,00	0.00	359,48	1700.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	1800.00	0.00	359.48	1800.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	1900.00	0.00	359.48	1900,00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	2000.00	0.00	359.48	, 2000.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	2100.00	0.00	359.48	2100.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	2200.00	0.00	359.48	2200.00	0.00	0.00	0.00	363982.38		V 32 0 2.17		0.00	0.00	00,0
	2300.00	0.00	359.48°	2300.00	0.00	0.00 -	0.00	363982.38		V 32 0 2.17		0.00	0.00	0.00
	2400.00	0.00	359.48	2400.00	0.00	0.00	0.00	363982.38	580894.58	Ñ 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	2500.00	0.00	359.48	2500.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	2600.00	0.00	359.48	2600.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	2700.00	0.00	359.48	2700.00	0.00	0.00	0.00	363982.38		V 32 0 2.17		0.00	0.00	0.00
	2800.00	0.00	359.48	2800.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00

Comments	MD (ft)	inci (°)	Azim Grîd (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ffUS)	Easting (ftUS)	Latitude (N/Ṣ ° ' ")	Longîtude (E/W ° ' ")	Closure (ft)	Closure Azimuth	· DLS (°/100ft)
	2900.00	0.00	359.48	2900.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	3000.00	. 0.00	359.48	3000.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	· : 0.00	.0.00
	3100.00	0.00	359.48	3100.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	3200.00	0.00	359.48	3200.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	3300.00	0.00	359.48	3300.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	. 0.00	0.00
	3400,00	0.00	359.48	3400.00	0.00	. 0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	3500.00	0.00	359.48	3500.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	3600.00	0.00	359.48	3600.00	0.00	0.00	0.00	363982.38		N 32 0 2.17 ⁻		0.00	0.00	0.00
	3700.00	0.00	359.48	3700.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	3800.00	0.00	359.48	3800.00	0.00	0.00	0:00	363982,38		N 32 0 2.17		0.00	0.00	0.00
	3900.00	0.00	359.48	3900,00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0,00
•	4000.00	0.00	359.48	4000.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	4100.00	0.00	359.48	4100.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	4200.00	0.00	359.48	4200.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	4300.00	0.00	359.48	4300.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	4400.00	0.00	359.48	4400.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	VV 104 12 20.61	0.00	0.00	0.00
	4500:00	0.00	359.48	4500.00	0.00	0.00	0.00	363982.38	580894:58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	4600.00	0.00	359.48	4600.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	4700.00	0.00	359.48	4700.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	4800.00	0.00	359.48	4800.00	0.00	0.00	0.00	363982.38	580894:58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	4900.00	0.00	359.48	4900.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	5000.00	0.00	359.48	5000.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	5100.00	0.00	359.48	5100.00	0.00	0.00	0.00	363982.38	580894.58	Ņ 32 0 2.17	W 104 12 20.61	0.00	0.00	. 00.00
	5200,00	0.00	359.48	5200.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	5300.00	0.00	359.48	5300.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	5400.00	0.00	359.48	. 5400.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
•	5500.00	0.00	359.48	5500.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	5600.00	0.00	359.48	5600.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	5700.00	0.00	359.48	5700.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	5800.00	0.00	359.48	5800.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	5900.00	0.00	359.48	5900.00	0.00	0.00	. 0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	. 0.00	0.00	0.00
	6000.00	0.00	359.48	6000.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2:17	W 104 12 20.61	0.00	0.00	0.00
,	6100.00	0.00	359.48	6100.00	0.00	0.00	0:00	363982.38		N 32 Ó 2.17		0.00	0.00	0.00
	6200.00	0.00	359.48	6200.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6300.00	0.00	359.48	6300.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6400.00	0.00	359.48	6400.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6500.00	0.00	359.48	6500,00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20,61	0.00	0.00	0.00
	6600.00	0.00	359.48	6600.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6700.00	0.00	359.48	6700.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6800.00	0.00	359.48	6800.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	6900.00	0.00	359.48	6900.00	0.00	0.00	0.00	363982:38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	7000.00	0.00	359.48	7000.00	0.00	0.00	. 0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20,61	0.00	0.00	0.00
	7100.00	0.00	359.48	7100.00	0.00	0.00	0.00	363982.38	580894.58 I	N 32 0 2.17	W 104·12 20.61	0.00	0.00	0.00
	7200.00	0.00	359,48	7200.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	7300.00	0.00	359.48	7300.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	. 0.00	0.00
	7400.00	0.00	359.48	7400.00	0.00	0.00 .	. 0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
•	7500.00	0.00	359.48	7500.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	7600.00	0.00	359.48	7600.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	. 7700.00	0.00	359.48	7700.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
,	7800.00	0.00	359.48	7800.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	7900.00	0.00	359.48	7900.00	0.00	. 0.00	0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
	8000.00	0.00	359.48	8000.00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	8100.00	0.00	359.48	8100:00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0,00	0.00	0.00
•	8200.00	0.00	359.48	8200,00	0.00	0.00	0.00	363982.38		N 32 0 2.17		0.00	0.00	0.00
	8300.00	0.00	359.48	8300.00	0.00	0.00	. 0.00	363982.38	580894.58	N 32 0 2.17	W 104 12 20.61	0.00	0.00	0.00
				*										

March Marc	Comments	MD	Incl	Azim Grid	TVD	VSEC .	NS (ft)	EW	Northing (ftUS)	Ėasting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' ")	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)
BECODO 0.00 38.4		(ft)	(°).	(°)	(ft)	(ft)		. (ft)							
Section Color Section Color		. 8400.00	0.00	359,46	8400.00	0.00	. 0.00	0.00	303902.30						
Medical Co. 0.00 359-48 9670.00 0.		8500.00	0.00	359.48	8500.00	0.00	0.00	0.00	363982.38						
## 1700			0.00	359.48	8600.00	0.00	0.00	0.00							
Section Color Section Color Section Color		8700.00	0.00	359.48	8700.00										
Month Mont		8800.00	0.00	359.48	8800.00	0.00	0.00								
NOP-Hunted B		8900.00	0.00	359.48	8900.00	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17 \	W 104 12 20.61	0.00	0.00	0;00
MCP Model March Model		9000.00	0.00	359.48	9000.00	0.00	0.00	0.00	363982.38	580894,58	N 32 0 2.17 \	W 104 12 20.61	0.00	0.00	0.00
910.00 4.50 556.46 00000 00000 000000 000000 00000 00000 0000			0.00	359.48	9062.50	0.00	0.00	0.00	363982.38	580894.58	N 32 0 2.17 V	N 104 12 20.61	0.00	0.00	0.00
1900 1900	127100 DLS	9100.00	4.50	359.48	9099.96										
9-00-00 40.50 355.48 69/2.29 114.59 11		9200.00	16.50	359.48					364002.04						
9800.00		9300.00	28.50	359.48	9290.33	57.86	57.85	-0.53	364040.23	580894,05	N 32 0 2.74 \	W 104 12 20.61	57,86	359.48	12.00
8600.00		9400.00	40.50	359.48	9372.59										
Profile		9500.00	52.50	359.48	9441.31										
Landring Point \$881,089 \$88,841 \$38,948 \$893,948 \$46,040 \$44,952 \$475,000 \$44,943 \$384482742 \$860800.22 \$1,020 \$68,841 \$12,000 \$68,941 \$38,948 \$46,000 \$46,941 \$46,942 \$475,940 \$44,943 \$384482743 \$86080.22 \$1,020 \$2,000 \$1,		9600.00	64.49	359.48	9493.47	271.89	271.88								
Landrino Point		9700.00	76.49	359.48	9526.80	365.98	365.97								
9900.00 98.81 359.88 359.89 350.00 98.64 564.92 5.18 396.847.25 59088.46 N 32 0 7.76 W 104 12 20.65 564.94 359.48 0.00 1000.00 98.81 359.48 564.06 7.45.64 764.91 -7.01 34.747.22 50.00 7.76 N 104 12 20.65 564.94 359.48 0.00 1200.00 98.81 359.48 564.06 7.45.64 764.91 -7.01 34.747.22 50.00 7.76 N 32 0 17.74 W 104 12 20.68 97.45.44 0.00 1200.00 98.81 359.48 359		9800.00	88.49	359.48	9539.84	464.94	464.93	-4.26	364447.26	580890.32	N 32 0 6.77 \	W 104 12 20.65	464.94	359.48	12.00
990.000 88.81 358.48 \$450.30 \$44.44 584.00 100.00 1100.000 88.81 358.48 \$450.30 \$44.44 78.91 7.00 100.00 1100.000 88.81 358.48 \$450.30 \$454.29 84.49 88.90 7.783 384.847.21 88088.66 N 32 0 10.78 VIO.12.20.88 38.94 39.84 39.84 0.00 1100.000 88.81 359.48 \$451.29 89.484 98.890 7.783 384.847.21 88088.66 N 32 0 10.78 VIO.12.20.69 88.94 39.84 0.00 1100.000 88.81 359.48 84.19 8	Landing Point	9810.98	89.81	359.48	9540,00	475.92	475.90								
1000000 BBS1 359.48 9540.83 664.94 664.97 74.94 1 5.00 35467.23 58688.78 N 32 0 17.5 W 104 12.00.77 94.94 359.48 0.00 1100000 BBS1 359.48 9541.02 964.09 965.04 965.00 1064.04 1064.00 1.00 1064.00 10		9900.00	89.81	359.48	9540.30	564.94	564.92	-5.18	364547.25	580889.40	N 32 0 7.76 \	W 104 12 20.66			
10200.00 88.81 359.48 9541.29 88.14 884.90 -7.83 364497.21 580885.68 N 32 01073 W 104 122.00 9 884 39.49 39.48 0.00 10300.00 88.81 359.48 9541.62 884.84 364.90 -8.84 364.971 850885.74 N 32 011.72 W 104 122.07.1 104.44 359.48 0.00 10500.00 88.81 359.48 9542.28 1184.84 1164.88 1-10.67 3554.71 15 360885.74 N 32 011.75 W 104 122.07.1 1164.84 359.48 0.00 10500.00 88.81 359.48 9542.28 1184.84 1164.88 1-12.51 365347.16 360885.31 N 32 011.75 W 104 122.07.1 1164.84 359.48 0.00 10500.00 88.81 359.48 9542.27 1464.84 1364.88 1-12.51 365347.14 580882.07 N 32 015.67 W 104 122.07.1 1164.84 359.48 0.00 10500.00 88.81 359.48 9542.51 1164.84 1364.88 1-12.51 365347.14 \$80882.07 N 32 015.67 W 104 122.07.2 1164.84 359.48 0.00 10500.00 88.81 359.48 9542.51 1164.84 1364.88 1-12.51 365347.14 \$80882.07 N 32 015.67 W 104 12.20.72 1164.84 359.48 0.00 10500.00 88.81 359.48 9543.81 1564.94 1664.87 1-13.42 355467.12 \$80881.19 N 32 015.67 W 104 12.20.72 1164.84 359.48 0.00 11100.00 88.81 359.48 9543.81 1564.94 1664.87 1-13.42 355467.12 \$80881.19 N 32 015.67 W 104 12.20.72 1164.84 359.48 0.00 11100.00 88.81 359.48 9543.81 1564.94 1664.87 1-13.26 365947.10 \$808872.35 N 32 015.68 W 104 12.20.72 1164.84 359.48 0.00 11100.00 88.81 359.48 9543.81 1564.94 1664.87 1-13.26 365947.10 \$808872.35 N 32 015.68 W 104 12.20.72 1664.44 359.48 0.00 11100.00 88.81 359.48 9543.81 1689.48 164.87 1-13.26 365947.07 360877.48 N 32 016.85 W 104 12.20.72 1664.44 359.48 0.00 11100.00 88.81 359.48 9544.25 0264.83 0.00 1664.87 1-13.26 365947.07 360877.49 N 32 016.85 W 104 12.20.72 1664.44 359.48 0.00 11100.00 88.81 359.48 9544.25 0264.83 0.00 1664.87 1-13.26 365947.07 360877.49 N 32 02.05.85 W 104 12.20.73 1664.44 359.48 0.00 11100.00 88.81 359.48 9544.25 0264.83 0.00 1664.87 1-13.20 366947.07 360877.49 N 32 02.05.85 W 104 12.20.73 1664.44 359.48 0.00 11100.00 88.81 359.48 9545.25 0264.83 0.00 1664.87 1-13.20 366947.07 360877.49 N 32 02.05.85 W 104 12.20.73 1664.44 359.48 0.00 11100.00 88.81 359.48 9545.85 0264.83 0.00 1664.87 1-13.20 366947.07 366947.07 366947.79 N 32			89.81	359.48	9540.63	664.94	664.91								
1030,000 B8 81 339.48 954102 964.94 964.95 -8.86 364.97 9.87 82 011.72 W10412.2070 964.94 359.48 0.00 10500.00 88.81 359.48 9542.25 168.49 1064.90 -9.76 365047.18 560885.21 N 2 013.72 W10412.2071 1064.94 359.48 0.00 10500.00 88.81 359.48 9542.25 1264.94 1264.88 -11.99 365.247.15 560882.99 N 32 014.69 W10412.2072 1264.94 359.48 0.00 10500.00 88.81 359.48 9542.25 1264.94 1264.88 -11.99 365.247.15 56082.29 N 32 014.69 W10412.2072 1264.94 359.48 0.00 10500.00 88.81 359.48 9543.91 1664.94 1664.87 14.94 1264.88 13.94 1264.89 1264.94 1264.89 1264.94 1		10100.00	89.81	359.48	9540,96	764.94	764.91	-7.01							
1000000 8881 359.48 95428 1164.94 194.89 1.9.78 385047.18 580884.82 N 32 01271 W104 122071 164.94 359.48 0.00 1650.00 88.81 359.48 9542.81 1164.94 1264.89 11.99 385247.15 580882.99 N 32 014.89 W104 122072 1264.94 359.48 0.00 1670.00 88.81 359.48 9542.81 1264.94 1264.89 11.99 385247.15 580882.99 N 32 014.89 W104 122072 1264.94 359.48 0.00 1670.00 88.81 359.48 9542.81 1264.94 1264.89 11.99 385247.15 580882.99 N 32 014.89 W104 122072 1264.94 359.48 0.00 1670.00 88.81 359.48 9543.27 1464.94 1564.87 145.89		10200.00	89.81	359.48	9541.29	864.94	864.90	-7.93	364847.21	580886.66	N 32 0 10.73 \	W 104 12 20.69	864.94	359.48	0.00
10400.00 89.81 359.48 9541.95 1064.94 1064.90 -9.76 385547.16 560884.82 N 32 0.12.71 W 104 12.20.71 1064.94 359.48 0.00 10500.00 89.81 359.48 0542.81 1284.94 1284.89 -11.99 355247.15 560882.99 N 32 0.14.69 W 104 12.20.72 1284.94 359.48 0.00 10700.00 89.81 359.48 0542.81 1284.94 1284.89 -11.99 355247.15 560882.99 N 32 0.14.69 W 104 12.20.72 1284.94 359.48 0.00 12850.00 89.81 359.48 0543.81 1564.94 164.88 -13.42 3564.71 5608.82 N 32 0.14.69 W 104 12.20.72 1284.94 359.48 0.00 12850.00 89.81 359.48 0543.81 1564.94 1564.87 -15.26 36584.71 5608.82 N 32 0.14.69 W 104 12.20.72 1284.94 359.48 0.00 12850.00 89.81 359.48 0543.81 1564.94 1564.87 -15.26 36584.71 5608.82 N 32 0.14.69 W 104 12.20.72 1284.94 359.48 0.00 12850.00 89.81 359.48 0543.81 1564.94 1564.87 -15.26 36584.71 5608.82 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 12850.00 89.81 359.48 0543.81 1564.94 1564.87 -15.26 36584.71 5608.81 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 12850.00 12850.00 89.81 359.48 0544.81 1564.94 1564.87 -15.26 36584.71 5608.87 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 12850.00 89.81 359.48 0544.81 1564.94 1564.87 -15.26 36584.71 560.87 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 0544.81 1564.94 1564.87 -15.26 36584.71 560.87 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 0544.81 1564.94 1564.87 -15.26 36584.71 560.87 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.94 1564.87 -15.20 36584.71 560.87 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.94 1564.87 -15.20 36584.71 5608.77 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.94 1564.88 17.70 9508.77 N 32 0.16.67 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.94 1564.88 17.70 9508.87 N 32 0.16.87 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.94 1564.88 17.70 9508.87 N 32 0.16.87 W 104 12.20.72 1564.94 359.48 0.00 120.00 89.81 359.48 054.60 1564.84 22.26.49 3 264.83 264.83 264.83 264.83 264.		10300.00	89.81	359.48	9541.62	964.94	964.90	-8.84	364947.19				964,94		
16500.00 89.81 359.48 9542.61 1264.94 1154.89 -10.67 355147.15 550883.91 N 32 0 13.79 W 104 12 20.71 1164.94 359.48 0.00 1600.00 89.81 359.48 9542.61 1264.94 1264.89 -12.51 355347.15 550882.97 N 32 0 15.68 W 104 12 20.72 1264.94 359.48 0.00 1600.00 89.81 359.48 9542.91 1564.94 1364.88 -12.51 355347.14 550882.94 N 32 0 15.68 W 104 12 20.73 1564.94 359.48 0.00 1600.00 89.81 359.48 9543.94 1664.94 1664.87 -14.34 355547.11 550882.94 N 32 0 16.68 W 104 12 20.75 1664.94 359.48 0.00 1600.00 89.81 359.48 9543.94 1664.94 1664.87 -14.34 355547.11 550882.94 N 32 0 17.68 W 104 12 20.75 1664.94 359.48 0.00 1600.00 89.81 359.48 9543.94 1664.94 1664.87 -15.26 35647.02 1665.94 N 32 0 17.68 W 104 12 20.75 1664.94 359.48 0.00 17.00 0.00 89.81 359.48 954.60 1864.94 1664.87 -15.26 35647.00 1660.00 89.81 359.48 954.60 1864.94 1664.87 -15.26 35647.00 1660.00 169.20				359.48	9541.95	1064.94	1064.90	-9.76							
10600.00 89.81 599.48 9542.94 1368.94 1368.49			89.81	359.48	9542.28	1164.94	1164.89	-10.67	365147.16	580883.91	N 32 0 13.70 ¹	W 104 12 20.71			
10700,00 89.81 359.48 9542.94 1394.94 1394.88 -12.51 36534.71.4 \$6908.20 7 N 32 0 15.68 W 104 122.073 1394.34 \$394.8 0.00 1600.00 89.81 359.48 9543.27 1464.84 1564.87 -1.43.4 3654.71.2 \$6008.20 7 N 32 0 15.68 W 104 122.075 1564.4 359.48 0.00 1100.00 89.81 359.48 9543.51 1564.34 1564.87 -1.43.4 36554.71 86080.21 N 32 0 15.08 W 104 122.075 1564.4 359.48 0.00 1100.00 89.81 359.48 954.50 1864.4 1564.87 -1.43.4 36554.71 86080.21 N 32 0 15.68 W 104 122.075 1564.4 359.48 0.00 1100.00 89.81 359.48 954.50 1864.94 1864.84 1664.84			89.81	359.48	9542,61	1264.94	1264.89	-11.59	365247.15	580882.99	N 32 0 14.69 \	W 104 12 20.72			
10000 00 89.81 359.48 9543.61 1564.94 1564.87 -14.34 3859.47.11 \$80880.24 N 32 017.66 W 104 12 20.75 1584.94 359.48 0.00 11000 00 89.81 359.48 9544.50 1664.94 1564.67 -15.26 356547.10 \$80876.27 N 9 32 017.66 W 104 12 20.76 1664.94 359.48 0.00 1100 00 89.81 359.48 9544.60 1664.94 1864.86 -16.17 365747.08 \$80876.41 N 32 018.64 W 104 12 20.77 1764.94 359.48 0.00 1100 00 89.81 359.48 9544.60 1664.94 1864.86 -1.00 365947.05 \$80877.49 N 32 02.05 W 104 12 20.78 1664.94 359.48 0.00 1100 00 89.81 359.48 9545.26 2064.93 2064.85 -18.92 366047.04 \$80875.66 N 32 02.16.2 W 104 12 20.79 1664.93 359.48 0.00 1100 00 89.81 359.48 9545.26 2064.93 2064.85 -18.92 366047.04 \$80875.66 N 32 02.65 W 104 12 20.80 2064.93 359.48 0.00 1100 00 89.81 359.48 9545.26 2064.93 2064.85 -18.92 366047.04 \$80875.66 N 32 02.65 W 104 12 20.80 2064.93 359.48 0.00 1100 00 89.81 359.48 9545.26 2064.93 2064.83 2064.85 -18.92 366047.04 \$80875.66 N 32 02.65 W 104 12 20.80 2064.93 359.48 0.00 1100 00 89.81 359.48 9545.26 264.93 2			89.81	359.48	9542.94	1364.94	1364.88	-12.51	365347.14	580882.07	N 32 015.68 \	W 104 12 20.73	1364.94	359.48	0.00
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11100.00				359.48	9543.61	1564.94	1564.87	-14.34							
11200.00 89.81 359.48 9544.60 1864.94 1864.86 -17.09 365847.07 580877.49 N 32 02.05.8 W 104 12 20.78 1864.94 359.48 0.00 11400.00 89.81 359.48 9545.56 2064.93 2064.85 -18.00 385947.05 580876.85 N 32 02.16.2 W 104 12 20.79 1964.94 359.48 0.00 11400.00 89.81 359.48 9545.56 2064.93 2064.85 -18.00 38594.70 580876.86 N 32 02.16.2 W 104 12 20.80 2064.93 359.48 0.00 11500.00 89.81 359.48 9545.59 2164.93 2164.84 -18.64 386147.03 580876.86 N 32 02.16.2 W 104 12 20.80 22.6 14.93 359.48 0.00 11700.00 89.81 359.48 9545.59 2264.93 2264.81 -18.04 386147.03 580874.75 N 32 02.5 5.5 W 104 12 20.80 22.6 4.93 359.48 0.00 11700.00 89.81 359.48 9546.25 2384.93 2364.83 -21.67 366347.00 580872.91 N 32 02.5 5.7 W 104 12 20.82 2264.93 359.48 0.00 11800.00 89.81 359.48 9546.25 2384.93 2364.83 -21.67 366347.00 580872.91 N 32 02.5 5.7 W 104 12 20.82 2264.93 359.48 0.00 11800.00 89.81 359.48 9546.25 2384.93 2664.83 -22.5 8 3664.64.98 580872.91 N 32 02.5 5.7 W 104 12 20.82 264.93 359.48 0.00 11900.00 89.81 359.48 9547.56 2264.93 2664.82 -24.2 360.864.69 580872.91 N 32 02.6 5.6 W 104 12 20.82 2664.93 359.48 0.00 12000.00 89.81 359.48 9547.56 2764.93 2664.81 26.2 24.2 360.864.69 580872.01 N 32 02.6 5.6 W 104 12 20.82 2664.93 359.48 0.00 12000.00 89.81 359.48 9547.89 2864.93 2864.81 -26.2 3 36684.69 580872.01 N 32 02.6 5.6 W 104 12 20.85 2664.93 359.48 0.00 12000.00 89.81 359.48 9547.89 2864.93 2864.81 -26.2 3 36684.69 580870.17 N 32 02.6 5.6 W 104 12 20.85 2664.93 359.48 0.00 12000.00 89.81 359.48 9547.89 2864.93 2864.81 -26.2 3 36694.69 580870.17 N 32 02.6 5.6 W 104 12 20.87 2864.93 359.48 0.00 12000.00 89.81 359.48 9547.89 2864.93 2864.81 -26.2 3 36694.69 580870.17 N 32 02.6 5.6 W 104 12 20.87 2864.93 359.48 0.00 12000.00 89.81 359.48 954.85 3064.93 3064.80 -2.6 0.0 36746.94 58086.93 30.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		11000.00	89.81	359.48	9543.94	1664.94	1664.87	-15.26	365647.10	580879.33	N 32 0 18.65 \	W 104 12 20.76			
11300.00 89.81 359.48 954.93 1964.94 1964.95 18.00 36.5947.05 580375.58 N 32 0.21.62 W 104 12.20.79 1664.94 359.48 0.00 11400.00 89.81 339.48 9545.59 2164.83 2164.64 19.84 369.47 04 580375.68 N 32 0.21.62 W 104 12.20.81 2164.93 359.48 0.00 11500.00 89.81 339.48 9545.59 2164.83 2164.64 19.84 369.47 01 580375.83 N 32 0.21.68 W 104 12.20.81 2164.93 359.48 0.00 11500.00 89.81 339.48 9545.59 2264.83 2264.63 2264.63 2264.63 2264.63 2264.63 2264.63 2264.64 19.84 369.47 01 580372.83 N 32 0.24.68 W 104 12.20.82 2264.93 359.48 0.00 11700.00 89.81 359.48 9546.62 2264.83 2264.63		11100.00	89.81	359.48	9544.27	1764.94	1764.86	-16.17							
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13200.00 89.81 359.48 9551.18 3864.92 3864.76 -35.41 367846.79 580859.17 N 32 0 40.42 W 104 12 20.97 3864.92 359.48 0.00 13300.00 89.81 359.48 9551.51 3964.92 3964.76 -36.33 367946.78 580858.26 N 32 0 41.41 W 104 12 20.97 3964.92 359.48 0.00 13400.00 89.81 359.48 9551.84 4064.92 4064.75 -37.24 368046.76 580857.34 N 32 0 42.40 W 104 12 20.98 4064.92 359.48 0.00													3764.93	359.48	
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13400.00 89.81 359.48 9551.84 4064.92 4064.75 -37.24 368046.76 580857.34 N 32 0 42.40 W 104 12 20.98 4064.92 359.48 0.00		13300.00	89 81	359.48	9551.51	3964.92	3964.76	-36.33	367946.78	580858.26	N 32 041.41 V	W 104 12 20.97	3964.92	359.48	0.00

0	MD	Incl	Azim Grid	TVD	TVD VSEC	NS -	· EW	Northing	Easting	Latitude	Longitude	Closure Clo	Closure Azimuth	DLS
Comments	(ft) .	· (°)	(°)	(ft)	(ft)	(ft)	(ft)	(ftUS)	(ftUS)	(N/S ° ' ")	(E/W ° ' ")	(ft)	(°)	(°/100ft)
	13600.00	89.81	359,48	9552.49	4264.92	4264:74	-39.08	368246.74	580855.51 · N	I 32 0 44 37 W	/ 104 12 21.00	4264.92	359.48	0.00
•	13700.00	89.81	359.48	9552.82	4364.92	4364.74	-39.99	368346.72	580854.59 N	1 32 0 45.36 W	/ 104 12 21.01	4364.92	359.48	0.00
	13800.00	89.81	359.48	9553.15	4464.92	4464.73	-40.91	368446.71	580853.68 N	1 32 0 46.35 W	/ 104 12 21.02	4464.92	359.48	0.00
	13900.00	89.81	359.48	9553.47	4564.92	4564.73	-41.82	368546.69	580852.76 N	32 047.34 W	/ 104 12 21.03	4564.92	359.48	0.00
	14000.00	89.81	359.48	9553.80	4664.92	4664,72	-42.74	368646.68	580851.84 N	I 32 048.33 W	/ 104 12 21.04	4664.92	359.48	0.00
	14100.00	89.81	359,48	9554.13	4764.92	4764.72	-43.66	368746.67	580850.93 N	32 049.32 W	/ 104 12 21.05	4764.92	359.48	0.00
	14200.00	89.81	359.48	9554.46	4864.92	4864.72	-44.57	368846.65	580850.01 N	32 0 50.31 W	/ 104 12 21.06	4864.92	359.48	0.00
	14300.00	89.81	359.48	9554.78	4964.92	4964.71	-45.49	368946.64	580849.10 N	I 32 0 51.30 W	/ 104 12 21.07	4964.92	359.48	0.00
	14400.00	89.81	359.48	9555,11	5064.92	5064.71	-46.40	369046.62	580848.18 N	1 32 0 52.29 W	/ 104 12 21.08	5064.92	359.48	0.00
	14500.00	89.81	359.48	9555.44	5164.92	5164.70	-47.32	369146.61	580847.26 N	1 32 0 53.28 W	/ 104 12 21.09	5164.92	359.48	0.00
	14600.00	89.81	359.48	9555.76	5264.92	5264.70	-48.24	369246.60	580846.35 N	32 054.27 W	/ 104 12 21.09.	5264.92	359.48	0.00
	14700.00	89.81	359.48	9556.09	5364.92	5364.69	-49.15	369346.58	580845.43 N	32 0 55.26 V	/ 104 12 21.10	5364.92	359.48	0.00
	14800.00	89.81	359.48	9556.42	5464.92	5464.69	-50.07	369446.57	580844.52 N	32 0 56.25 W	/ 104 12 21.11	··5464.92	359.48	0.00
	14900.00	89.81	359.48	9556.74	5564.92	5564.68	-50.98	369546.56	580843.60 N	32 0 57 24 W	/ 104 12 21.12	5564.92	359.48	0.00
	15000.00	89.81	359.48	9557.07	5664:92	5664.68	-51.90	369646.54	580842 69 N	32 0 58.23 W	/ 104 12 21.13	5664.92	359.48	0.00
	15100.00	89.81	359.48	9557.40	5764.91	5764.67	-52.82	369746.53		32 0 59.22 W		5764.91	359.48	0.00
	15200.00	89.81	359.48	9557.72	5864.91	5864.67 .	-53.73	369846.51		32 1 0.21 W		5864.91	359.48	0.00
	15300.00	89.81	359.48	9558.05	5964.91	5964,66	-54.65	369946.50	580839 94 N	! 32 1 1.20 W	/ 104 12 21 16	5964:91	359.48	0.00
	15400.00	89.81	359.48	9558.37	6064.91	6064.66	-55.56	370046.49		32 1 2.19 W		6064.91	359.48	0.00
	15500.00	89.81	359,48	9558.70	6164.91	6164.65	-56,48	370146.47		32 1 3.18 W		6164.91	359.48	0.00
	15600.00	89.81	359.48	9559.03	6264.91	6264.65	-57,40	370246.46		1 32 1 4.16 W		6264.91	359.48	0.00
	15700,00	89.81	359.48	9559.35	6364.91	6364.64	-58,31	370346.44		32 1 5.15 W		6364.91	359.48	0.00
**************************************	10700,00	09.01	333.40	9009,00	0304.91	0304.04	-50.51	370040.44		. 32 1 3.13 4	104 12 21,20	0304.9.1	339.40	0.00
	15800.00	89.81	359.48	9559.68	6464.91	6464.64	-59.23	370446.43	580835,36 N	32 1 6.14 W	/ 104 12 21.21	6464.91	359.48	0.00
Cimarex Medwick 32 Federal #11H PBHL	15899.13	89.81	359.48	9560.00	6564.04	6563.77	-60.14	370545.55	580834.45 N	1 32 1 7.12 W	/ 104 12 21.22	6564.04	359,48	0.00

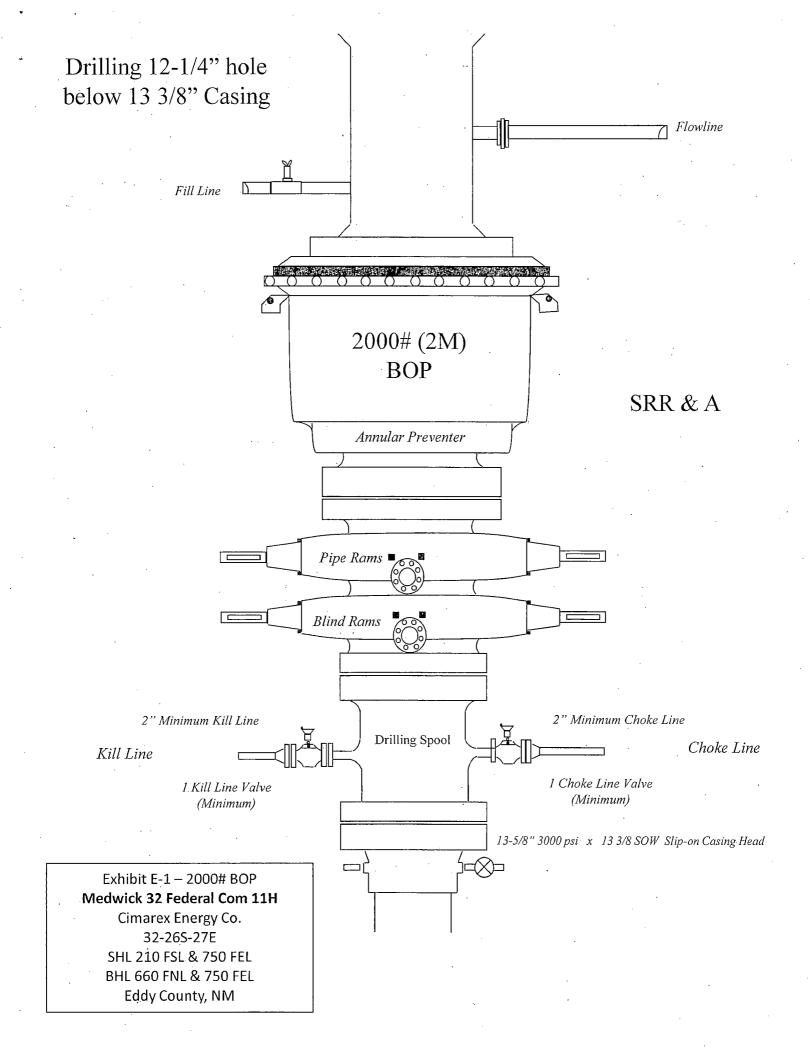
Survey Type:

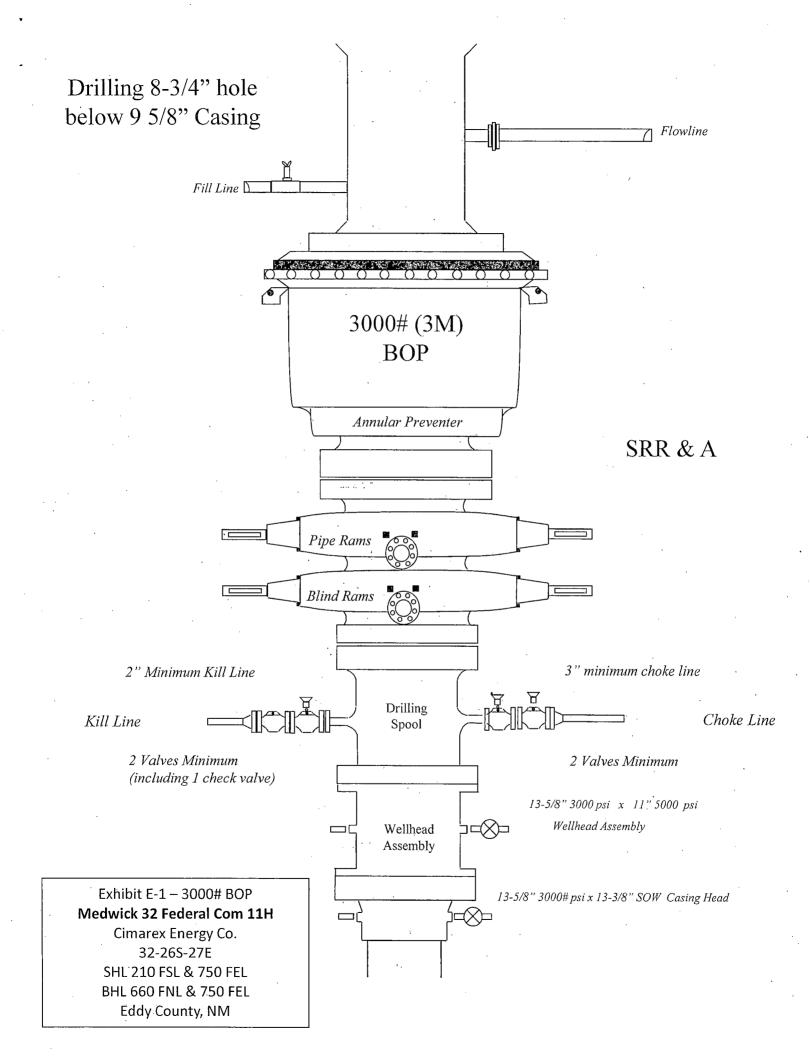
Non-Def Plan

Survey Error Model: Survey Program:

ISCWSA Rev 0 *** 3-D 95.000% Confidence 2,7955 sigma

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size Casi (in)	ing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	15899.133	1/100.000	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Medwick 32 Federal #11H Rev0





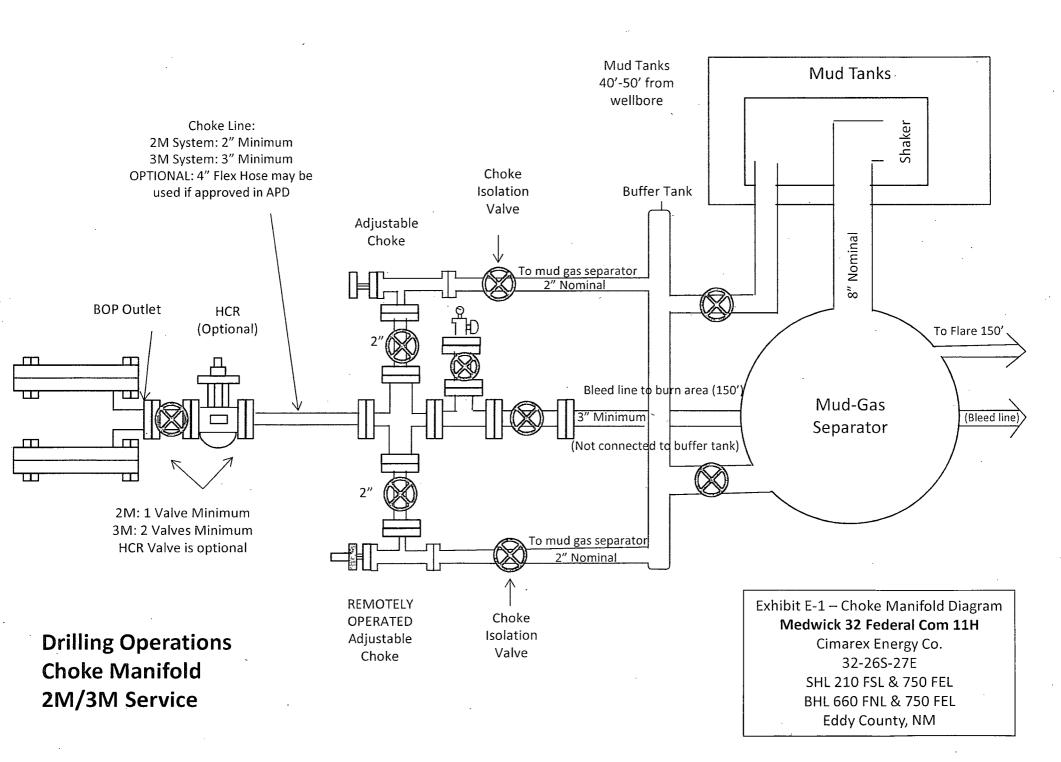


Exhibit F-1 – Co-Flex Hose Hydrostatic Test

Medwick 32 Federal Com 11H

Cimarex Energy Co. 32-26S-27E SHL 210 FSL & 750 FEL BHL 660 FNL & 750 FEL Eddy County, NM



Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT								
Customer:				P.O. Number				
	Oc	derco Inc		odyd-2	71			
		HOSE SPECII	FICATIONS					
Type: Sta	ainless S	teel Armor						
Ch	oke & Ki	II Hose	·	Hose Length:	45'ft.			
I.D.	4	INCHES	O.D.	9	INCHÉS			
WORKING PRES	SSURE	TEST PRESSUR	E	BURST PRESSU	₹E			
10,000	PSI	15,000	PSI	0	PSI			
· · · · · · · · · · · · · · · · · · ·		<u> </u>		<u> </u>				
		COUF	PLINGS					
Stem Part No			Ferrule No.		•			
	OKC OKC			OKC OKC				
Type of Cou				ORC				
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Swage-It	<u>t</u>						
		PROC	CEDURE		,			
				4 4				
		<i>pressure tested wi</i> TEST PRESSURE	•	URST PRESSURE:	**			
		·	ACTUALL	OKOTT KEOGOKE.				
	15	MIN.	·	0	PSI			
Hose Assem	-	al Number:	Hose Serial Number:					
	79793		<u> </u>	окс	1			
Comments:	· .							
Date:		Tested:	<u> </u>	Approved:				
3/8/20	11 -	a.	Jaim Jone	ferial	let-			

Exhibit F-1 - Co-Flex Hose Hydrostatic Test Medwick 32 Federal Com 11H

Cimarex Energy Co. 32-26S-27E SHL 210 FSL & 750 FEL BHL 660 FNL & 750 FEL Eddy County, NM

Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

Pick Ticket #: 94260

Enal O.D. 6.25" Hose Assembly Serial # 79793 Coupling Method Verification Type of Fitting 4 1/16 10k Die Size 6.38" Hose Serial # 5544 Standard Stiety Multiplier Applies Burst Pressure 0.D. 6.09" Hose Specifications Working Pressure =

Was a **Pressure Test** Kla aria

Time in Minutes e. Seg Kasnis Marin

Time Held at Test Pressure 11 Minutes

Test Pressure 15000 PSI

Tested By: Zoc Mcconnell

Approved By: Kim Thomas

Peak Pressure 15483 PSI

Actual Burst Pressure

15000

14000

PSI 3000 i

4000 2000

10000 12000

Midwest Hose & Specialty, Inc.

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

Exhibit F-2 – Co-Flex Hose Medwick 32 Federal Com 11H

Cimarex Energy Co. 32-26S-27E SHL 210 FSL & 750 FEL BHL 660 FNL & 750 FEL Eddy County, NM



Midwest Hose & Specialty, Inc.

	α p	ectaity, i	dic.					
	Certificat	e of Conf	ormity					
Customer	: Dem		PO ODYD-271					
	SPE	CIFICATION	S					
Sales Orde	r 79793	Dated: 3/8/2011						
		,						
	·							
	We hereby cerify that for the referenced puraccording to the requested and current independent	irchase orde iirements of	er to be true the purchase					
	Supplier: Midwest Hose & Spe 10640 Tanner Road Houston, Texas 7704							
Comment	s:							
Approved:	Joons Director		Date: 3/8/2011					



Exhibit F -3— Co-Flex Hose

Medwick 32 Federal Com 11H

Cimarex Energy Co.

32-26S-27E

SHL 210 FSL & 750 FEL

BHL 660 FNL & 750 FEL

Eddy County, NM

Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges. API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant 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:

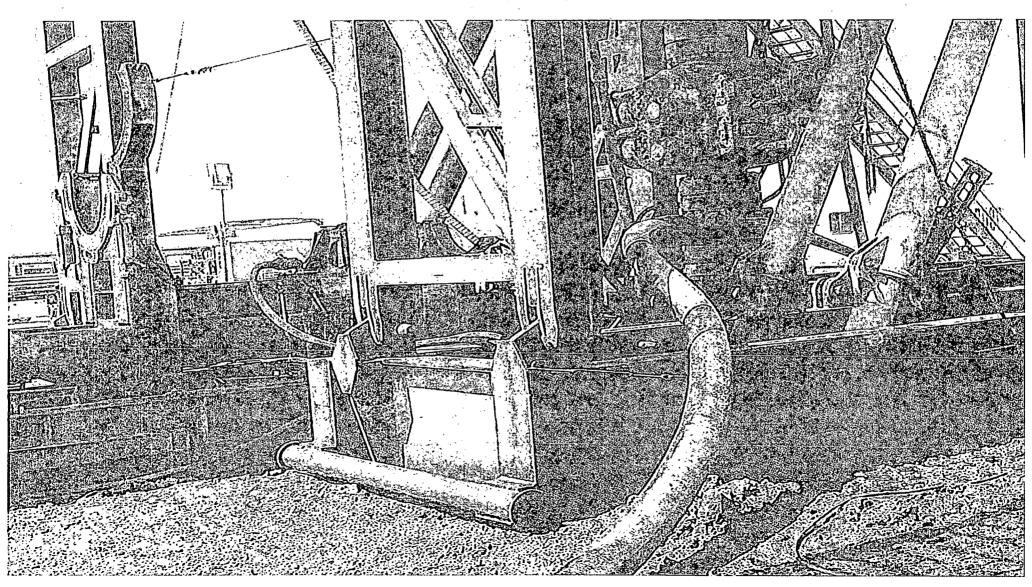
2-1/2", 3", 3-1/2", 4"

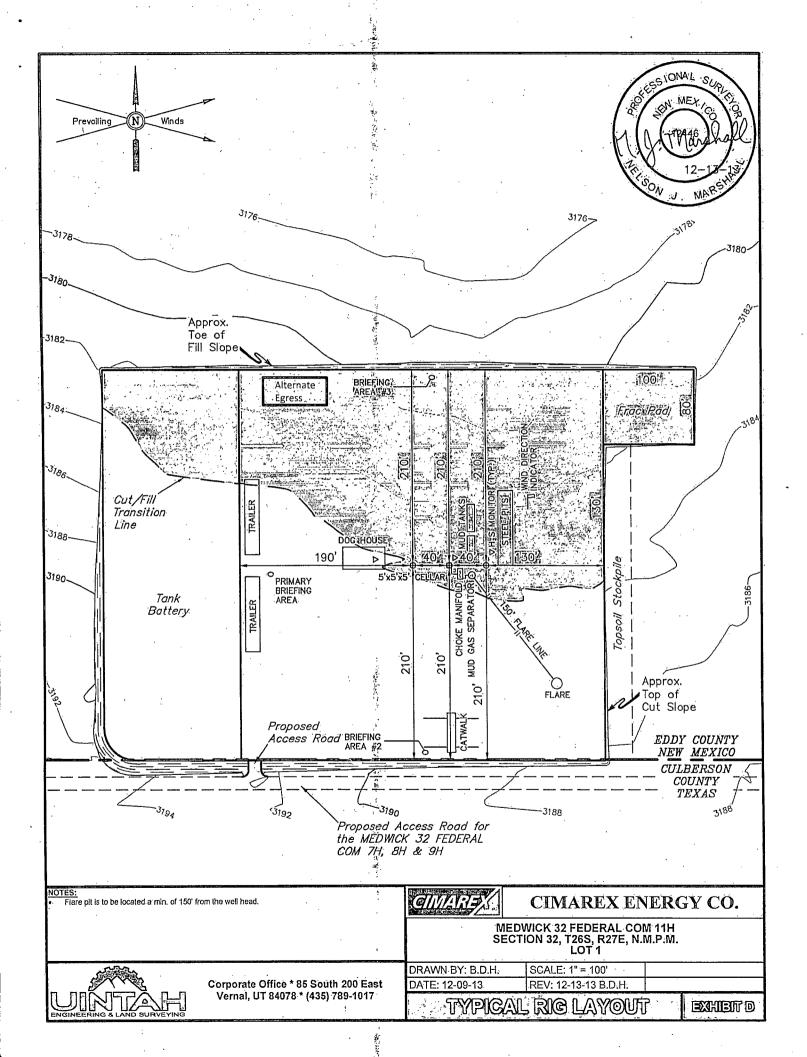
Operating Temperature:

-22 deg F to +180 deg F (-30 deg C to +82 deg C)

Exhibit F – Co-Flex Hose Medwick 32 Federal Com 11H

Cimarex Energy Co. 32-26S-27E SHL 210 FSL & 750 FEL BHL 660 FNL & 750 FEL Eddy County, NM





Hydrogen Sulfide Drilling Operations Plan

Medwick 32 Federal Com 11H

Cimarex Energy Co. UL: 1, Sec. 32-26S-27E 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
- 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.
- В. An audio alarm system will be installed on the derrick floor and in the top doghouse.

3 Windsock and/or wind streamers:

- Windsock at mudpit area should be high enough to be visible.
- Windsock on the rig floor and / or top doghouse should be high enough to be visible.

4 Condition Flags and Signs

- 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 seperator will be brought into service along with H₂S scavengers if necessary.

H₂S Contingency Plan Medwick 32 Federal Com 11H

Cimarex Energy Co. UL: 1, Sec. 32-26S-27E 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

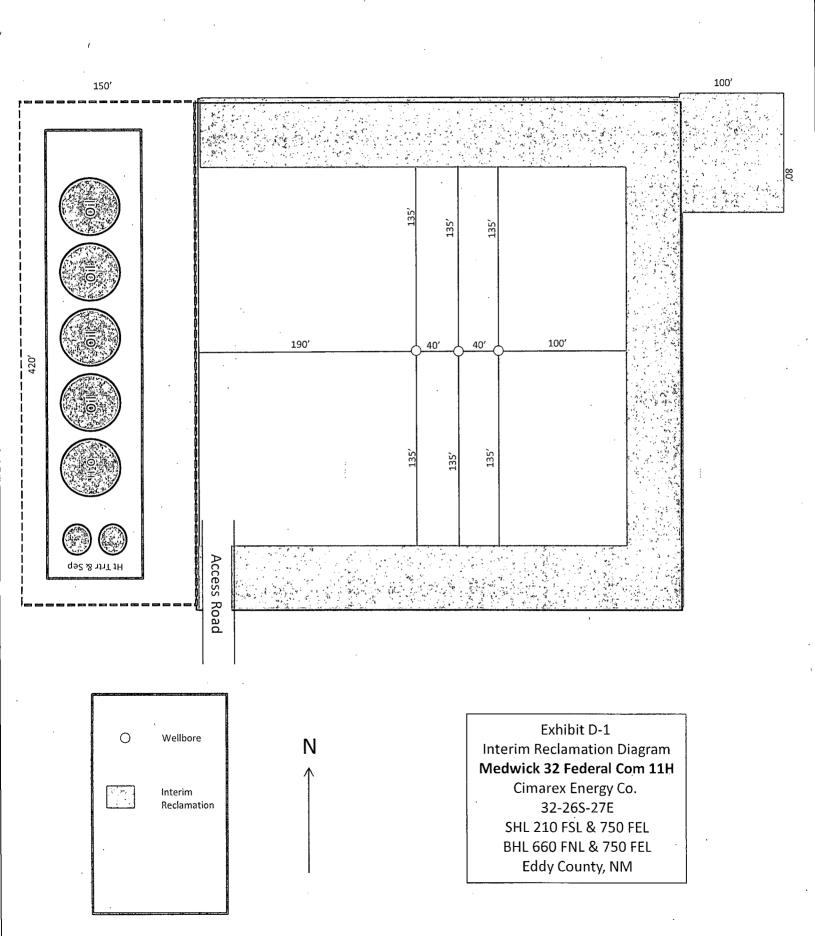
Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident 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

Cital action to the					
Common	Chemical	Specific	Threshold	Hazardous	Lethal
Name	Formula	Gravity	Limit	Limit	Concentration
Hydrogen Sulfide	H₂S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO₂	2.21 Air=1	2 ppm	N/A	1000 ppm

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).



Surface Use Plan Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

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 Ḥighway 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 WHITES CITY ROAD PROCEED IN A SOUTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 9.0 MILES TO THE BEGINNING OF THE PROPOSED ACCESS FOR THE MEDWICK 32 FEDERAL COM 7H, 8H & 9H TO THE NORTH; FOLLOW ROAD FLAGS IN A NORTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 4,326' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE NORTH; FOLLOW ROAD FLAGS IN A NORTHERLY DIRECTION APPROXIMATELY 25' 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 or Reconstructed Access Roads:

A new road will be constructed for this project.

Cimarex Energy plans to construct 25' 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.

The operator will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

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

Surface Use Plan Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

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 at the wellsite. Exhibit D-1 illustrates the proposed facility/battery. Any changes to the facility will be submitted via sundry notice.

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.

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 Medwick 32 Federal Com #11H

Cimarex Energy Co. UL: 1, Sec. 32, 26S, 27E Eddy Co., NM

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.
- The wellsite is on surface owned by Bureau of Land Management. The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.
- An archaeological survey will be conducted on the location and proposed roads and this report will be filed with the Bureau of Land Management.
- There are no known dwellings within 1½ miles of this location.

13. On Site Notes and Information:

OnSite Results: Legion Brumley w/ BLM on Site 8/23/13. V-Door South. Frac pad at northeast corner (East). Top soil East. Interim reclamation: North, South, East. Battery on west side of pad (150' X 420'). Access Road from Southwest corner, South, to new road to be built in texas. Compressors to be installed on the battery pads. Texas Road & flowline route surface owner: Rustler Hills II Limited Partnership, Draper Brantley, 1304 W. Riverside Drive, Carlsbad, New Mexico 88220; Phone 575.706.3169

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
COUN

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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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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 Lessees, 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)

Cattleguard

Cattleguard will be gated and closed at all times except for vehicles entering or exiting throughout the life of the wells.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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

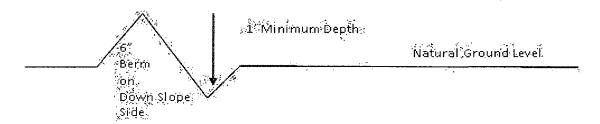
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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.

Construction Steps

- 1. Salvage topsoil
- 2. Construct road
- 3. Redistribute topsoil
- 4. Revegetate slopes

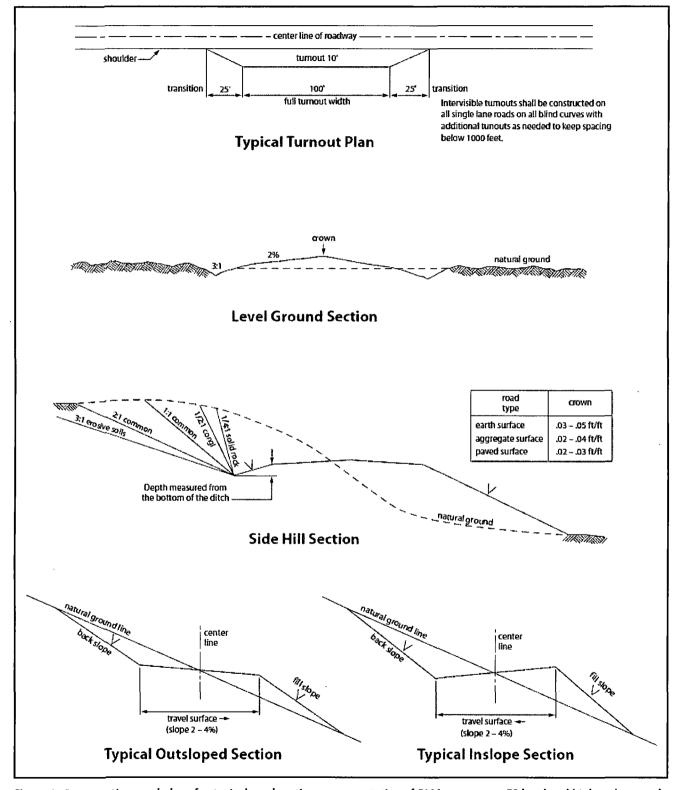


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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. Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts 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 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) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Medium Cave/Karst

Possibility of water flows in the Castile and Delaware.

Possibility of lost circulation in the Salado and Delaware.

Abnormal pressures may be encountered within the 3rd Bone Spring and Wolfcamp formations.

- 1. The 13-3/8 inch surface casing shall be set at approximately 400 feet and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt. Excess calculates to 20% 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, which shall be set at approximately 1900 feet, 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.		
If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.		
Centralizers approved as written.		
3. The minimum required fill of cement behind the 7 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 23% - Additional cement may be required.		
Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.		
4. The minimum required fill of cement behind the 4-1/2 inch production Liner is:		
Cement as proposed by operator. Operator shall provide method of verification. Excess calculates to 24% - Additional cement may be required.		
5. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7 production casing shoe shall be 5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 6. 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.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

JAM 021214

VIII. 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 until the operator removes 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 1½ 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 1½ 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, heater-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, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. **PIPELINES**

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you 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. The 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. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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 especially, 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. The 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 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 agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
- 4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil 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 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 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 the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

- 5. All construction and maintenance activity will be confined to the authorized right-of-way.
- 6. The pipeline will be buried with a minimum cover of <u>36</u> inches between the top of the pipe and ground level.
- 7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:
 - Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed <u>20</u> feet. The trench is included in this area. (Blading is defined as the complete removal of brush and ground vegetation.)
 - Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.)
 - The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (Compressing can be caused by vehicle tires, placement of equipment, etc.)
- 8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6__ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.
- 9. 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.
- 10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.
- 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. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	() seed mixture 3
() seed mixture 2	() seed mixture 4
() seed mixture 2/LPC	() Aplomado Falcon Mixture

- 13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" **Shale Green**, Munsell Soil Color No. 5Y 4/2.
- 14. 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. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.
- 15. 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 before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.
- 16. Any cultural and/or paleontological resources (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 actions to prevent the loss of significant 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.
- 17. 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 associated roads, 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.
- 18. <u>Escape Ramps</u> The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:
 - a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench
 - b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

C. ELECTRIC LINES (not applied for in APD)

IX. 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 1, for Loamy 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 no 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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:

Species	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

^{*}Pounds of pure live seed:

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