ATS-15-1061

OCD Artesia

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM11038

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other SWD ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. Fuller 14 Fed SWD #1

2. Name of Operator Mewbourne Oil Company

9. API Well No. 30-015-43630

3a. Address PO Box 5270 Hobbs, NM 88241

3b. Phone No. *(include area code)* 575-393-5905

10. Field and Pool, or Exploratory Devonian

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface 2301' FSL & 2533' FEL, Sec 14 T26S R29E

At proposed prod. zone

UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area Sec. 14 T26S R29E

14. Distance in miles and direction from nearest town or post office* 16 miles SE of Malaga, NM

12. County or Parish Eddy

13. State NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
2301'	640	

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
321' - Gulf Fed Dillon #1	16,540' - TVD 16,540' - MD	NM1693 nationwide & NMB-000919

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
2935' - GL	12/01/2015	60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
Title	Bradley Bishop	09/23/2015

Approved by *(Signature)* /S/ STEPHEN J. CAFFEY	Name *(Printed/Typed)*	Date FEB 03 2016
Title FOR FIELD MANAGER	Office BLM-CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Witness Surface Casing

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 11 2016
RECEIVED

2/9/16

SUBJECT TO LIKE APPROVAL BY STATE

Carlsbad Controlled Water Basin

NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 11 2016
RECEIVED

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015-43630	96101	DEVONIAN; SWD

4 Property Code	5 Property Name	6 Well Number
315996	FULLER 14 FED SWD	1H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2935'

10 Surface Location

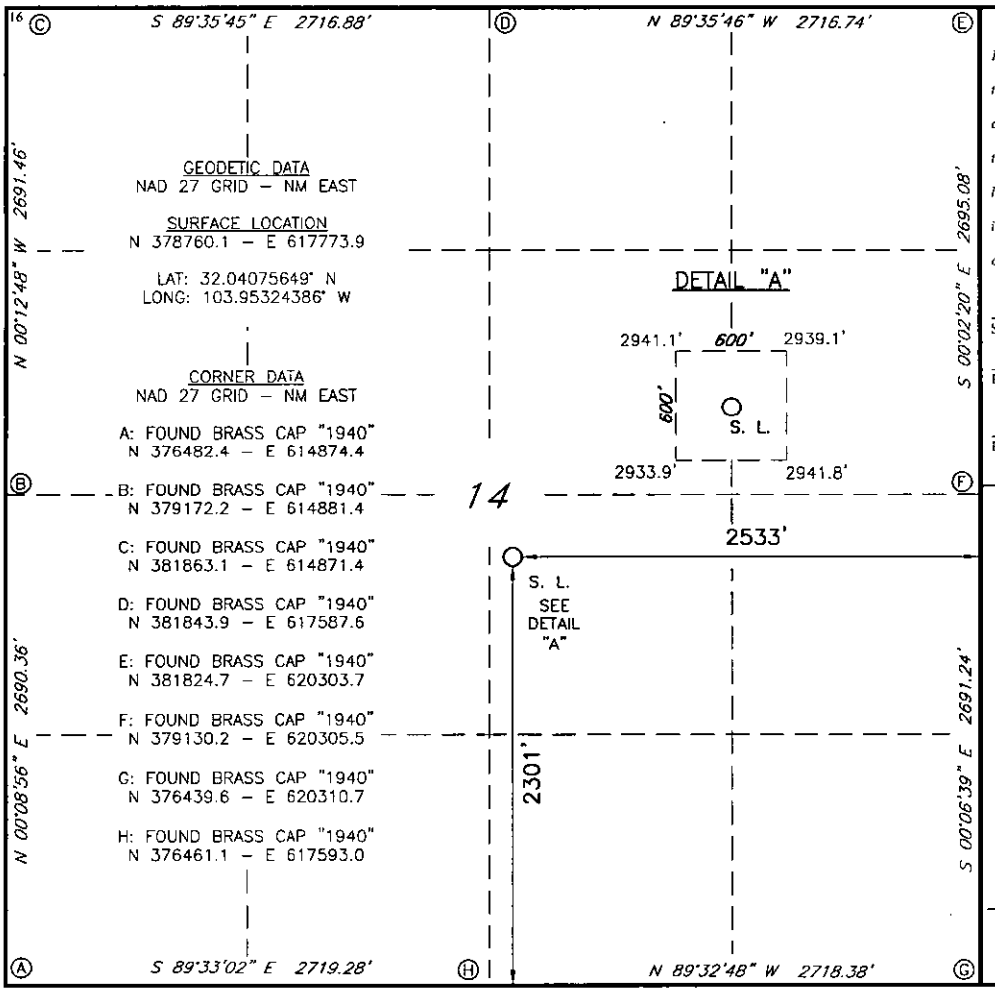
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
J	14	26S	29E		2301	SOUTH	2533	EAST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
Ø			

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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — 9.23.15 Date

BRADLEY BISHOP
Printed Name

E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

4-9-15
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Firm No.: TX 10193838 NM 4655451 – Job No.: LS1503074

Mewbourne Oil Company

PO Box 5270
Hobbs, NM 88241
(575) 393-5905

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 23 day of Sept, 2015.

Name: Robin Terrell

Signature: R. Terrell for RT

Position Title: Hobbs District Manager

Address: PO Box 5270, Hobbs NM 88241

Telephone: 575-393-5905

E-mail: rterrell@mewbourne.com

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 E Greene Street
Carlsbad, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Mewbourne Oil Company
Street or Box: P.O. Box 5270
City, State: Hobbs, New Mexico
Zip Code: 88241

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted of the leased land or portion thereof, as described below.

Lease Number: NMNM 11038

Legal Description of Land: Section 14, T-26S, R-29E Eddy County, New Mexico.
Location @ 2301' FSL & 2533' FEL.

Formation (if applicable): Devonian; SWD

Bond Coverage: $150,000

BLM Bond File: NM1693 Nationwide, NMB - 000919

Authorized Signature: FOR RT
Name: Robin Terrell
Title: District Manager
Date: 9-23-15

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance ___X___Disposal _____Storage
Application qualifies for administrative approval? ___X___Yes _____No

II. OPERATOR: **Mewbourne Oil Company**

ADDRESS: **500 W. Texas Suite 1020**
Midland, TX 79701

CONTACT PARTY: **Travis Cude** PHONE: **432-682-3715**

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes ____X____No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: **Travis Cude** TITLE: **Reservoir Engineer**

SIGNATURE: _____ DATE: _____

E-MAIL ADDRESS: **tcude@mewbourne.com**

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: **Mewbourne Oil Company**

WELL NAME & NUMBER: **Fuller 14 Federal SWD #1**

WELL LOCATION:	**2301' FSL & 2533' FEL**	**J**	**14**	**26S**	**29E**
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC *(See Attached)*

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **26"**

Casing Size: **20" @ 575'**

Cement with: **1500 sx**

Top of Cement: **Surface**
(Proposed: circulated)

Intermediate Casing

Hole Size: **17 1/2"**

Casing Size: **13 3/8" @ 3000'**

Cement with: **1700 sx**

Top of Cement: **Surface**
(Proposed: circulated)

Intermediate 2 Casing

Hole Size: **12 1/4"**

Casing Size: **9 5/8" @ 11,000'**

Cement with: **1700 sx**

Top of Cement: **Surface**
(Proposed: circulated)

Intermediate 3 Liner

Hole Size: **8 1/2"**

Casing Size: 7" **Top @ 10,500'**
Bottom @ 15,540'

1st Stg Cement with : **750 sx**
DVT @ 15,500'
External Csg Packer @ 15,525'

Top of Cement: **Surface**
(Proposed: circulated)

TD @ 16540'

Injection Interval
Open Hole Completion from 15540'-16540'

INJECTION WELL DATA SHEET

Tubing Size: **3 1/2"9.3# L80** Lining Material: **TK99 IPC**

Type of Packer: **Arrowset 1X (nickel plated)**

Packer Setting Depth: **+/- 15,490**

Other Type of Tubing/Casing Seal (if applicable): **N/A**

Additional Data

1. Is this a new well drilled for injection? **Yes**

   If no, for what purpose was the well originally drilled? **N/A**

2. Name of the Injection Formation: **Devonian, Open Hole Completion**

3. Name of Field or Pool (if applicable): **SWD, Devonian**

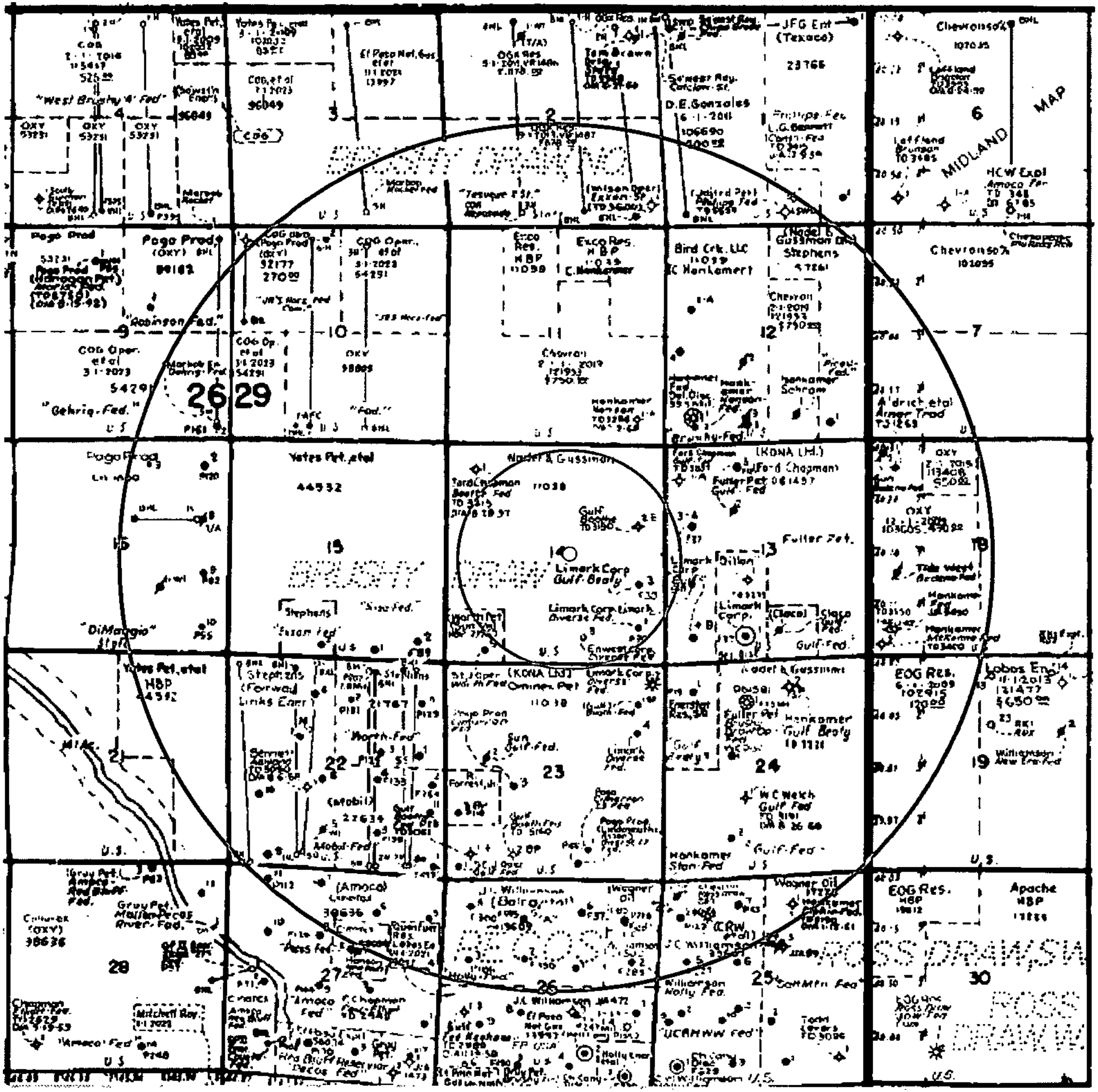
4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

   N/A

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area:

   Overlying producing zone – **Morrow, 13105'-15165'**

   Underlying producing zone – **N/A**



MIDLAND MAP

Fuller 14 Federal SWD #1 C-108
Additional Details

VI. There are no wells penetrating the disposal formation within the area of review.

VII. 1. Proposed average rate of 10,000 bwpd and maximum rate of 25,000 bwpd.

2. Closed system.

3. Proposed average injection pressure is unknown and the maximum injection pressure is approximately 3108 psi (0.2 psi/ft x 15,540 ft).

4. Injection fluid will be formation water from the Mewbourne Oil Company operated wells planned in the area. Attached is a water analysis from the Brushy Draw 1 Fed 1H (Avalon Shale: 35-23S-28E), Delaware Ranch 12 NC Fed Com 1H(2^{nd} Bone Spring Sand: 12-26S-28E), and the Delaware Ranch 14 CN Fee Com 1H (Wolfcamp Shale: 14-26S-28E).

5. We will be injecting into the Devonian formation. Devonian formation water is known to be compatible with the formation water of the Bone Spring and Wolfcamp; however, water analysis for the Devonian was not available in the area.

VIII. 1. The proposed injection interval is within the Devonian formation which is a porous dolomitic limestone from 15540' to 16,600'.

2. The underground fresh water aquifers (unnamed) are present at shallow depths <100'. There are no known fresh water intervals underlying the injecting formation.

IX. The proposed stimulation is an open-hole acid treatment of 20000 gallons of 15% HCL.

IX. No logs are currently on file with the Division. The appropriate log data will be filed upon drilling and completion of proposed well.

X. There are no water wells on file with the State Engineers Office in the area of interest.

XI. Mewbourne Oil Company has examined geologic and engineering data and has found that there is no evidence of faulting between the proposed disposal zone and any underground sources of drinking water.

XII. See attached Proof of Notice

Mewbourne Oil Company

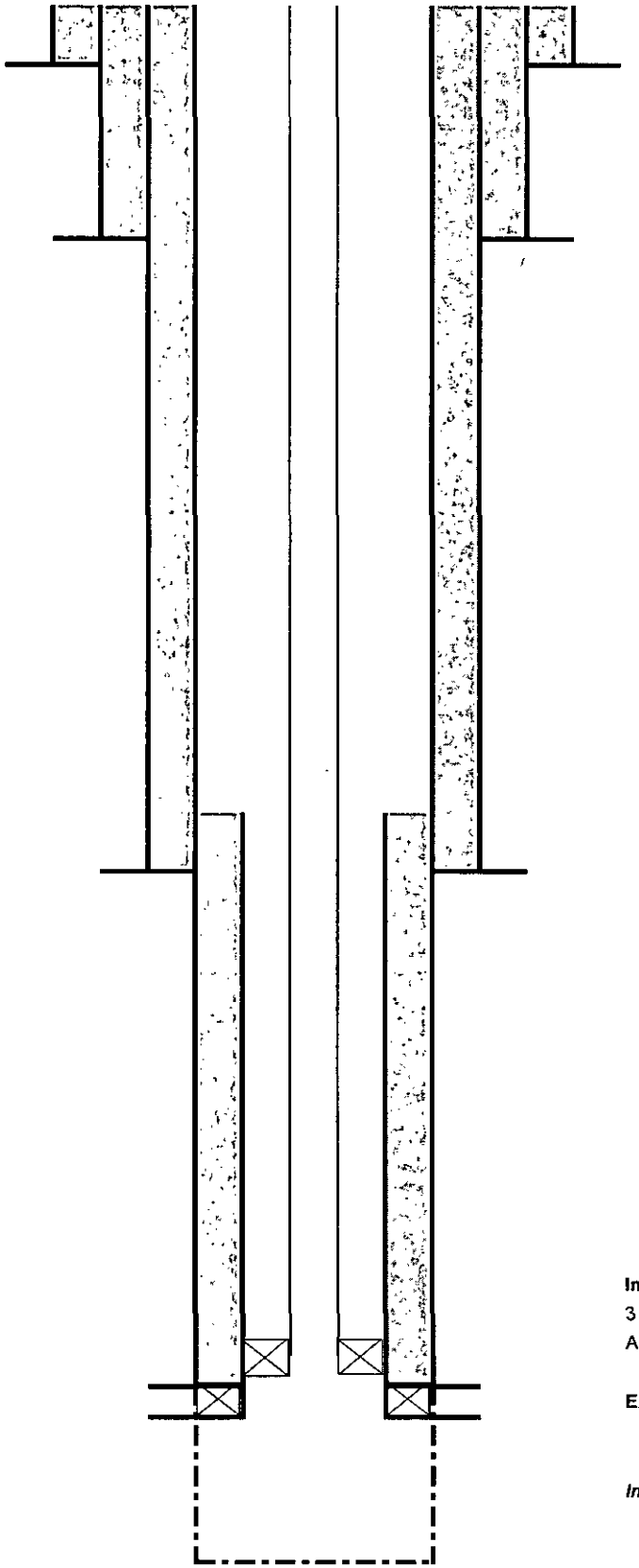
Well Name: Fuller 14 Federal SWD #1

Last Updated by: T Cude on 03/09/2015

26" x 20" J-55 ST&C csg
Set @ 575'
Cmt w/ 1500 sx, circ to surface

17 1/2" x 13 3/8" 61# J-55 ST&C csg
Set @ 3000'
Cmt w/ 1700 sx, circ to surface

12 1/4" x 9 5/8" 43.5# HCL80 LT&C csg
Set @ 11000'
Cmt w/ 1900 sx, circ to surface



DVT @ 15,500'
8 1/2" x 7" 26# HCP-110 LTC
Set @ 10,500'-15,540'
Cmt w/ 750 Sx, TOC 10,500'

8 3/4" Open Hole
TD @ 16,540'

Injection String
3 1/2" 9.3# L80 tbg IPC w/TK99
Arrowset 1X Nickel Pltd Pkr set @ 15,490'

External Csg Pkr Set @ 15,525'

Injection Invterval 15,540'-16,540'

Mewbourne Oil Company, Fuller 14 Federal SWD #1
Sec 14, T26S, R29E
SL: 2301' FSL & 2533' FEL

1. Geologic Formations

TVD of target	16540'	Pilot hole depth	NA
MD at TD:	16540'	Deepest expected fresh water:	125'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	530		
Top of Salt	2380		
Tansill	2885	Barren	
Lamar	3080	Oil	
Bell Canyon	3130		
Cherry Canyon			
Manzanita Marker			
Brushy Canyon			
Bone Spring	6900	Oil/Gas	
Wolfcamp	10050	Oil/Gas	
Canyon			
Strawn			
Atoka	13000		
Morrow	13475	Gas	
Devonian	15540	Target Zone	

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Proposed Drilling Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
26"	0'	~~575'~~ 500'	20"	94	J55	BTC	1.74	7.05	14.49
17.5"	0'	1932'	13.375"	54.5	J55	STC	1.13	2.72	2.97
17.5"	1932'	2632'	13.375"	61	J55	STC	1.13	2.26	8.78
17.5"	2632'	3000'	13.375"	68	J55	STC	1.25	2.21	27.01
12.25"	0'	6573'	9.625"	40	HCL80	LTC	1.13	1.53	1.81
12.25"	6573'	8702'	9.625"	43.5	HCL80	LTC	1.13	1.27	4.67
12.25"	8702'	10150'	9.625"	47	HCL80	LTC	1.67	1.50	17.71
8.5"	9650'	15540'	7 5/8"	39	P110	ST-L*	1.15	1.37	3.42
6.5"	15540'	16540'	OPEN HOLE						
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

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

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

3. Cementing Program

Casing	#Sks	Wt. lb/ gal	Yld ft3/ sack	H_2O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	700	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride +0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	5	Tail: Class C + 0.005pps Static Free + 1% CaCl2 + 0.25 pps CelloFlake + 0.005 gps FP-6L
Inter.	1110	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride +0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	5	Tail: Class C + 0.005pps Static Free + 1% CaCl2 + 0.25 pps CelloFlake + 0.005 gps FP-6L
2nd Inter.	1275	12.0	2.10	11	10	1st Lead: (60:40) Class H + 3% Salt + 6% Enhancer
	400	15.6	1.18	5.2	10	1st Tail: Class H + 0.65% FL-52 + 0.10% R-3 + 0.005 lb/sk Static Free
	DV/ECP Tool 3100'					
	515	12.5	2.12	11	10	2nd Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride +0.25lb/sk Cello-Flake
	100	14.8	1.32	8	6	2nd Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Liner	480	15.6	1.18	5.2	10	Class H + 0.65% FL-52 + 0.10% R-3 + 0.005 lb/sk Static Free

A copy of cement test will be available on location at time of cement job providing pump times & compressive strengths.

Casing String	TOC	% Excess
Surface (20")	0'	100%
First Intermediate (13 3/8")	0'	25%
Second Intermediate (9 5/8")	0'	25%
Liner (7 5/8")	9650'	25%

4. Pressure Control Equipment

Y	Variance: A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
	A capping flange will be installed to secure well before drilling rig is moved.

BOP installed and tested before drilling which hole?	Blind Ram		Type	✓	Tested to:
12-1/4"	13 5/8"	10M	Annular	X	2500#
			Blind Ram	X	5000#
			Pipe Ram		
			Double Ram	X	
			Other*		
8-1/2"	13 5/8"	10M	Annular	X	5000#
			Blind Ram	X	10000#
			Pipe Ram		
			Double Ram	X	
			Other*		
6-1/2"	13 5/8"	10M	Annular	X	5000#
			Blind Ram	X	10000#
			Pipe Ram		
			Double Ram	X	
			Other*		

*Specify if additional ram is utilized.

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

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

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

	On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	Variance: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • Provide description here See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0'	~~575'~~ 500'	Fresh Water	8.4-8.7	28	NA
~~575'~~	3000'	Brine Water	10.0	29	NA
3000'	10150'	Cut Brine	8.7-10.0	30-40	<20
10150'	15540'	Cut Brine	8.7-13.0	30-40	<10
15540'	16540'	Cut Brine	9.0	29	NA

See COA

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

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

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	0' - 16540'
	Density	
X	CBL	0' - 15540'
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7173 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

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

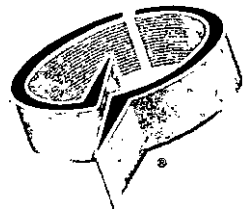
8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments
___ Directional Plan
___ Other, describe

ATLAS BRADFORD TECHNICAL SPECIFICATIONS

ST-L **Casing** **7-5/8 in** **39.00 lb/ft** **V&M P-110 EC**



GRANT PRIDECO

1450 Lake Robbins Drive, Suite 400
The Woodlands, Texas, USA 77380
Phone: (281) 297-8500
(800) 231-0283
Fax: (281) 297-8525
E-mail: atlasbradford@grantprideco.com

	Material	
V&M P-110 EC	Grade	
110,000	Minimum Yield Strength (psi)	
125,000	Minimum Ultimate Strength (psi)	
	Pipe Dimensions	
7.625	Nominal Pipe Body OD (in)	
6.625	Nominal Pipe Body ID (in)	
0.500	Nominal Wall Thickness (in)	
39.00	Nominal Weight (lbs/ft)	
38.08	Plain End Weight (lbs/ft)	
11.192	Nominal Pipe Body Area (sq in)	
	Pipe Body Performance Properties	
1,399,000	Minimum Pipe Body Yield Strength (lbs)	
12,180	Minimum Collapse Pressure (psi)	
14,340	Minimum Internal Yield Pressure (psi)	
10,000	Hydrostatic Test Pressure (psi)	
	Connection Dimensions	
7.625	Connection OD (in)	
6.618	Connection ID (in)	
6.500	Connection Drift Diameter (in)	
4.84	Make-up Loss (in)	
7.135	Critical Area (sq in)	
63.8	Joint Efficiency (%)	
	Connection Performance Properties	
785,000 (1)	Joint Strength (lbs)	
892,000 (2)	Reference Minimum Parting Load (lbs)	
14,720	Reference String Length (ft)	1.4 Design Factor
472,000	Compression Rating (lbs)	
12,180	Collapse Pressure Rating (psi)	
14,340	Internal Pressure Rating (psi)	
25.3	Maximum Uniaxial Bend Rating (degrees/100 ft)	
	Recommended Torque Values	
6,200 (3)	Minimum Final Torque (ft-lbs)	
8,000 (3)	Maximum Final Torque (ft-lbs)	

(1) Joint strength is the elastic limit or yield strength of the connection.
(2) Reference minimum parting load is the ultimate strength or parting load of the connection.
(3) Torque values are recommended and can be affected by field conditions.

Connection specifications within the control of Grant Prideco were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

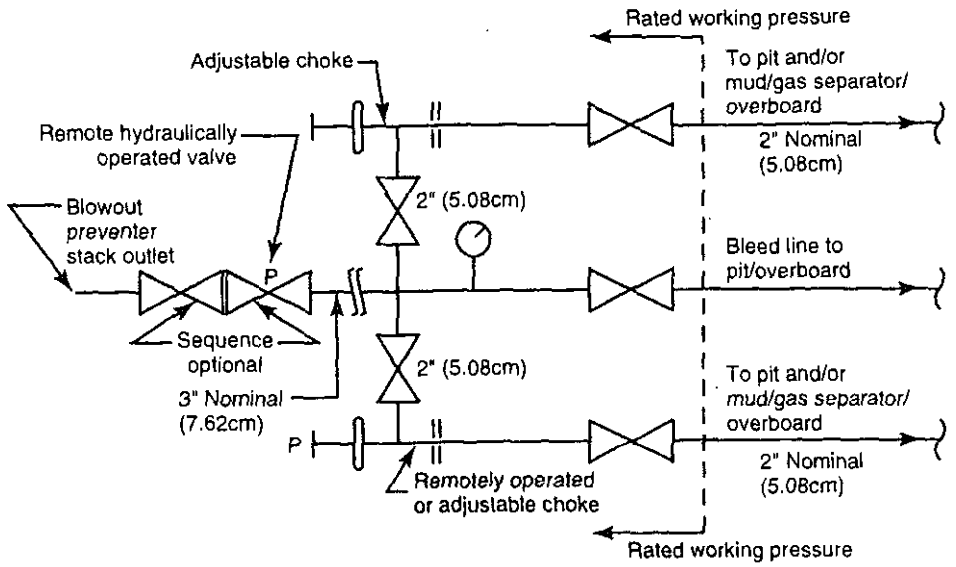


Figure 7—Example Choke Manifold Assembly for 5K Rated Working Pressure Service—Surface BOP Installations

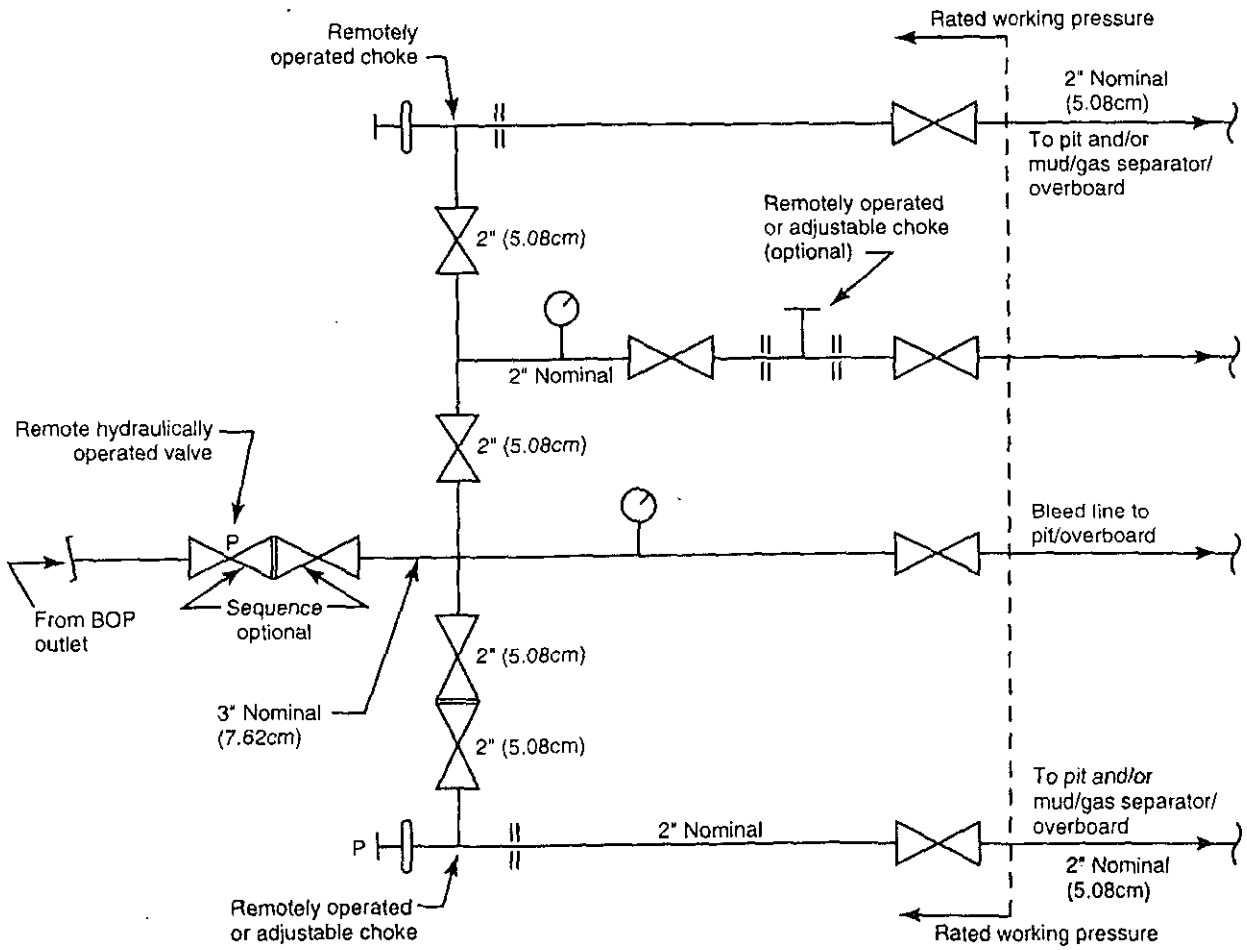
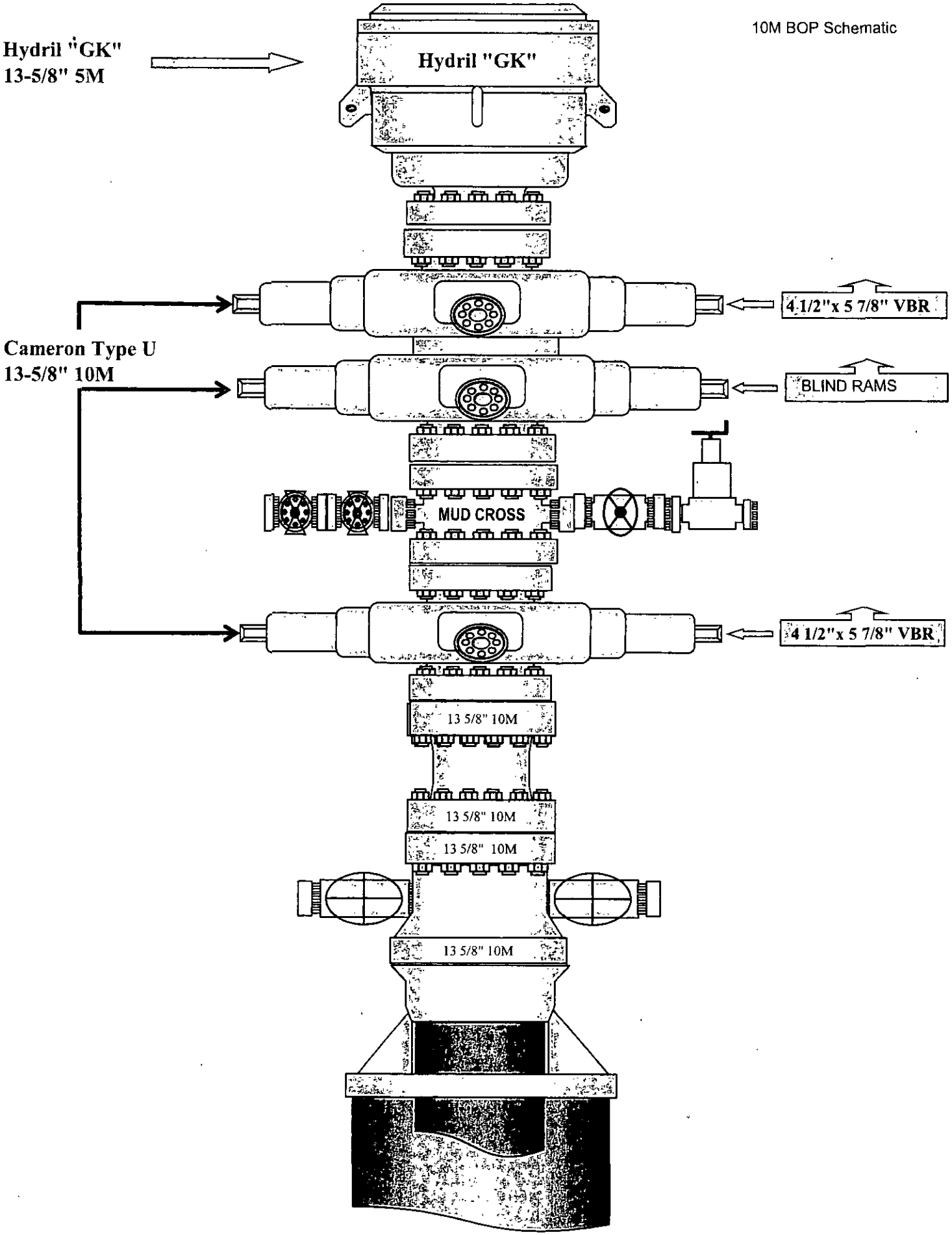


Figure 8—Example Choke Manifold Assembly for 10K, 15K, and 20K Rated Working Pressure Service—Surface BOP Installations

10M BOP Schematic



Fuller 14 Federal SWD #1

20" Diverter

Mewbourne Oil Company requests the use of a 20" weld on diverter to drill the 17 ½" hole to a depth of 3000'. We have drilled several wells in the area and have not encountered any flammable gas deposits through this interval. Air pockets are common in the salt section and the diverter allows them to blow down safely to the pits without causing damage to the surface casing or cement.

DENIED

X

2m BOP required per onshore order

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

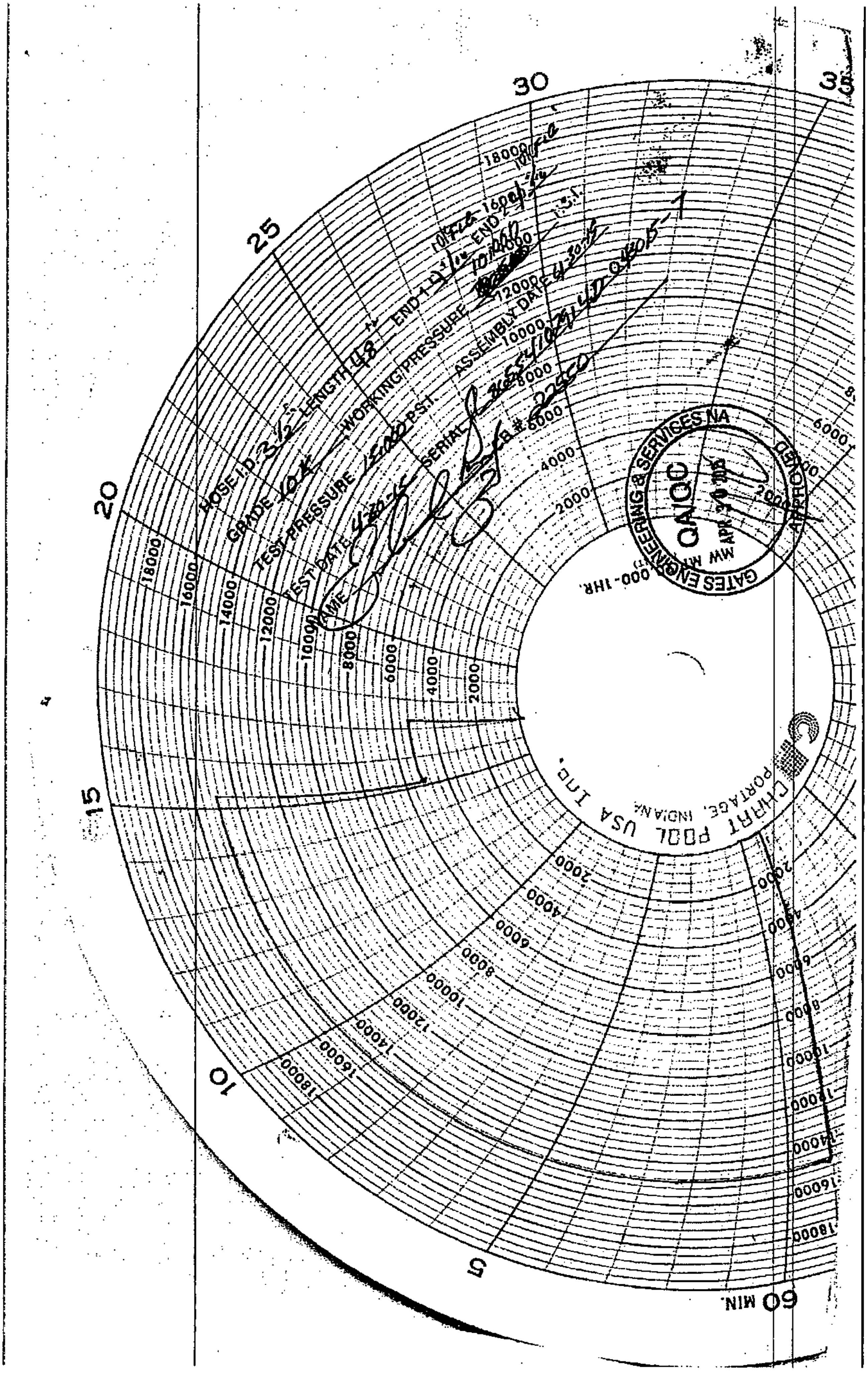
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Producton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :		Signature :	

Form-PTC - 01 Rev.0 2


HOSE I.D. 3 1/2" LENGTH 48"
END 1
END 2
GRADE 10K
WORKING PRESSURE
TEST PRESSURE 15,000 P.S.I.
ASSEMBLY DATE 4-30-15
TEST DATE 4-30-15
SERIAL
NAME
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
APR 30 2015
CHART POOL USA Inc.
PORTAGE, INDIANA
60 MIN.

SURFACE USE PLAN OF OPERATIONS
MEWBOURNE OIL COMPANY

Fuller 14 Fed SWD #1
2301 FSL & 2533 FEL (SHL)
Sec. 14 – T26S-R29E
Eddy County, New Mexico

Introduction

This plan is submitted with Form 3160-3, Application for Permit to Drill, Covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved, and the procedures to be followed in restoring the surface so that a complete appraisal can be made of the environmental impact associated with the proposed operations.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on **Exhibit 3E**. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan.

b. The existing oil and gas roads utilized to access the proposed project will be maintained by crowning, clearing ditches, and fixing potholes. 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 deteriorated beyond practical use.

c. Mewbourne Oil Co. will cooperate with other operators in the maintenance of lease roads, it is anticipated that MOC will blade & water the lease roads 3 times per year.

2. New or Reconstructed Access Roads

a. An access road will be **NOT be** needed for this proposed project.

3. Location of Existing Wells

a. **Exhibit 4, 4A** of the APD depicts all known wells within a one mile radius of the proposed well.

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color that blends in with the surrounding landscape. The paint color will be one of the colors from the BLM Standard Environmental Colors chart selected by the BLM authorized officer.

b. All proposed production facilities that are located on the well pad will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.
c. Production from the proposed well will be located on the **East** side of well pad.
d. If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation of construction.
e. An electric line & gas line will be applied for through a sundry notice or BLM right of way at a later date.

5. Location and Types of Water

a. The well will be drilled with a combination of fresh water and brine water based mud systems. The water will be obtained from commercial suppliers in the area and/or hauled to the location by transport trucks over existing and proposed roads as identified above in this surface use plan. Water from the commercial suppliers will be supplied from the Brantley water station located in SE/SW of Sec 12 T26S R28E, Eddy Co.
b.

6. Construction Materials

a. Construction material that will be used to build the well pad and road will be caliche.
b. The construction contractor will be solely responsible for securing construction materials required for this operation and paying any royalties that may be required on those materials.
c. Obtaining caliche: One way of obtaining caliche to build locations and roads 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 obtaining caliche. Amount of caliche will vary for each pad. The procedure below has been approved by BLM personnel:
    i. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
    ii. An approximate 160' X 160' area is used within the proposed well site to remove caliche.
    iii. Subsoil is removed and stockpiled within the surveyed well pad.
    iv. When caliche is found, material will be stock piled within the pad site to build the location and road.
    v. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.

vi. Once well is drilled, the stock piled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced.

vii. Neither caliche, nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

In the event that no caliche is found onsite, caliche will be hauled in from a BLM, state, or private mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or land.

Caliche for this well pad will be hauled from either a private pit in Sec. 23 T26S T28E. Sedimentation control structures will be installed on the southwest and northwest sides of the pad.

Construction will consist of using the following equipment: Dozer, grader/blade, backhoe, roller, water trucks & dump trucks. Dozer will level the location stockpiling topsoil on the specified edge of the location. Dump trucks will haul material to location. Dozer & Blade will spread material evenly across location. Location will be leveled & rolled with blade & roller. Backhoe will be used to install the 8' x 10' cellar. Average timeline for the construction of locations will be 10-14 days after APD approval.

7. Methods of Handling Waste

a. The well will be drilled utilizing a closed loop system. Drill cuttings will be properly contained in steel tanks (20 yard roll off bins.) and taken to an NMOCD approved disposal facility listed below.
b. Drilling fluids and produced oil and water from the well during completion operations will be stored safely in closed containers (20 yard roll off bins) and disposed of properly in an NMOCD approved disposal facility listed below.
c. Garbage and trash produced during drilling and completion operations will be collected in trash containers (enclosed trash trailers) and disposed of properly at a state approved site. All trash on and around the well site will be collected for disposal.
d. All human waste and grey water from drilling and completion operations will be properly contained in a 2,000 gallon plastic container and disposed of properly at the City of Carlsbad Water Treatment facility.

e. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at the said facilities.
f. NMOCD approved waste disposal locations are CRI or Lea Land, both facilities are located on HWY 62/180, Sec. 27 T20S R32E.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. The proposed drilling pad to be built was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.
b. A title of a well site diagram is **Exhibit 5**. This diagram depicts the rig layout.
c. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

Within 90 days of cessation of drilling and completion operations, all equipment not necessary for production operations will be removed. The location will be cleaned of all trash and junk to assure the well site is left as aesthetically pleasing as reasonably possible.

a. Interim Reclamation (well pad)

i. Interim reclamation will be performed on the well site after the well is drilled and completed. **Exhibit 6** depicts the location and dimensions of the planned interim reclamation for the well site.
ii. The well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.
iii. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

iv. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

v. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

vi. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

vii. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion and invasive/noxious weeds are controlled.

b. Final Reclamation (well pad, buried pipelines, etc.)

i. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

ii. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

iii. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

iv. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

v. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

vi. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

vii. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion and invasive/noxious weeds are controlled.

11. Surface Ownership

a. The surface ownership of the proposed project is federal.

12. Other Information

a. No other information is needed at this time.

13. Operator's Representative

a. Through APD approval, drilling, completion and production operations:

Robin Terrell, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
575-393-5905

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company

Fuller 14 Fed SWD #1

2301' FSL & 2533' FEL

Sec. 14 T26S R29E

Eddy County, New Mexico

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.

2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.

3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel

Thirty minute self contained work unit located in the dog house and at briefing areas. Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in MOC will follow Onshore Order 6 and install a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. A drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Lea County Sheriff's Office	**911 or 575-396-3611**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Closest Medical Facility - Columbia Medical Center of Carlsbad	**575-492-5000**

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**

Notes Regarding Blowout Preventer
Mewbourne Oil Company
Fuller 14 Fed SWD #1
2301' FSL & 2533' FEL
Sec. 14 T26S R29E
Eddy County, New Mexico

I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.

II. Blowout preventer and all fittings must be in good condition with a minimum 3000 psi working pressure on 9 5/8" and 7" casing.

III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 3000 psi working pressure.

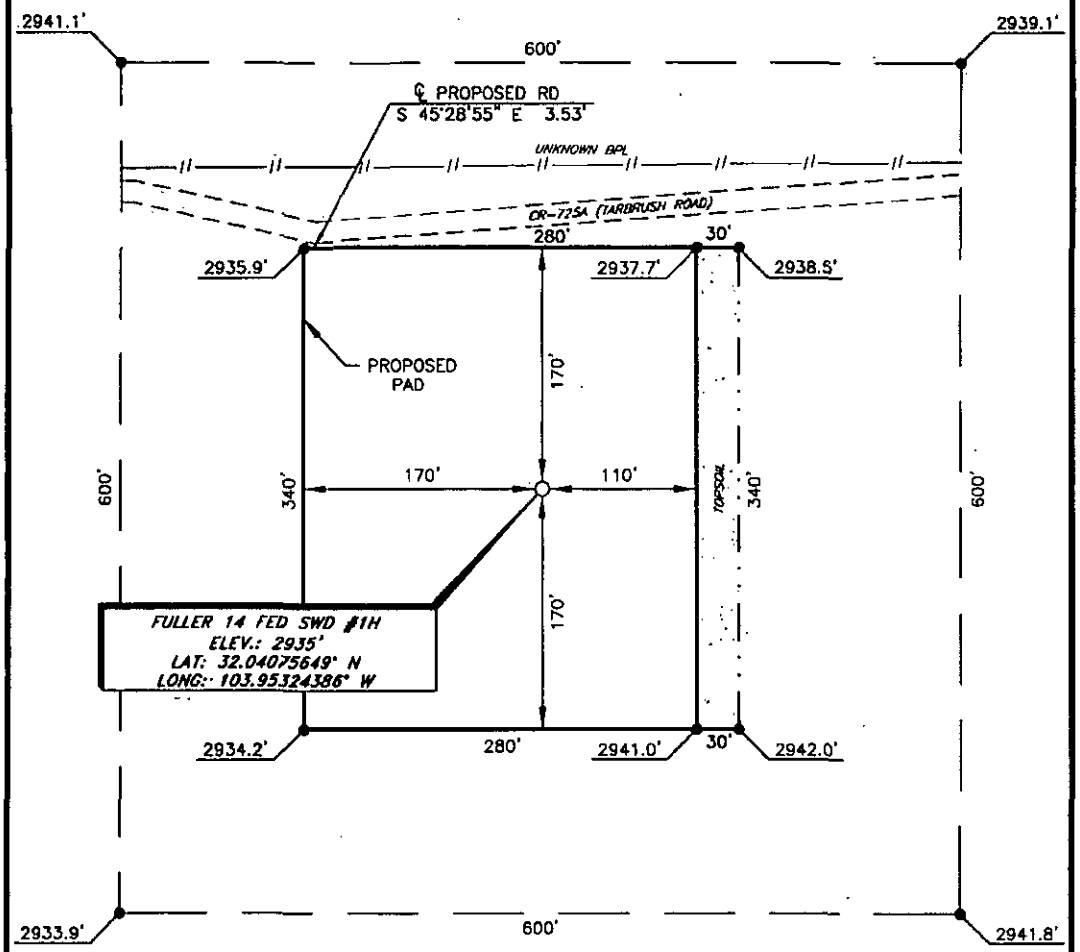
IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.

V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

11 3 11

MEWBOURNE OIL COMPANY
FULLER 14 FED SWD #1H
(2301' FSL & 2533' FEL)
SECTION 14, T26S, R29E
N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-725A (Tarbrush) and CR-725 (Longhorn);

Go Northeast on CR-725A approx. 0.3 miles to location on the right;

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 27 GRID - NM EAST
DISTANCES ARE GROUND.

NO.	REVISION	DATE

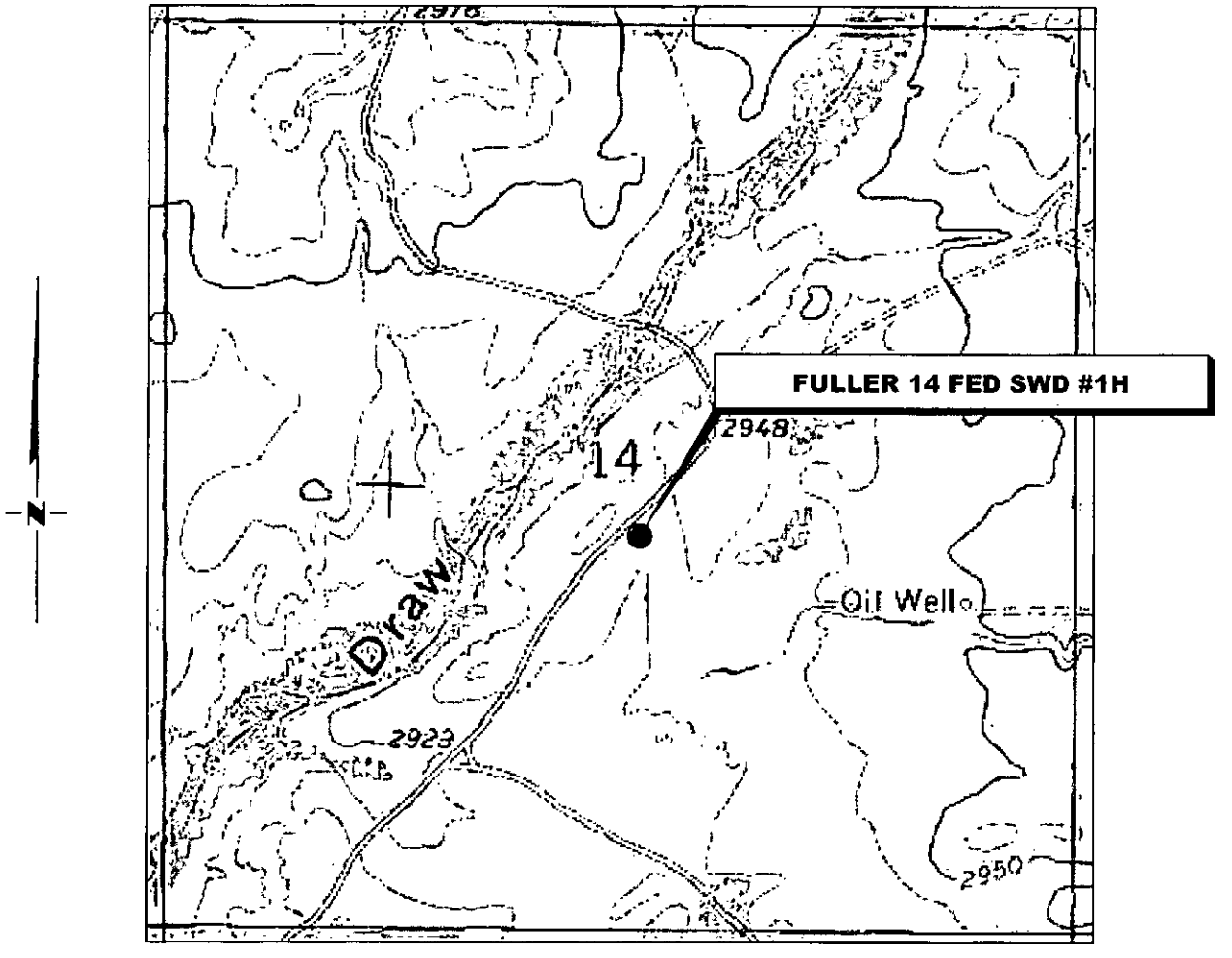
JOB NO.: LS1503074
DWG. NO.: 1503074PAD

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 4-9-15
SURVEYED BY: BK/ER
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

LOCATION VERIFICATION MAP



SECTION 14, TWP. 26 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Fuller 14 Fed SWD
WELL NO.: 1H
ELEVATION: 2935'

LOCATION: 2301' FSL & 2533' FEL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Ross Ranch, NM (1968)

NO.	REVISION	DATE

JOB NO.: LS1503074
DWG. NO.: 1503074LVM

RRC

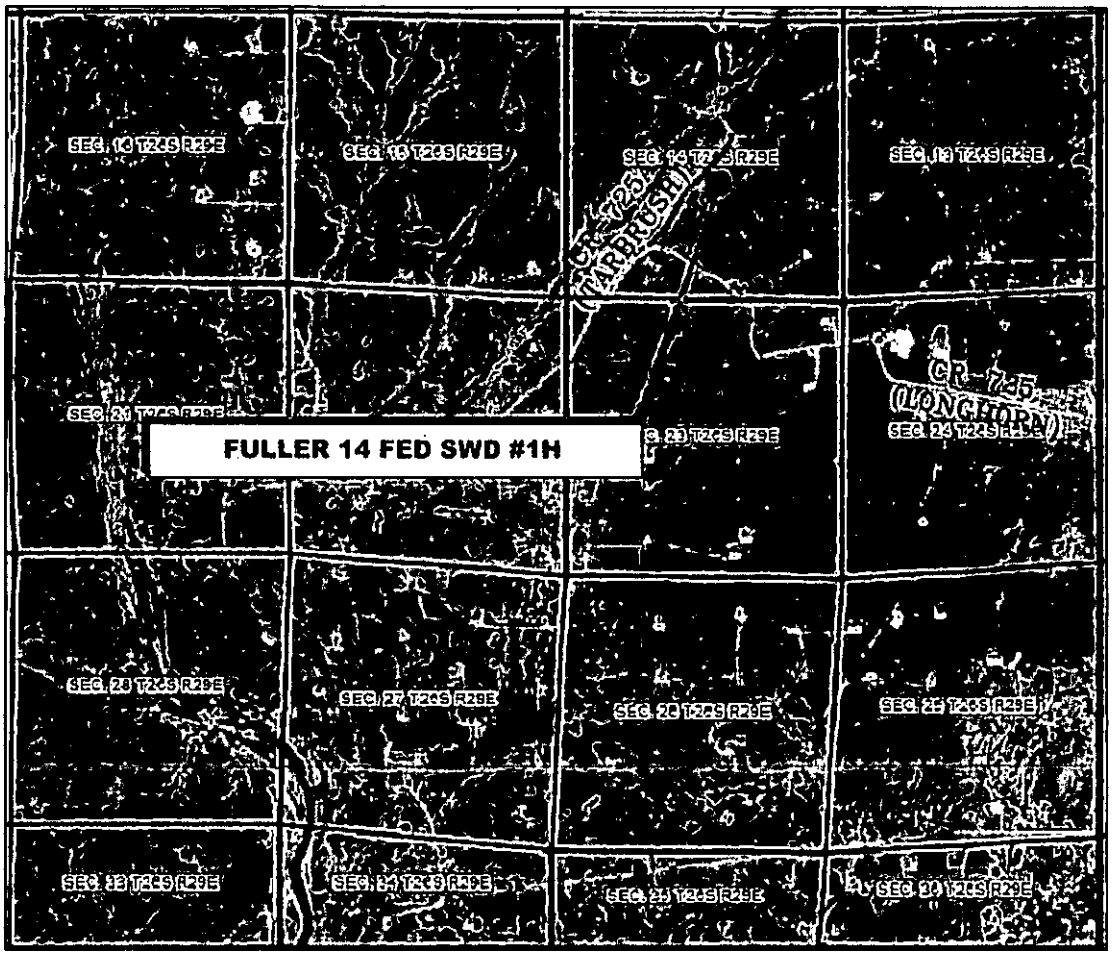
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 1000'
DATE: 4-9-15
SURVEYED BY: BK/ER
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE

——— = existing access road



SECTION 14, TWP. 26 SOUTH, RGE. 29 EAST, N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Fuller 14 Fed SWD
WELL NO.: 1H

LOCATION: 2301' FSL & 2533' FEL
ELEVATION: 2935'

NO.	REVISION	DATE

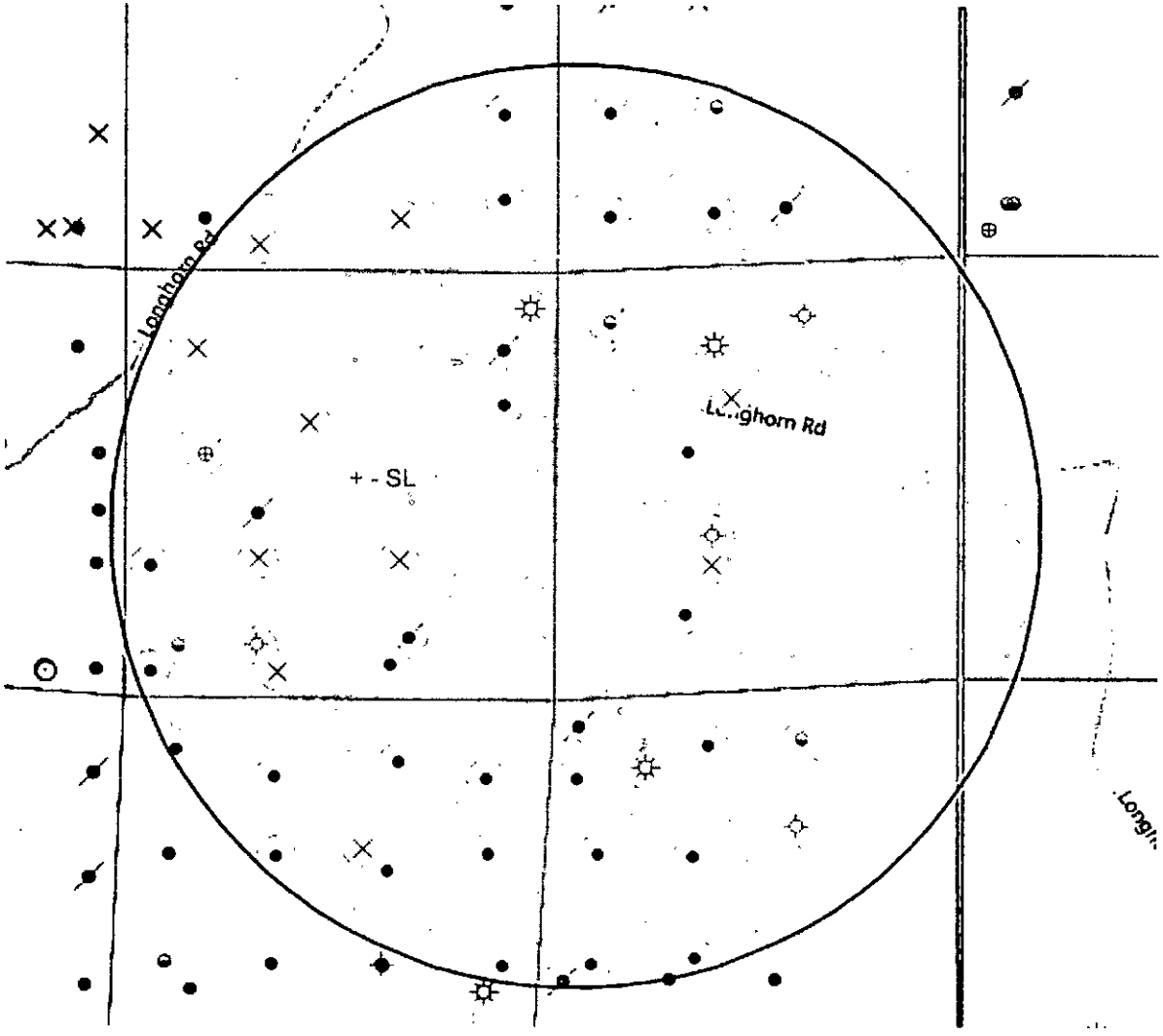
JOB NO.: LS1503074
DWG. NO.: 1503074VM

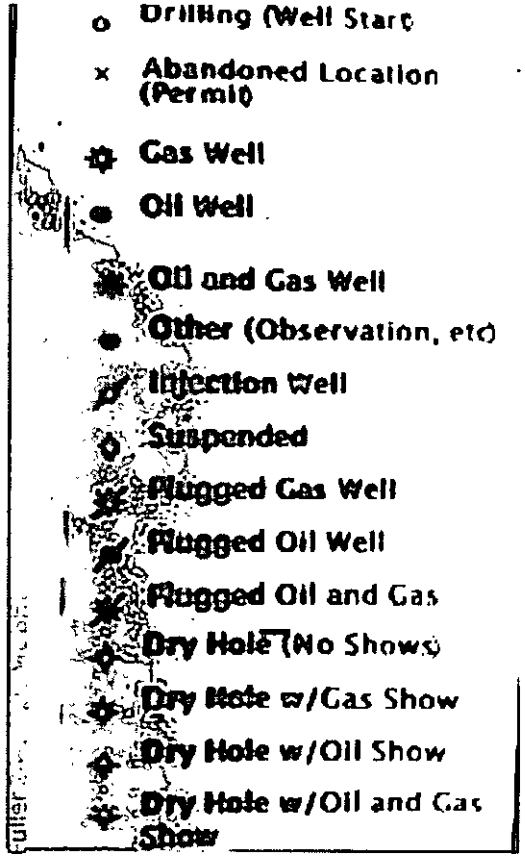
RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

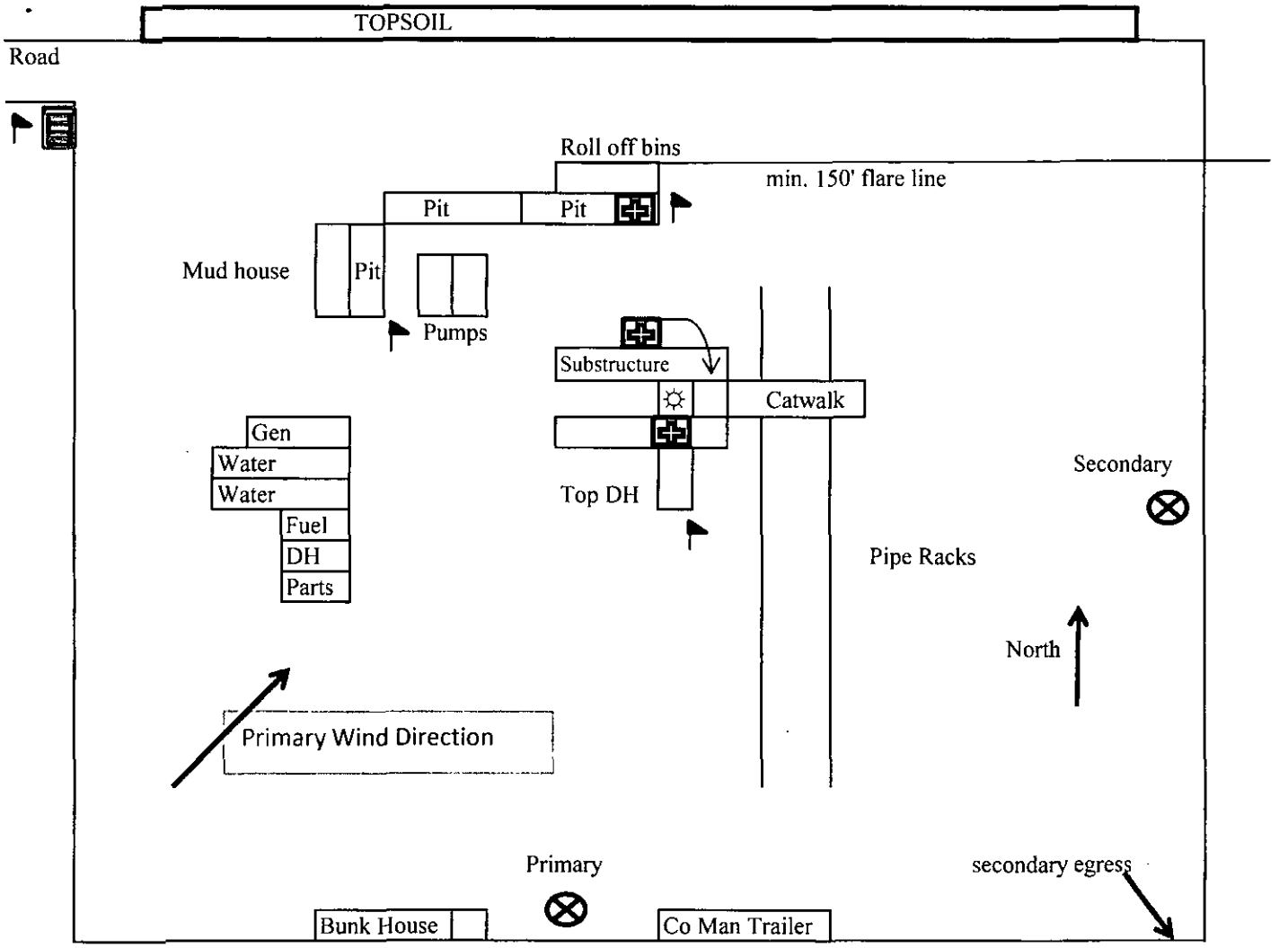
SCALE: N.T.S.
DATE: 4-9-15
SURVEYED BY: BK/ER
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

Exhibit "4" - SL - Fuller 14 Fed SWD #1





H2S Diagram



= Safety Stations

= Wind Markers

= H2S Monitors

= Warning Signs

Mewbourne Oil Company
Fuller 14 Fed SWD #1
2301' FSL & 2533' FEL
Sec 14 T26S R29E
Eddy County, NM

Interim Reclamation Area

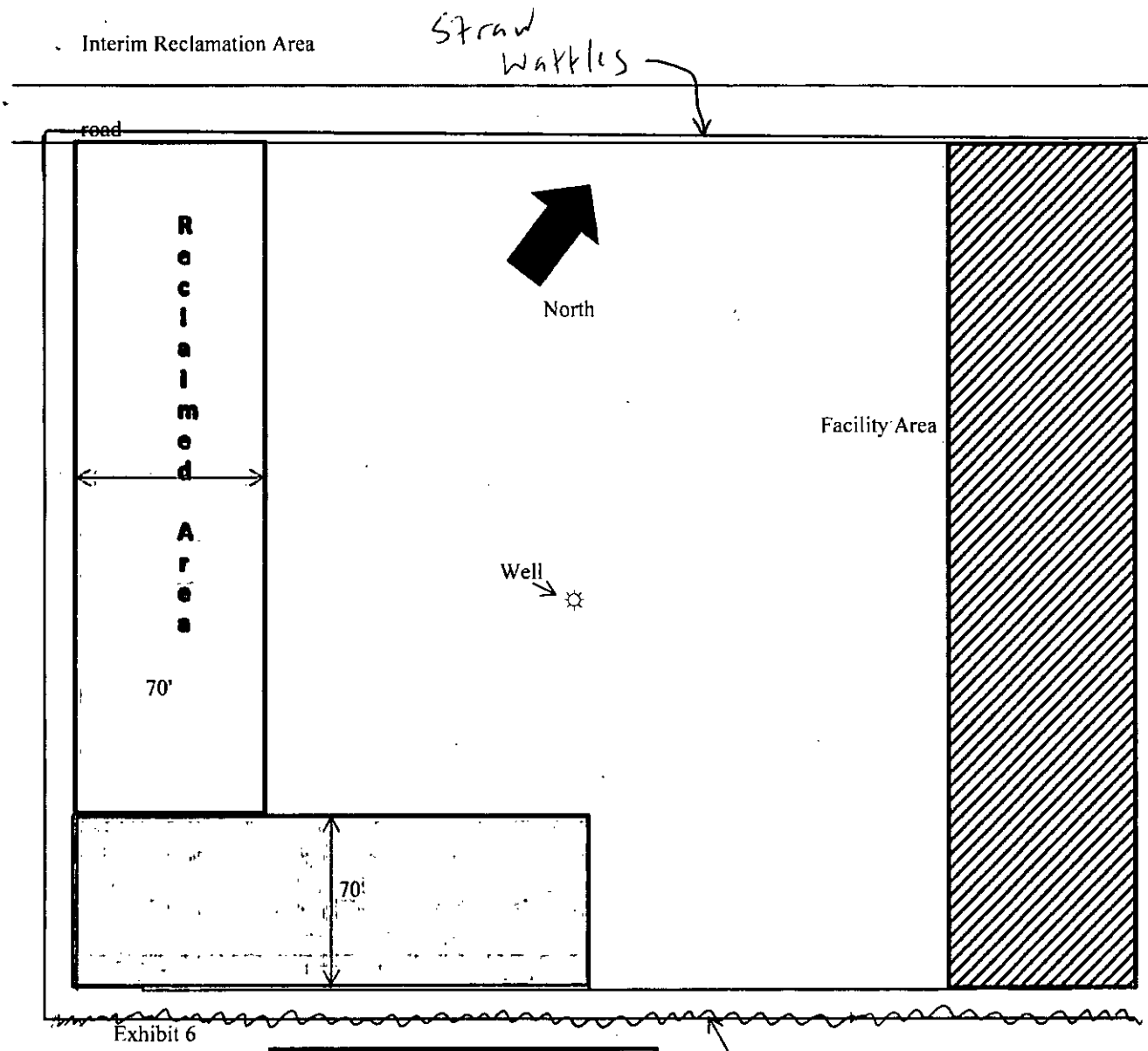


Exhibit 6

Mewbourne Oil Company
Fuller 14 Fed SWD #1
2301' FSL & 2533' FEL
Sec. 14 T26S R29E
Eddy County, NM

straw waddles (sedimation control)

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office

Refer to: 3160-3

To: AFM, Lands & Minerals, CFO
From: Geologist, CFO
Subject: Geologic Review of Application for Permit to Drill

COPY

Operator: Mewbourne Oil Co

Well Name and Number: Fuller 14 Fed SWD-1H

Potash: No

Location: SHL:2301'/S.& 2533'/E. SEC014 T026S, R029E.(NWSE)

County Eddy **Lease Number:** NMNM11038 **APD Received:** 9-29-2015

Ground Level Elevation: 2935 **Surface Geology:** Qe/Qp-Eolian deposits/Piedmont alluvial deposits

TVD: 16540 **MD:** 16540 **BH Mud Weight:** 11

BHP: 9461 **MASP:** 5822

1. Geologic Marker Tops (from reports on surrounding wells):

Geologic Marker	Booth BP Federal 1 3001524297 T26S R29E Sec 23 990FNL 660FEL Elevation Depth	GULF FEDERAL #002 3001525558 T26S R29E Sec 13 1650FNL 1685FWL Elevation Depth	ROSS DRAW 25 FEDERAL COM #001 3001531575 T26S R29E Sec 25 909FNL 1186FWL Elevation Depth	-	**Proposed Well** Fuller 14 Fed SWD-1H T026S, R029E.(NWSESEC014 2301'/S.& 2533'/E Unit Elevation Estimated Depth
Rustler	357	410	788	-	335
Top of Salt	670	700	1284	-	555
Lamar	3068	3189	3081	-	3035
Bone Spring Lime	-	-	6840	-	6815
Wolfcamp	-	-	10032	-	9995
Morrow	-	-	-	-	13565

2. Fresh Water Information

a. Fresh Water: 335

b. Fresh Water Remarks:

According to well data from the New Mexico Office of the State Engineer's Water Rights Reporting System, there are 10 water wells wihtin a six-mile radius of the proposed project. Depth to water ranges from 0 to 320 feet. Usable water can also be found up to the top of the Rustler Formation down to at least 335 feet.

c. Water Basin: Carlsbad Water Basin

3. Recommended Casing Setting Depth

a. Surface Casing Depth: 500

b. Intermediate Casing Depth: 3000

c. 2nd Interm. Casing Depth

d. Casing Depth Remarks:

The operator proposes to set surface casing at 575 feet, which will adequately protect usable water and cave zones but may be in the salt. Instead, set casing in the base of the Rustler at approximately 500 feet. If salt is encountered, set casing at least 25 feet above the salt. The operator proposes to set intermediate casing at 3000 feet, which will be in the basal anhydrite of the Castile Formation. This is an acceptable set point.

4. Geologic Hazards

a. Cave/Karst Occurance: Medium

b. Potential Cave/Karst Depth: 350

c. Possible Water Flows: Castile, Salado,

d. Possible Lost Circulation: Rustler, Red Beds, Delaware,

e. Possible Abnormal Pressure: YES

f. H2S within 1 mile: YES

g. H2S Remarks:

H2S has been reported within one-mile of the proposed project. Measurements up to 150 ppm were reported from the Brushy Draw Pool.

5. Additional Remarks

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

Geologist: Robert Salaz **Sign Off Date:** 11-30-2015

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Co
LEASE NO.:	NM11038
WELL NAME & NO.:	1-Fuller 14 Fed SWD
SURFACE HOLE FOOTAGE:	2301'/S & 2533'/E
BOTTOM HOLE FOOTAGE	NA
LOCATION:	Section 14, T. 26 S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

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)

Phantom Bank Heronries
Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both.

Exhaust noise from engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Cave and Karst Conditions of Approval

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

Cave/Karst Surface Mitigation

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

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

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

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

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

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

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

Cave/Karst Subsurface Mitigation

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

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

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

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

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

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

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

WELL COMPLETION

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.
2. Restrict the injection fluid to the approved formation.

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

Logging Requirements:

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and GR/ CNL logs along with a copy of the mudlog and open hole logs from TD to 10,000 feet; Prior to completing well – To verify injection interval of 15,540' to 16,540'

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.

Sedimentation control structures shall be installed on the northwest and southwest sides of the well pad. Such structures can include straw wattles, silt fencing, or an equivalent product that prevents off-site migration of caliche or disturbed soils. Accumulated caliche or disturbed soils at the erosion control structures shall be removed and properly disposed of once unstabilized soils have reached a height of ¾ of the structure height or at the time of the structure after interim reclamation seeding has been established.

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.

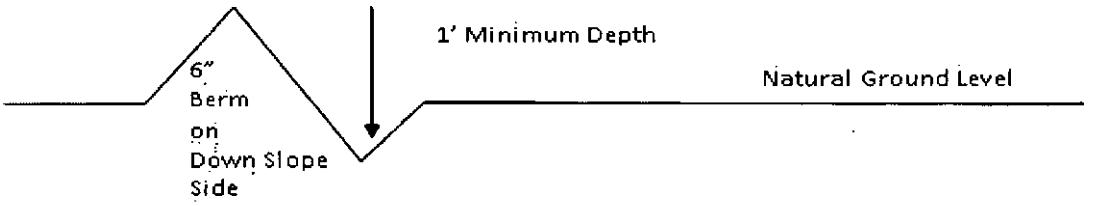
Ditching
Ditching shall be required on both sides of the road.

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

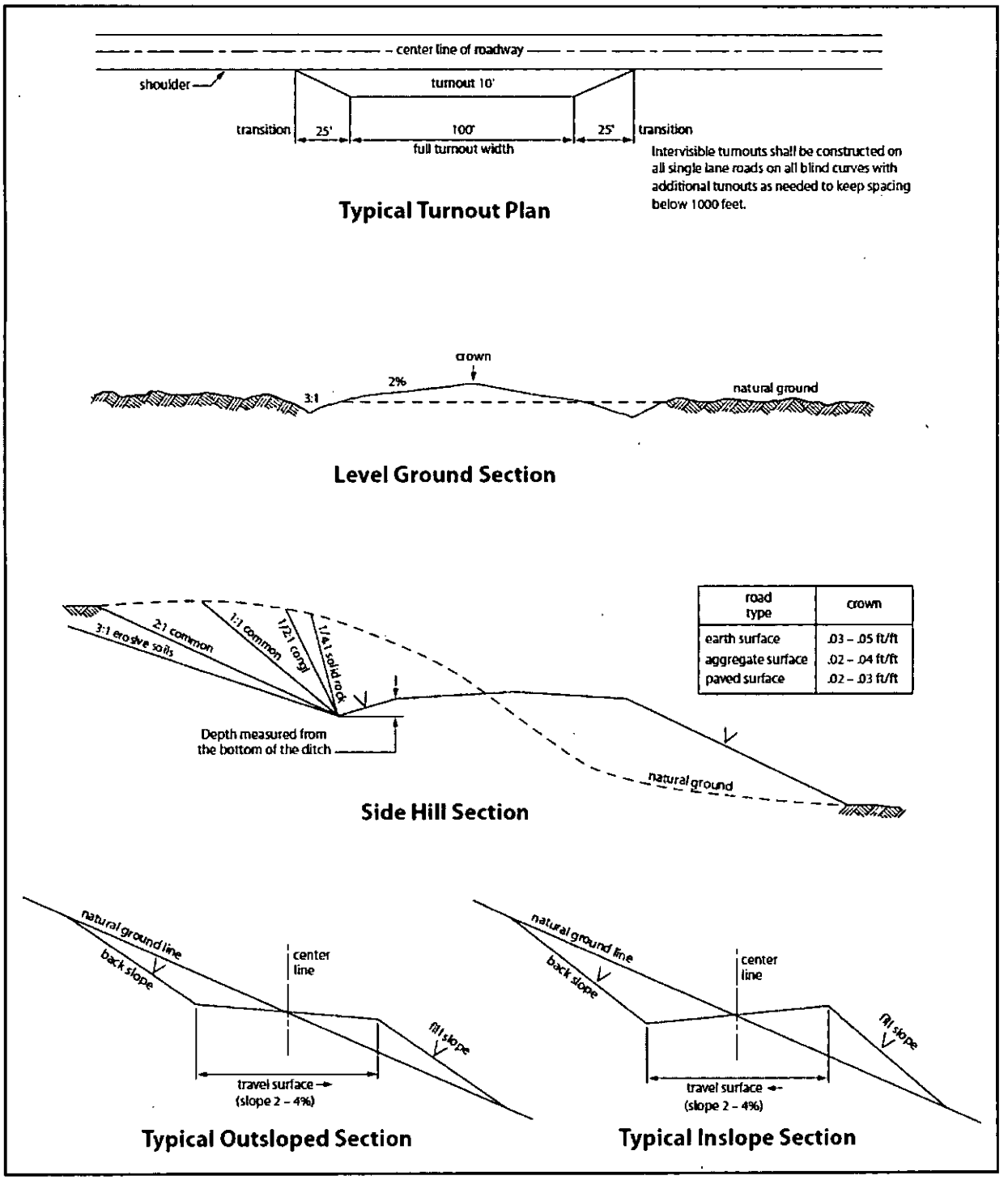


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Brushy Draw Delaware formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. 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. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

A CIT is to be performed on this casing per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling the shoe plug.

Possibility for water flows in the Castile and Salado
Possibility of lost circulation in the Rustler, Red Beds, and Delaware
Medium Cave/Karst
Abnormal pressures may exist within the 3rd Bone Spring Sand and Wolfcamp formation.

1. The **20** inch surface casing shall be set at approximately **500** in a **competent bed** (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    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 **13 3/8"** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

Formation below the 13 3/8" 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 (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **9 5/8** inch production casing is: **Operator has proposed DV tool at depth of 3100'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.**

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Additional cement shall be required – excess calculates to 11%.

Formation below the 9 5/8" 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 (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

4. The minimum required fill of cement behind the **7 5/8"** liner is:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement shall be required – excess calculates to -1%.**

Formation below the 7 5/8" liner 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 (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

5. **Open Hole completion from 15, 525 feet to TD of 16,540 feet.**

Logging Requirements:

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and GR/ CNL logs along with a copy of the mudlog and open hole logs from TD to 10,000 feet; Prior to completing well.

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 53.

2. A variance is **NOT GRANTED** for the use of diverter system on the 20" surface casing. **BLOWOUT PREVENTER (BOP) AND RELATED EQUIPMENT (BOPE) SHALL COMPLY AS DESCRIBED IN ONSHORE OIL AND GAS ORDER NO. 2 AND API RP 53 SEC. 17.**

3. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **20" surface** casing shoe shall be **2000 (2M)** psi.

5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13 3/8 Intermediate** 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7 5/8 Intermediate** casing shoe shall be **10,000 (10M)** psi. **10M 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.**

7. 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**.

    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. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

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

F. WELL COMPLETION

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

3. Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.
4. Restrict the injection fluid to the approved formation.

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

Logging Requirements:

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and GR/ CNL logs along with a copy of the mudlog and open hole logs from TD to 10,000 feet; Prior to completing well – To verify injection interval of 15,540' to 16,540'

G. WASTE MATERIAL AND FLUIDS

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

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

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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 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

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

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, 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. STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, 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. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. Electrical lines shall follow existing disturbance such as access roads. 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 the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate 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.

11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly.
    - Fill in any holes from the poles removed.

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. Sedimentation structures installed at the time of construction may be removed only when seeding has been successfully established. (See Construction section for sedimentation control structure requirements)

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

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

Species	lb/acre
Plains Bristlegrass (*Setaria macrostachya*)	1.0
Green Sprangletop (*Leptochloa dubia*)	2.0
Sideoats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

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