

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTNM OIL CONSERVATION  
ARTESIA DISTRICT

OCT 10 2014

FORM APPROVED  
OMB NO. 1004-0135  
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*

RECEIVED

**SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMLC028784A
2. Name of Operator COG OPERATING LLC Contact: KELLY J HOLLY E-Mail: kholly@concho.com		6. If Indian, Allottee or Tribe Name
3a. Address ONE CONCHO CENTER 600 W ILLINOIS AVENUE MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432.685.4384	7. If Unit or CA/Agreement, Name and/or No. NMNM88525X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 13 T17S R29E SWSW 376FSL 1153FWL		8. Well Name and No. BURCH KEELY UNIT 543
		9. API Well No. 30-015-39565-00-X1
		10. Field and Pool, or Exploratory BURCH KEELY-GLORIETA-UPPER YE
		11. County or Parish, and State EDDY COUNTY, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize <input type="checkbox"/> Deepen <input type="checkbox"/> Production (Start/Resume) <input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Reclamation <input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair <input type="checkbox"/> New Construction <input type="checkbox"/> Recomplete <input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans <input type="checkbox"/> Plug and Abandon <input type="checkbox"/> Temporarily Abandon Change to Original APD
	<input type="checkbox"/> Convert to Injection <input type="checkbox"/> Plug Back <input type="checkbox"/> Water Disposal

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC submitted APD for this well at this location:

SHL: 376' FSL & 1153' FWL, Unit M, Sec 13  
BHL: 10' FSL & 1295' FWL, Unit M, Sec 13COG Operating LLC respectfully requests permission to change the SHL as follows:SHL: 125' FNL & 1370' FWL, Unit C, Sec 24  
BHL: 10' FSL & 1295' FWL, Unit M, Sec 13

A revised C-102, 1 mile map, flowline and directional plan are attached.

Eng. Design to remain the  
same as nothing was submitted  
indicating a change.

Accepted for record  
NMOC 10/14/14

Surface OK - COA's updated. 8/29/14

Eng. Rev new COA's JAM 10/1/14

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #256026 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Carlsbad Committed to AFMSS for processing by JENNIFER MASON on 08/14/2014 (14JAM0386SE)	
Name (Printed/Typed) KELLY J HOLLY	Title PERMITTING TECH
Signature (Electronic Submission)	Date 08/06/2014

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>Stephen J. Proff</u>	Title <u>For FIELD MANAGER</u>	Date <u>10/7/14</u>
Conditions of approval, if any, are attached. Approval of this notice 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.		Office <u>CARLSBAD FIELD OFFICE</u>

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.

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 Grande Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6179

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, New Mexico 87505

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

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-015-39565</b>	Pool Code <b>97918</b>	Pool Name <b>Burch Keely; Glorieta Upper Yeso</b>
Property Code <b>308086</b>	Property Name <b>BURCH KEELY UNIT</b>	Well Number <b>543</b>
OGRID No. <b>229137</b>	Operator Name <b>COG OPERATING, LLC</b>	Elevation <b>3604'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>C</b>	<b>24</b>	<b>17-S</b>	<b>29-E</b>		<b>125</b>	<b>NORTH</b>	<b>1370</b>	<b>WEST</b>	<b>EDDY</b>

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
<b>M</b>	<b>13</b>	<b>17-S</b>	<b>29-E</b>		<b>10</b>	<b>SOUTH</b>	<b>1295</b>	<b>WEST</b>	<b>EDDY</b>

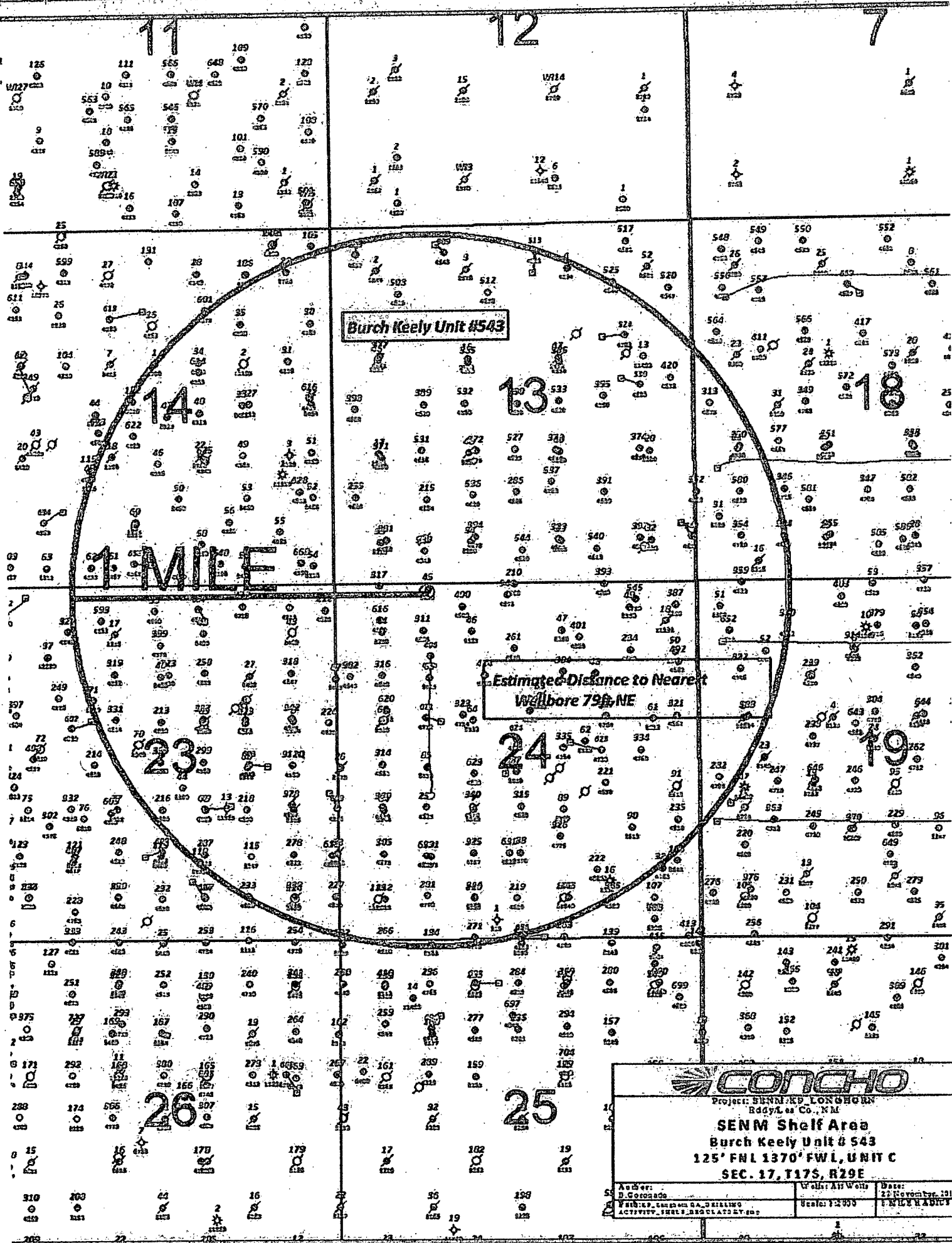
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>40</b>			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>GEODETIC COORDINATES NAD 27 NME</p> <p>SURFACE LOCATION Y=664643.0 N X=592598.9 E LAT.=32.826828° N LONG.=104.031886° W</p>	<p>DETAIL</p>	<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Kelly J. Holly</i> Signature 8-6-14 Date</p> <p><b>Kelly J. Holly</b> Printed Name</p> <p><b>kholly@concho.com</b> E-mail Address</p>
	<p>BOTTOM HOLE LOCATION Y=664777.9 N X=592523.5 E</p> <p>GRID AZ.=330°47'38" HORIZ. DIST.=154.5'</p> <p>SECTION 13 SECTION 24</p>	<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p>OCTOBER 17, 2012 Date of Survey</p> <p><i>Gary G. Eidson</i> Signature &amp; Seal of Professional Surveyor</p> <p><b>GARY G. EIDSON</b> NEW MEXICO 12641 Certification Number Gary G. Eidson 12641 Rene J. Eidson 3239 DSR Ref. W.O. 13.13.0494</p>	

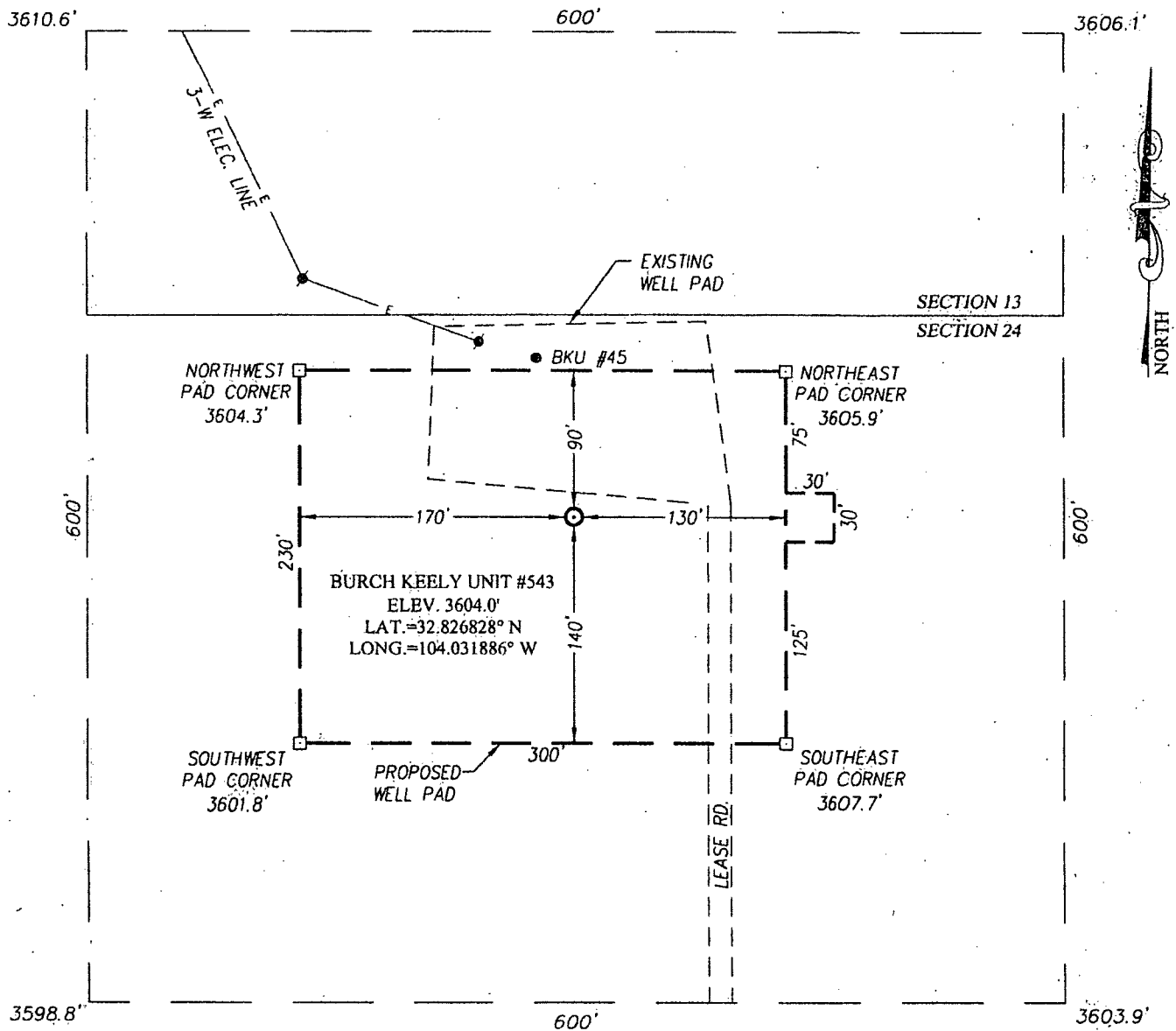
CORNER COORDINATE TABLE

A - Y=666084.2 N; X=591225.5 E  
B - Y=666087.4 N; X=592545.3 E  
C - Y=666090.6 N; X=593865.1 E  
D - Y=664770.9 N; X=593867.9 E  
E - Y=663451.9 N; X=593872.0 E  
F - Y=663448.8 N; X=592551.8 E  
G - Y=663445.6 N; X=591231.7 E  
H - Y=664765.0 N; X=591228.9 E  
I - Y=664768.0 N; X=592548.4 E



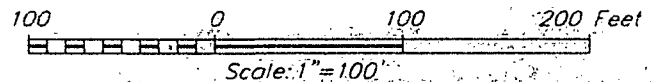
<b>CONCHO</b>		
Project: SENM Shelf Area Burch Keely Unit #543 125' FNL 1370' FWL, UNIT C SEC. 17, T17S, R29E		
As of:	Well: AN Wells	Date:
By: J. J. GORDON	Scale: 1:2500	12/1/2000
Activity: SHELF, DRILLING		

**SECTION 24, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.**  
**EDDY COUNTY** **NEW MEXICO**



**DIRECTIONS TO LOCATION**

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #215 (KEWANEE) GO NORTH ON CO. RD. #215 APPROX. 0.3 MILES. TURN RIGHT AND GO EAST APPROX. 0.3 MILES. TURN LEFT AND GO NORTH APPROX. 0.1 MILES TO THE BKU #45. THE LOCATION IS 100 FEET SOUTHEAST OF THE EXISTING COG PUMPING UNIT.



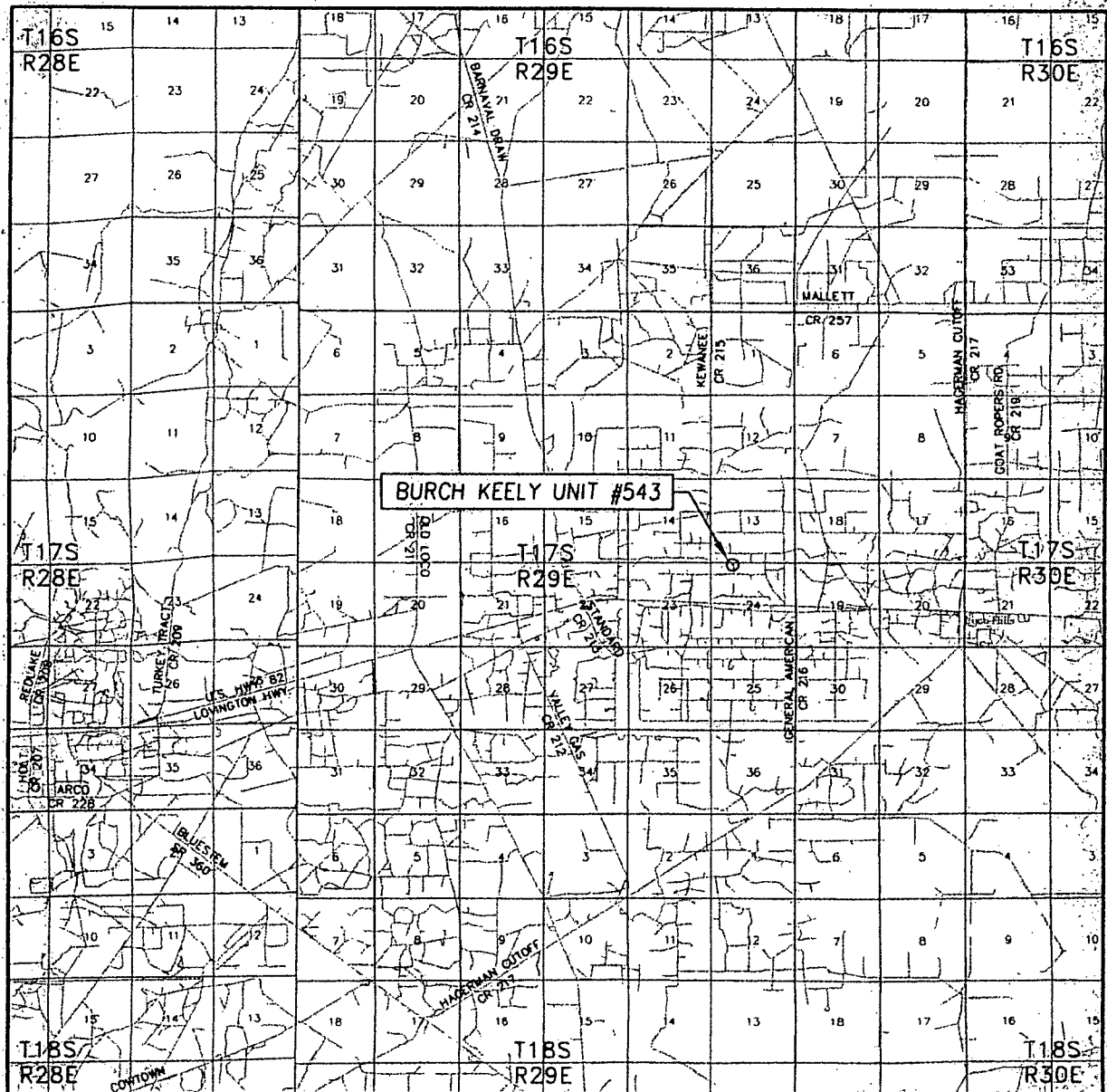
**COG OPERATING, LLC**

**BURCH KEELY UNIT #543 WELL**  
 LOCATED 125 FEET FROM THE NORTH LINE  
 AND 1370 FEET FROM THE WEST LINE OF SECTION 24,  
 TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,  
 EDDY COUNTY, NEW MEXICO

PROVIDING SURVEYING SERVICES  
 SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
 412 N. DAL PASO  
 HOBBS, N.M. 88240  
 (575) 393-3117 www.jwsc.biz

Survey Date: 10/17/12	CAD Date: 10/25/12	Drawn By: AF
W.O. No.: 121111764	Rev.	Rel. W.O.: Sheet 1 of 1

# VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 24 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

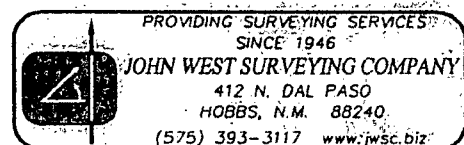
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 125' FNL & 1370' FWL

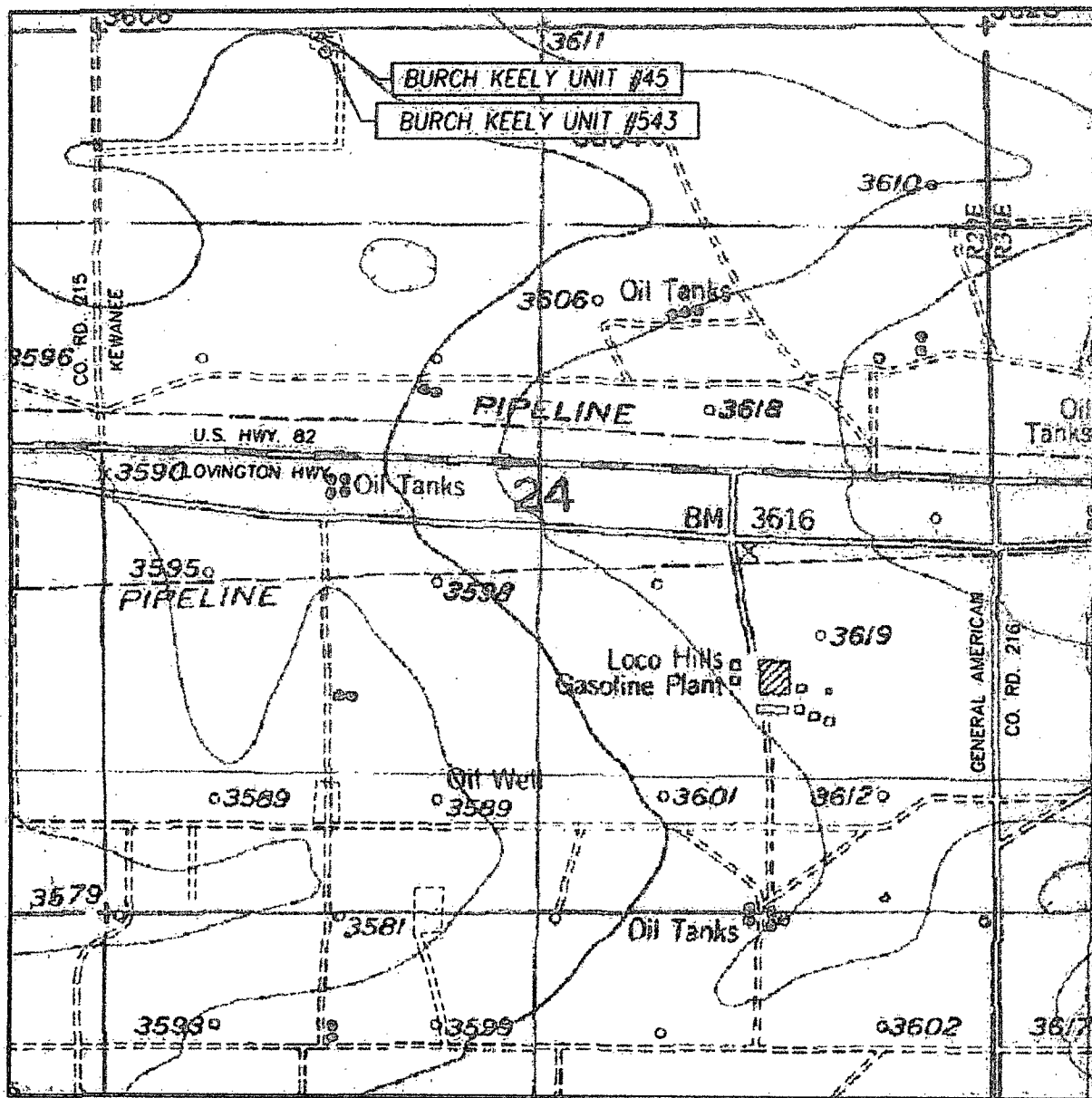
ELEVATION 3604'

OPERATOR COG OPERATING, LLC

LEASE BURCH KEELY UNIT



# LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:  
RED LAKE SE, N.M. - 10'

SEC. 24 TWP. 17-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

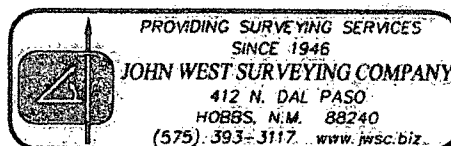
DESCRIPTION 125' FNL & 1370' FWL

ELEVATION 3604'

OPERATOR COG OPERATING, LLC

LEASE BURCH KEELY UNIT

U.S.G.S. TOPOGRAPHIC MAP  
RED LAKE SE, N.M.



# Plan Proposal

FOR

COG Operating, LLC  
Burch Keely Unit #543  
Eddy Co., NM

Design #1

Presented By:

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Aaron Boger  
Account Manager

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Bret Wolford  
Well Planner

SHL  
125' FNL & 1370' FWL  
Sec.24-T17S-R29E  
Top of Paddock (4100' TVD)  
10' FSL & 1295' FWL  
PBHL  
10' FSL & 1295' FWL  
Sec.13-T17S-R29E

WATER



COG Operating, LLC  
Project: Eddy County(NM27E)  
Site: Sec.24-T17S-R29E  
Well: Burch Keely Unit #543  
Wellbore: Wellbore #1  
Design: Design #1  
Latitude: 32° 49' 36.579 N  
Longitude: 104° 1' 54.791 W  
Ground Level: 3604.00  
WELL @ 3621.00usft



PROJECT DETAILS: Eddy County(NM27E)

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Burch Keely Unit #543, Grid North  
Vertical (TVD) Reference: WELL @ 3621.00usft  
Section (VS) Reference: Slot : (0.00N, 0.00E)  
Measured Depth Reference: WELL @ 3621.00usft  
Calculation Method: Minimum Curvature

WELL DETAILS: Burch Keely Unit #543

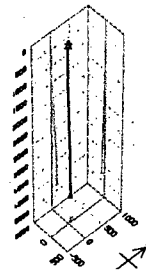
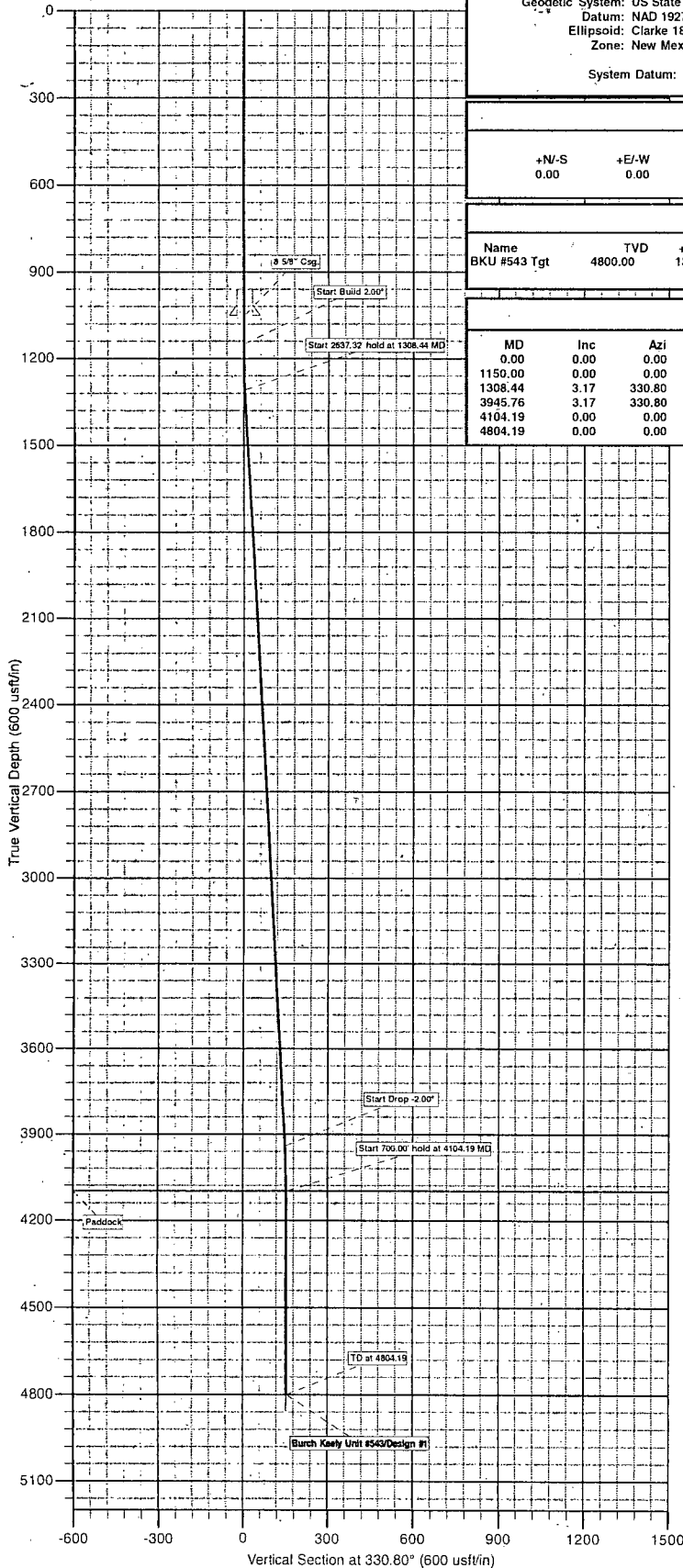
+N-S	+E-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	664643.000	592598.900	32° 49' 36.579 N	104° 1' 54.791 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

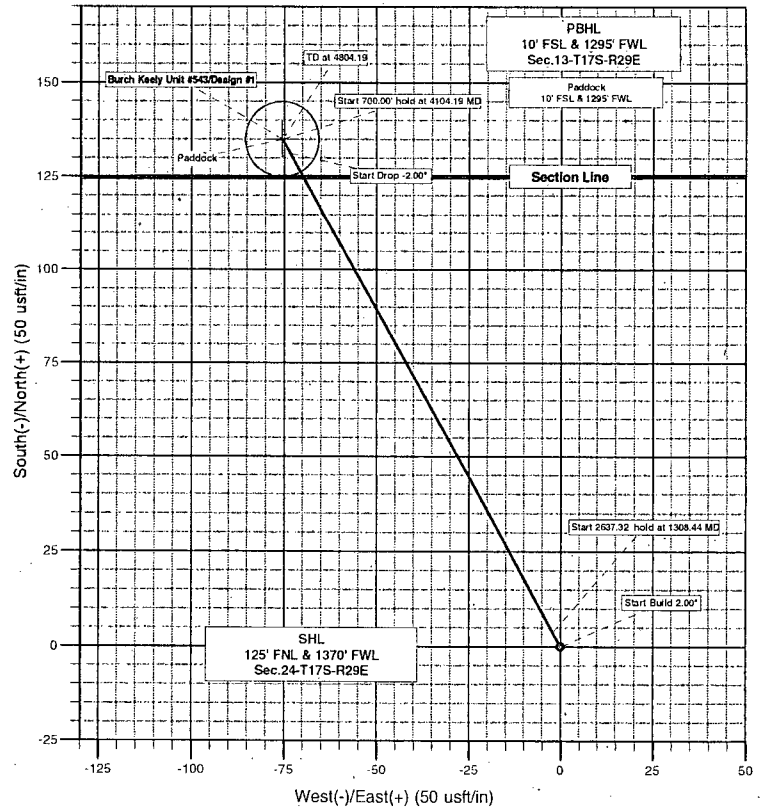
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
BKU #543 Tgt	4800.00	134.90	-75.40	664777.900	592523.500	32° 49' 37.916 N	104° 1' 55.670 W	Circle (Radius: 10.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1150.00	0.00	0.00	1150.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00°
1308.44	3.17	330.80	1308.36	3.82	-2.14	2.00	330.80	4.38	Start 2637.32' hold at 1308.44 MD
3945.76	3.17	330.80	3941.64	131.08	-73.26	0.00	0.00	150.16	Start Drop -2.00°
4104.19	0.00	0.00	4100.00	134.90	-75.40	2.00	180.00	154.54	Start 700.00' hold at 4104.19 MD
4804.19	0.00	0.00	4800.00	134.90	-75.40	0.00	0.00	154.54	TD at 4804.19



Azimuths to Grid North  
True North: -0.16°  
Magnetic North: 7.45°  
Magnetic Field  
Strength: 48735.4nT  
Dip Angle: 60.62°  
Date: 2013/05/14  
Model: IGRF2010



Plan: Design #1 (Burch Keely Unit #543/Wellbore #1)

Created By: Bret Wolford Date: 11:36, May 14 2013





# **COG Operating, LLC**

**Eddy County(NM27E)**

**Sec.24-T17S-R29E**

**Burch Keely Unit #543**

**Wellbore #1**

**Plan: Design #1**

## **Standard Planning Report**

**14 May, 2013**

# **Archer**

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Burch Keely Unit #543
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3621.00usft
Project:	Eddy County(NM27E)	IMD Reference:	WELL @ 3621.00usft
Site:	Sec 24-T17S-R29E	North Reference:	Grid
Well:	Burch Keely Unit #543	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Eddy County(NM27E)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Sec 24-T17S-R29E			
Site Position:		Northing:	664,643.000 usft	Latitude:	32° 49' 36.579 N
From:	Map	Easting:	592,598.900 usft	Longitude:	104° 1' 54.791 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.16 °

Well	Burch Keely Unit #543					
Well Position	+N-S	0.00 usft	Northing:	664,643.000 usft	Latitude:	32° 49' 36.579 N
	+E-W	0.00 usft	Easting:	592,598.900 usft	Longitude:	104° 1' 54.791 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,604.00 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/14/13	7.61	60.62	48,735

Design					Design #1				
Audit Notes:									
Version:		Phase:		PLAN		Tie On Depth:		0.00	
Vertical Section:		Depth From (ITVD)		+N-S		+E-W		Direction	
		(usft)		(usft)		(usft)		(°)	
		4,800.00		0.00		0.00		330.80	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,308.44	3.17	330.80	1,308.36	3.82	-2.14	2.00	2.00	0.00	330.80	
3,945.76	3.17	330.80	3,941.64	131.08	-73.26	0.00	0.00	0.00	0.00	
4,104.19	0.00	0.00	4,100.00	134.90	-75.40	2.00	-2.00	0.00	180.00	
4,804.19	0.00	0.00	4,800.00	134.90	-75.40	0.00	0.00	0.00	0.00	

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Burch Keely Unit #543
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3621.00usft
Project:	Eddy County(NM27E)	MD Reference:	WELL @ 3621.00usft
Site:	Sec.24-T17S-R29E	North Reference:	Grid
Well:	Burch Keely Unit #543	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

## Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>8 5/8" Csg.</b>									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00°</b>									
1,150.00	0.00	0.00	1,150.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	1.00	330.80	1,200.00	0.38	-0.21	0.44	2.00	2.00	0.00
<b>Start 2637.32' hold at 1308.44 MD</b>									
1,308.44	3.17	330.80	1,308.36	3.82	-2.14	4.38	2.00	2.00	0.00
1,400.00	3.17	330.80	1,399.78	8.24	-4.61	9.44	0.00	0.00	0.00
1,500.00	3.17	330.80	1,499.63	13.07	-7.30	14.97	0.00	0.00	0.00
1,600.00	3.17	330.80	1,599.47	17.89	-10.00	20.50	0.00	0.00	0.00
1,700.00	3.17	330.80	1,699.32	22.72	-12.70	26.02	0.00	0.00	0.00
1,800.00	3.17	330.80	1,799.17	27.54	-15.39	31.55	0.00	0.00	0.00
1,900.00	3.17	330.80	1,899.01	32.37	-18.09	37.08	0.00	0.00	0.00
2,000.00	3.17	330.80	1,998.86	37.19	-20.79	42.61	0.00	0.00	0.00
2,100.00	3.17	330.80	2,098.71	42.02	-23.48	48.13	0.00	0.00	0.00
2,200.00	3.17	330.80	2,198.56	46.84	-26.18	53.66	0.00	0.00	0.00
2,300.00	3.17	330.80	2,298.40	51.67	-28.88	59.19	0.00	0.00	0.00
2,400.00	3.17	330.80	2,398.25	56.49	-31.58	64.72	0.00	0.00	0.00
2,500.00	3.17	330.80	2,498.10	61.32	-34.27	70.25	0.00	0.00	0.00
2,600.00	3.17	330.80	2,597.94	66.14	-36.97	75.77	0.00	0.00	0.00
2,700.00	3.17	330.80	2,697.79	70.97	-39.67	81.30	0.00	0.00	0.00
2,800.00	3.17	330.80	2,797.64	75.79	-42.36	86.83	0.00	0.00	0.00
2,900.00	3.17	330.80	2,897.49	80.62	-45.06	92.36	0.00	0.00	0.00
3,000.00	3.17	330.80	2,997.33	85.44	-47.76	97.88	0.00	0.00	0.00
3,100.00	3.17	330.80	3,097.18	90.27	-50.45	103.41	0.00	0.00	0.00
3,200.00	3.17	330.80	3,197.03	95.09	-53.15	108.94	0.00	0.00	0.00
3,300.00	3.17	330.80	3,296.87	99.92	-55.85	114.47	0.00	0.00	0.00
3,400.00	3.17	330.80	3,396.72	104.74	-58.54	119.99	0.00	0.00	0.00
3,500.00	3.17	330.80	3,496.57	109.57	-61.24	125.52	0.00	0.00	0.00
3,600.00	3.17	330.80	3,596.42	114.39	-63.94	131.05	0.00	0.00	0.00
3,700.00	3.17	330.80	3,696.26	119.22	-66.64	136.58	0.00	0.00	0.00
3,800.00	3.17	330.80	3,796.11	124.04	-69.33	142.10	0.00	0.00	0.00
3,900.00	3.17	330.80	3,895.96	128.87	-72.03	147.63	0.00	0.00	0.00
<b>Start Drop -2.00°</b>									
3,945.76	3.17	330.80	3,941.64	131.08	-73.26	150.16	0.00	0.00	0.00
4,000.00	2.08	330.80	3,995.83	133.25	-74.48	152.65	2.00	-2.00	0.00
<b>Start 700.00' hold at 4104.19 MD - Paddock</b>									
4,104.19	0.00	0.00	4,100.00	134.90	-75.40	154.54	2.00	-2.00	0.00
4,200.00	0.00	0.00	4,195.81	134.90	-75.40	154.54	0.00	0.00	0.00
4,300.00	0.00	0.00	4,295.81	134.90	-75.40	154.54	0.00	0.00	0.00
4,400.00	0.00	0.00	4,395.81	134.90	-75.40	154.54	0.00	0.00	0.00
4,500.00	0.00	0.00	4,495.81	134.90	-75.40	154.54	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: Burch Keely Unit #543
Company:	COG Operating, LLC	TVD Reference:	WELL @ 3621.00usft
Project:	Eddy County(NM27E)	MD Reference:	WELL @ 3621.00usft
Site:	Sec. 24 T17S R29E	North Reference:	Grid
Well:	Burch Keely Unit #543	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,600.00	0.00	0.00	4,595.81	134.90	-75.40	154.54	0.00	0.00	0.00
4,700.00	0.00	0.00	4,695.81	134.90	-75.40	154.54	0.00	0.00	0.00
TD at 4804.19 - BKU #543 Tgt									
4,804.19	0.00	0.00	4,800.00	134.90	-75.40	154.54	0.00	0.00	0.00

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BKU #543 Tgt		0.00	0.00	4,800.00	134.90	-75.40	664,777.900	592,523.500	32° 49' 37.916 N	104° 1' 55.670 W
- plan hits target center										
- Circle (radius 10.00)										

Casing Points							Casing Diameter (")	Hole Diameter (")
Measured Depth (usft)	Vertical Depth (usft)	Name						
1,050.00	1,050.00	8 5/8" Csg.					8-5/8	12-1/4

Formations							Dip (°)	Dip Direction (°)
Measured Depth (usft)	Vertical Depth (usft)	Name		Lithology				
4,104.19	4,100.00	Paddock					0.00	

Plan Annotations						Comment
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates				
		+N/-S (usft)	+E/-W (usft)			
1,150.00	1,150.00	0.00	0.00	Start Build 2.00°		
1,308.44	1,308.36	3.82	-2.14	Start 2637.32' hold at 1308.44 MD		
3,945.76	3,941.64	131.08	-73.26	Start Drop -2.00°		
4,104.19	4,100.00	134.90	-75.40	Start 700.00' hold at 4104.19 MD		
4,804.19	4,800.00	134.90	-75.40	TD at 4804.19		

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
LEASE NO.:	NMLC028784A
WELL NAME & NO.:	543 BURCH KEELY UNIT
SURFACE HOLE FOOTAGE:	125' FNL & 1370' FWL, Section 24, T. 17 S., R. 29E.
BOTTOM HOLE FOOTAGE:	10' FSL & 1295' FWL, Section 13, T.17 S., R.29 E., NMPM
LOCATION:	
COUNTY:	Eddy County, New Mexico

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
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  - Pipelines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To 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)

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period.

Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted.

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

**Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

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

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

### **B. TOPSOIL**

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

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

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

### **D. FEDERAL MINERAL MATERIALS PIT**

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

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

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

### **F. EXCLOSURE FENCING (CELLARS & PITS)**



**Exclosure Fencing**

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

**G. ON LEASE ACCESS ROADS****Road Width**

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

**Surfacing**

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

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

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

**Crowning**

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

**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

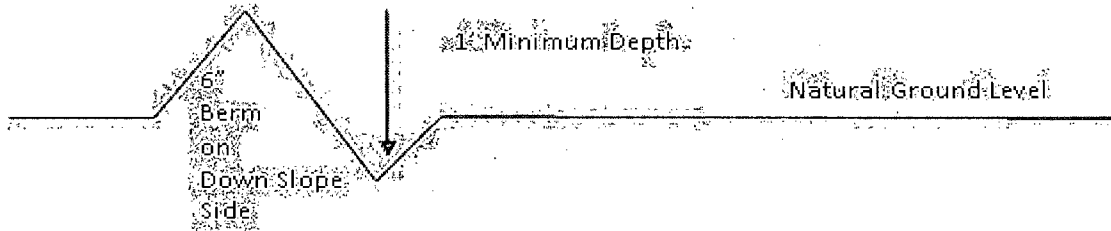
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and inslaping, 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:

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

#### **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

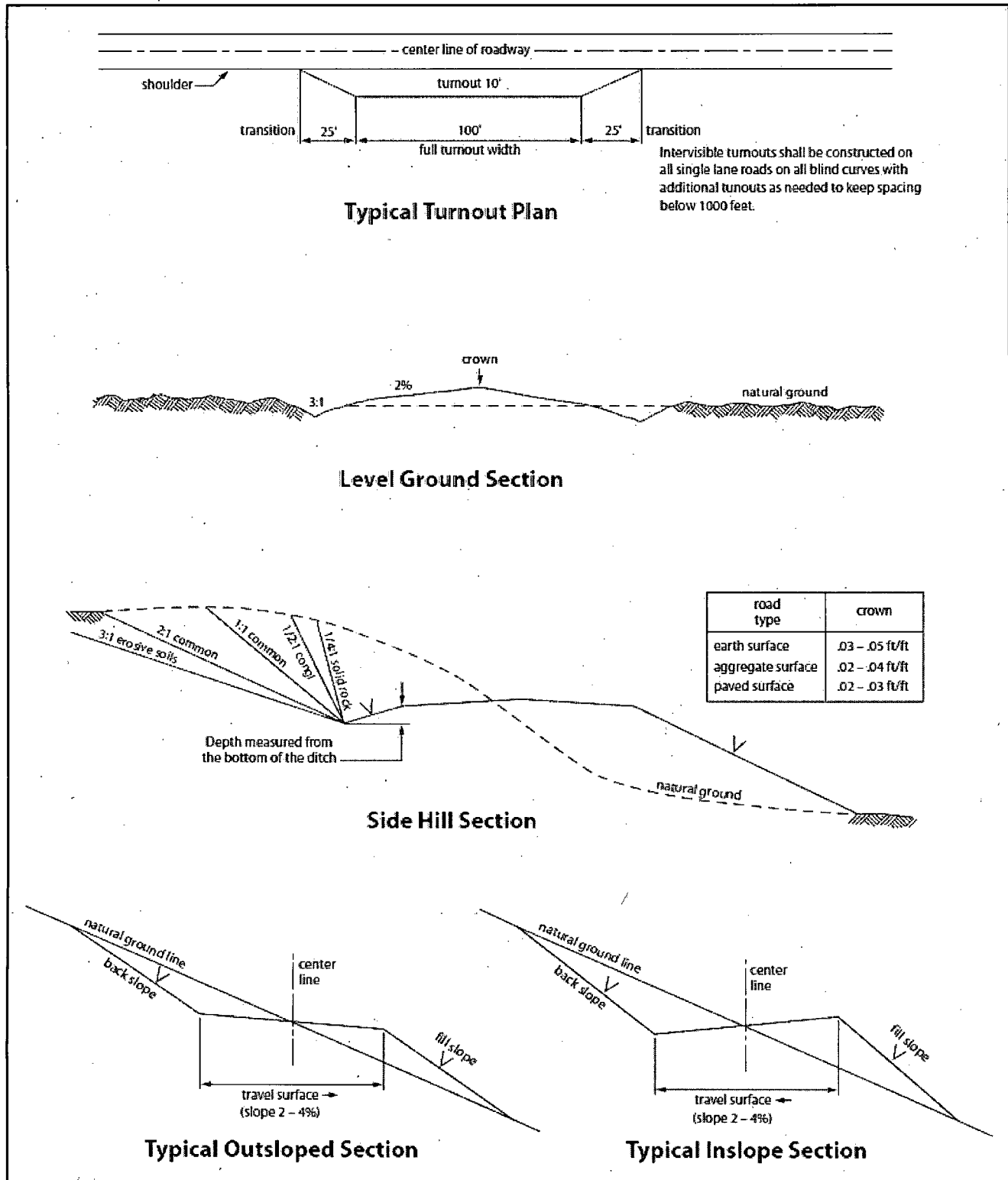


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## 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 (H<sub>2</sub>S) Drilling Plan should be activated 500 feet prior to drilling into the Grayburg 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. **The record of the drilling rate along with the GR/N well log run from TD to surface will 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) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.**

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

**Possible water and brine flows in the Salado and Artesia Group.  
Possible lost circulation in the Grayburg and San Andres formations.**

1. The 13-3/8 inch surface casing shall be set at **approximately 300 feet (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 8-5/8 inch intermediate casing, **which is to be set in the Tansill formation at approximately 1145', is:**

**Option # 1 (Single Stage):**

- ☒ Cement as proposed by operator. If cement does not circulate see B.1.a, c-d above.

**Option #2:**

**Operator has proposed DV tool at depth of 350', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.**

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.  
**Additional cement may be required – excess calculates to 23%.**

b. Second stage above DV tool:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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

**Option # 1 (Single Stage):**

- ☒ Cement as proposed by operator. Operator shall provide method of verification.

**Option #2:**

**Operator has proposed DV tool at depth of 2500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.**

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 tie-back on the next stage.

b. Second stage above DV tool:

- ☒ Cement as proposed by operator. Operator shall provide method of verification.

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

### C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17. **Operator approved for either 13-5/8" or 11" BOP stack.**
2. **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).**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**
4. 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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.
  - 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.

#### **D. DRILL STEM TEST**

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

#### **E. WASTE MATERIAL AND FLUIDS**

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

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

**JAM 100114**



## **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. PIPELINES**

#### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

**A copy of the APD 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 activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict

liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

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

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

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

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

6. The authorized right-of-way width will be 20 feet. 14 feet of the right-of-way width will consist of existing disturbance (existing lease roads) and the remaining 6 feet will consist of area adjacent to the disturbance. All construction and maintenance activity will be confined to existing roads.

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

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas,

the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

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

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

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

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

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

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

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

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

**C. ELECTRIC LINES (Not Applied for in APD)**

## **IX. INTERIM RECLAMATION**

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

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

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

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

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

## **X. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

## Seed Mixture 2, for Sandy 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:

<u>Species</u>	<u>lb/acre</u>
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*Pounds of pure live seed:

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