

Split Estate

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT


APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SHL: State of NM BHL: NM-103875
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator COG Operating LLC		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 550 W. Texas, Suite 100 Midland TX 79701		8. Lease Name and Well No. Blitzen 35 Federal Com #3H
3b. Phone No. (include area code) (432) 685-4384		9. API Well No. 30-015- 41591
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface: SHL: 1980' FSL & 235' FWL, Unit L Sec 36, T16S, R28E At proposed prod. zone: BHL: 1980' FSL & 330' FWL, Unit L Sec 35, T16S, R28E		10. Field and Pool, or Exploratory Anderson; Wolfcamp, North 97183
14. Distance in miles and direction from nearest town or post office* 2.5 miles north of Loco Hills, NM		11. Sec., T. R. M. or Blk. and Survey or Area Sec 35, T16S, R28E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 235'	16. No. of acres in lease SHL: 160; BHL: 160	17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 352'	19. Proposed Depth TVD 6760'; MD 11701'	20. BLM/BIA Bond No. on file NMB000740; NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3606' GL	22. Approximate date work will start* 08/31/2012	23. Estimated duration 10 days

24. Attachments

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

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

25. Signature 	Name (Printed/Typed) Kelly J. Holly	Date 06/12/2012
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Title
Permitting Tech

Approved by (Signature) /s/George MacDonell	Name (Printed/Typed) /s/George MacDonell	Date JUL 30 2013
--	---	----------------------------

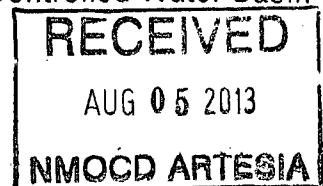
Title
CARLSBAD FIELD OFFICE
Office
FIELD MANAGERApplication approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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.

*(Instructions on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

Closed Loop - Surface Use Plan - P.5

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, 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 30-015- 41591	Pool Code 97183	Pool Name ANDERSON; WOLFCAMP, NORTH
Property Code 36953	Property Name BLITZEN 35 FEDERAL COM	Well Number 3H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3606'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	36	16-S	28-E		1980	SOUTH	235	WEST	EDDY

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
L	35	16-S	28-E		1980	SOUTH	330	WEST	EDDY

Dedicated Acres 200	Joint or Infill	Consolidation Code	Order No.
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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>Diagram showing well location in Section 35 and 36. The well path is shown with a dashed line. The diagram includes a 'Producing Area' and a 'Producing Area' with a 'GRID AZ = 270°06'51" Producing Area' and 'HORIZ. DIST. = 5081.3''. The well path is labeled 'Estimated Completed Interval: 1980' FSL + 330' FEL'. The diagram also shows 'B.H.' (Bottom Hole) and 'S.L.' (Surface Location) with 'SEE DETAIL'.</p>	<p>OPERATOR CERTIFICATION</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>Robyn M. Odom</i> 7/13/2012 Signature Date</p> <p>Robyn M. Odom Printed Name</p> <p>Rodom@concho.com E-mail Address</p>
<p>CORNER COORDINATES TABLE</p> <p>① - Y=683689.0 N, X=554773.3 E</p> <p>② - Y=683675.4 N, X=559958.4 E</p> <p>③ - Y=682354.2 N, X=554767.1 E</p> <p>④ - Y=682339.8 N, X=559932.5 E</p> <p>DETAIL</p> <p>3599.9' 3605.4' 600' 3602.7' 3604.5'</p> <p>GEODETIC COORDINATES NAD 27 NME</p> <p>SURFACE LOCATION Y=682987.7 N X=560180.0 E</p> <p>LAT.=32.877461° N LONG.=104.137311° W</p> <p>BOTTOM HOLE LOCATION Y=682997.9 N X=555100.0 E</p>	<p>SURVEYOR CERTIFICATION</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>MAY 5, 2012</p> <p>Date of Survey</p> <p>Signature & Seal of Professional Surveyor:</p> <p><i>Ronald J. Eidson</i> 5/23/2012 Professional Surveyor</p> <p>Certificate Number: Gary S. Eidson 12641 Ronald J. Eidson 3239</p> <p>DSS: JWSC.W.O.: 12-11.0867</p>

Surface Use Plan
COG Operating, LLC
Blitzen 35 Federal Com 3H
SL: 1980' FSL & 235' FWL UL L
Section 36, T-16-S, R-28-E
BHL: 1980' FSL & 330' FWL
Section 35, T-16-S, R-28-E
Eddy County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently 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 COG Operating, LLC, 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 4th day of June, 2012.

Signed: Carl Bird

Printed Name: Carl Bird

Position: Drilling Engineer

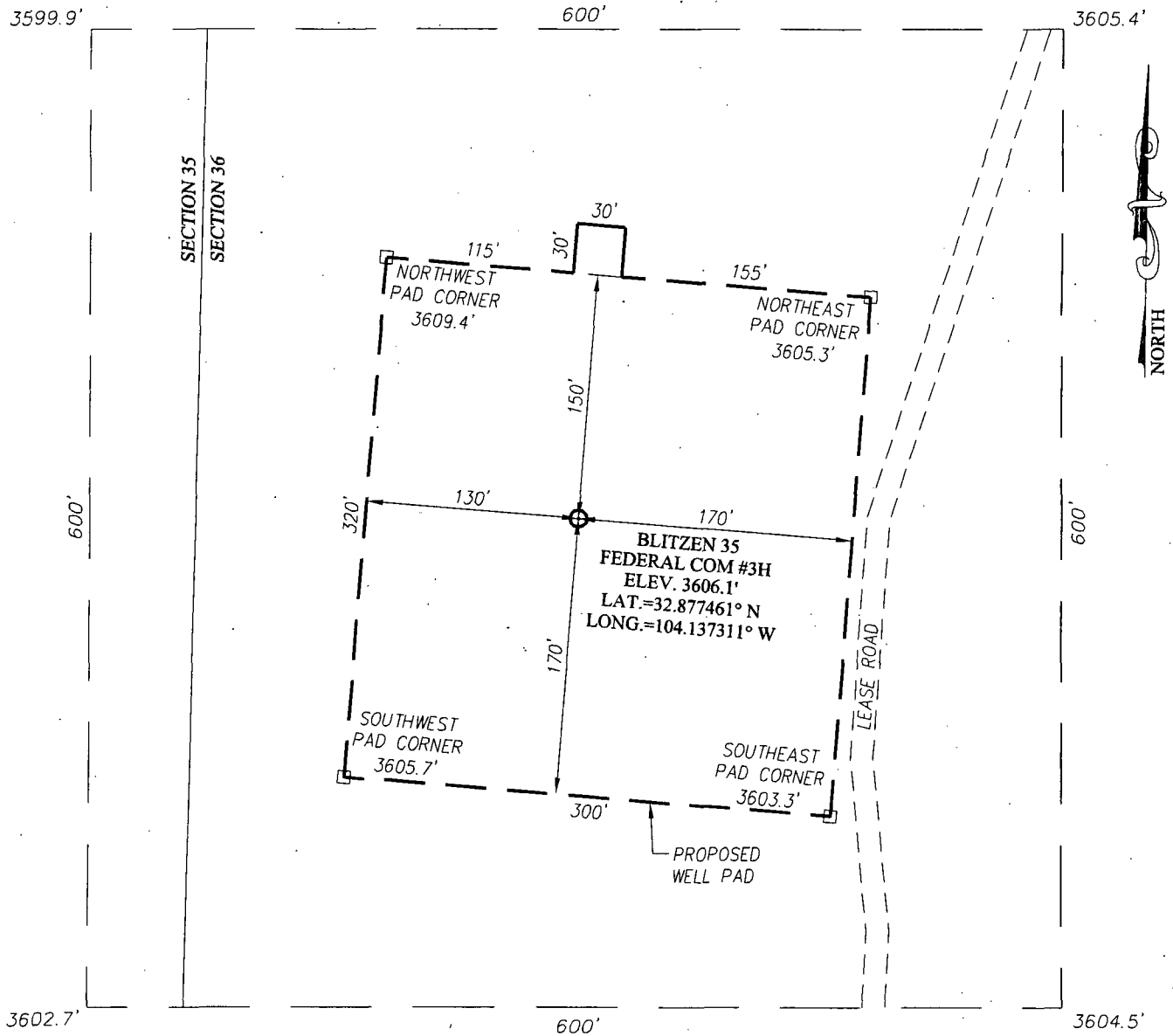
Address: 550 W. Texas, Suite 1300, Midland, Texas 79701

Telephone: (432) 683-7443

Field Representative (if not above signatory): Same

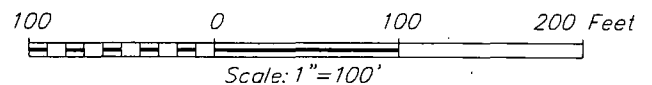
E-mail: cbird@concho.com

SECTION 36, TOWNSHIP 16 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY **NEW MEXICO**



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. 82 AND CO. RD. #209 (TURKEY TRACK), GO NORTH ON CO. RD. #209 APPROX. 4.8 MILES TO A "Y". VEER LEFT AND GO NORTHWEST APPROX. 0.5 MILES. THIS LOCATION STAKE IS APPROX. 185 FEET WEST OF LEASE ROAD.



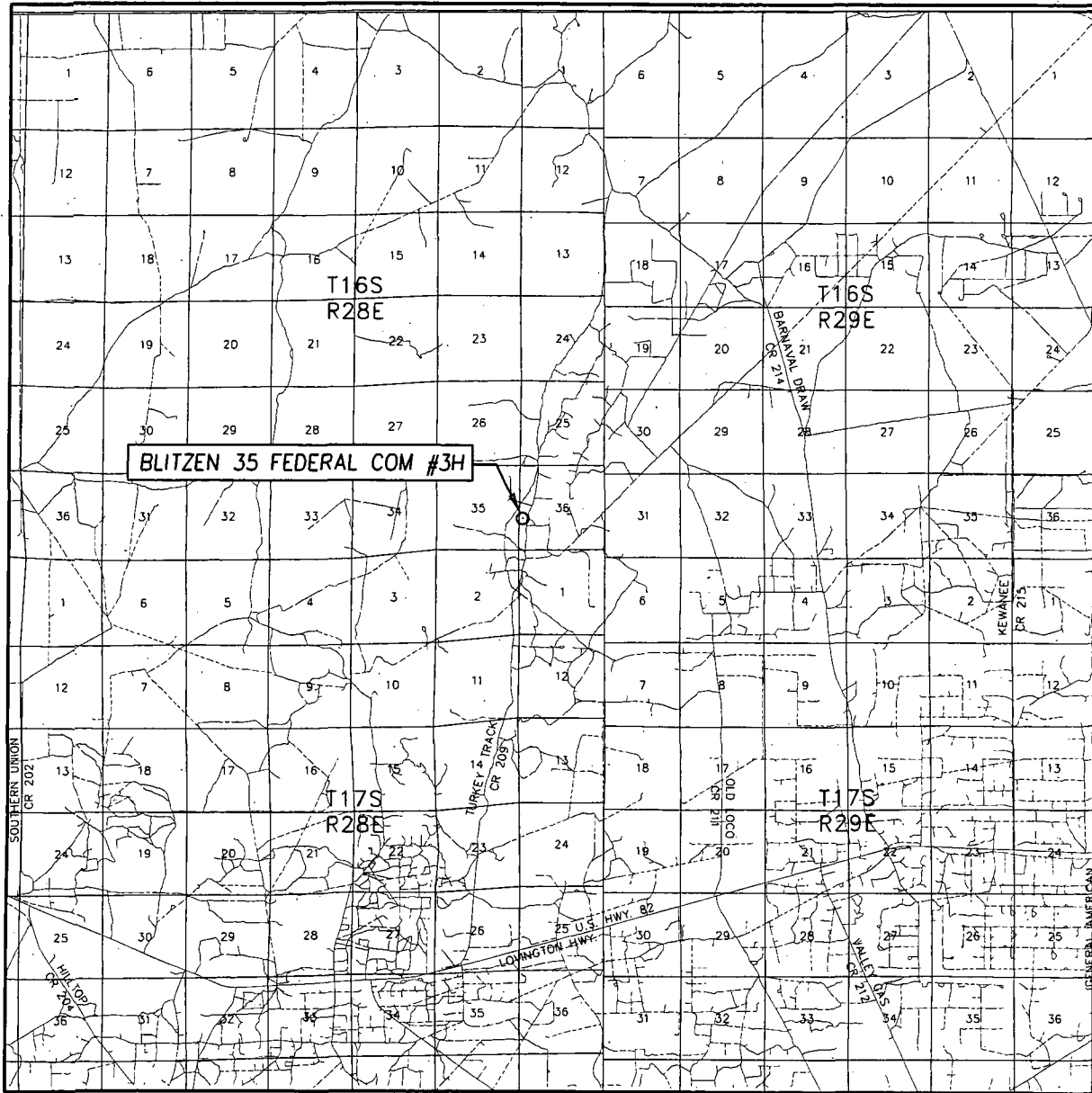
COG OPERATING, LLC

BLITZEN 35 FEDERAL COM #3H WELL
LOCATED 1980 FEET FROM THE SOUTH LINE
AND 235 FEET FROM THE WEST LINE OF SECTION 36,
TOWNSHIP 16 SOUTH, RANGE 28 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: 5/5/12	CAD Date: 5/22/12	Drawn By: DSS
W.O. No.: 12110867	Rev. :	Rel. W.O.:
		Sheet 1 of 1

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 36 TWP. 16-S RGE. 28-E

SURVEY N.M.P.M.

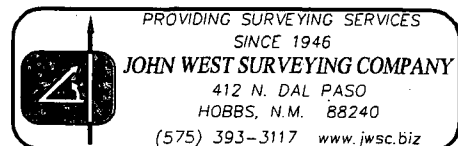
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FSL & 235' FWL

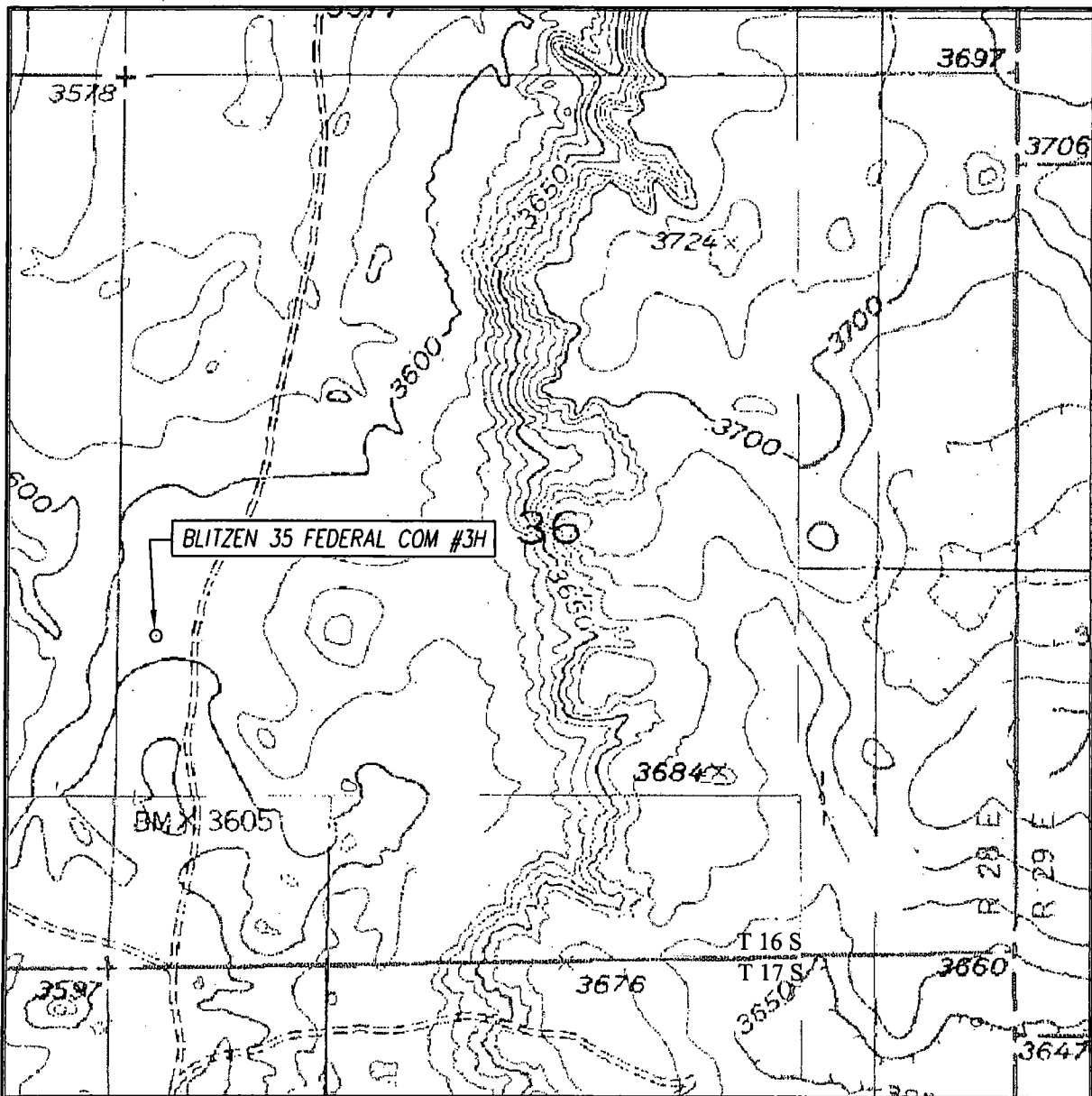
ELEVATION 3606'

OPERATOR COG OPERATING, LLC

LEASE BLITZEN 35 FEDERAL COM



LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

SEC. 36 TWP. 16-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1980' FSL & 235' FWL

ELEVATION 3606'

OPERATOR COG OPERATING, LLC

LEASE BLITZEN 35 FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP

SPRING LAKE, N.M.

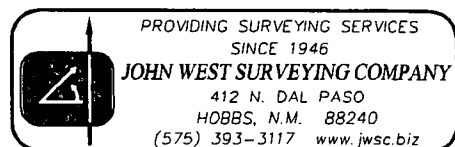
CONTOUR INTERVAL: 10'

DIAMOND MOUND, N.M.

BASIN WELL, N.M.

RED LAKE, N.M.

RED LAKE S.E., N.M.



22

23

24

27

T16S - R28E.

26

25

34

35

36

1 MILE

Blitzen 35 Federal Com #3H

BHL

Estimated Distance to
nearest wellbore 352ft S

SHL

Estimated Distance SHL to BHL
5081.3 ft

3

2

1



SENM SHELF AREA
EDDY COUNTY, NEW MEXICO
Blitzen 35 Federal Com #3H
Section 36, SHL: 1980 FSL & 235 FWL
Section 35, BHL: 1980 FSL & 330 FWL

Author:
TFG/dm

SENM/M_CLER
1 MILE RADIUS

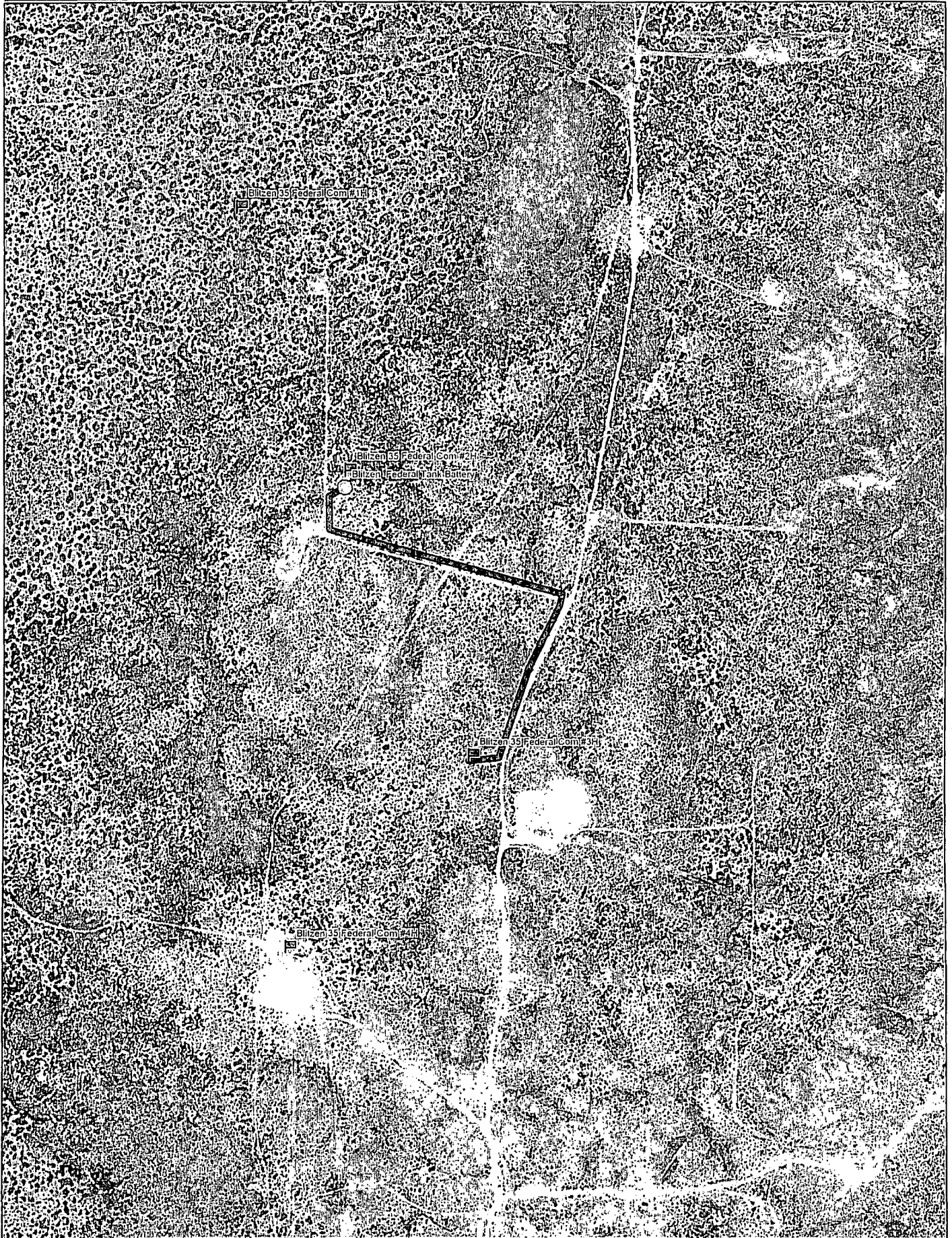
All Wells

Scale:
1"=2000'

Date:

1 June, 2012

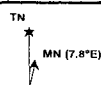
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gmp



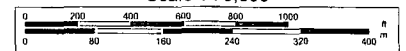
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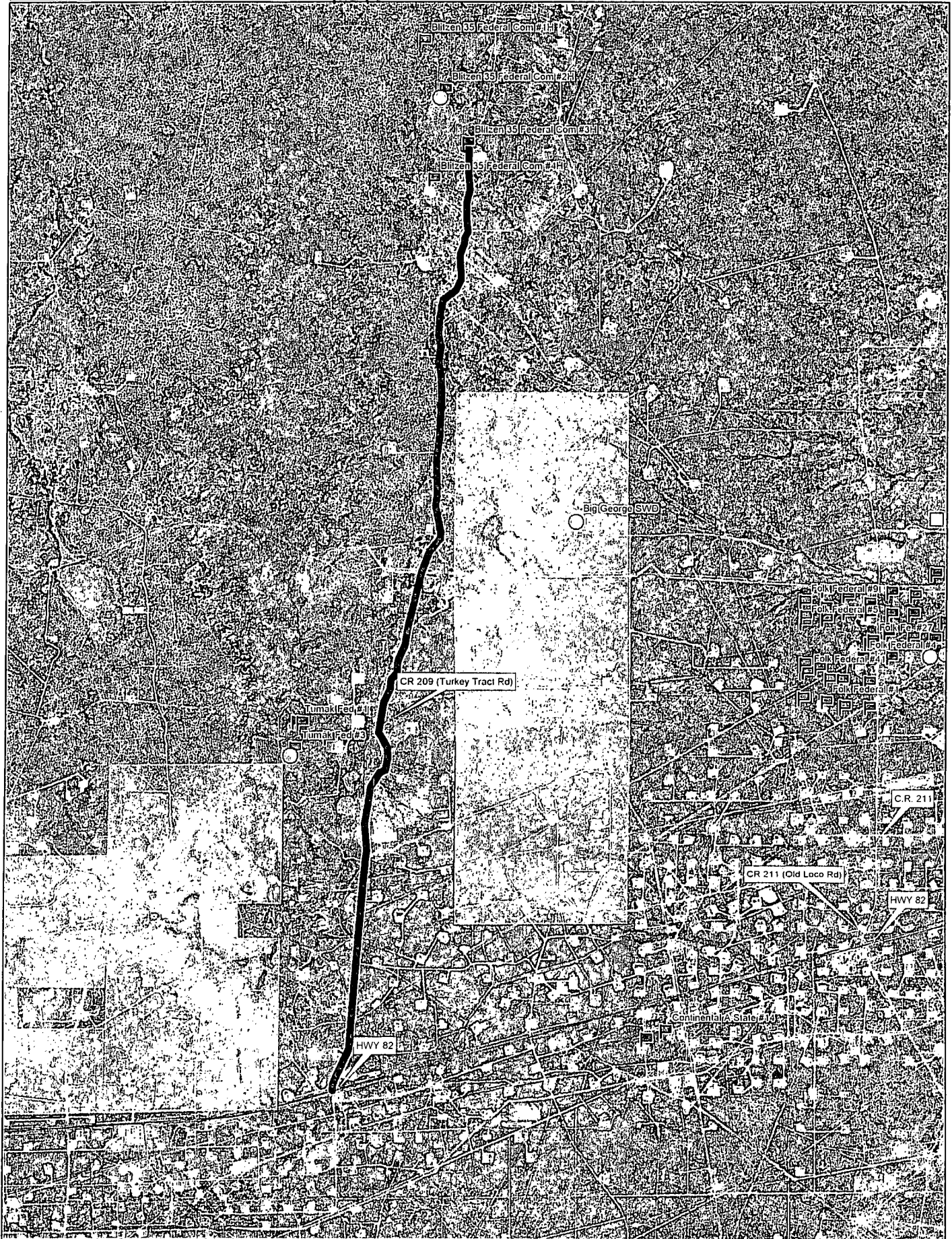


Scale 1 : 8,800



1" = 733.3 ft

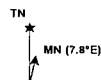
Data Zoom 14-5



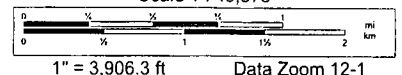
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Scale 1 : 46,875



ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Blitzen 35 Federal Com #3
SL: 1980' FSL & 235' FWL, Unit L
Sec 36, T16S, R28E
BHL: 1980' FSL & 330' FWL, Unit L
Sec 35, T16S, R28E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres
2. Ground Elevation: 3597'
3. Proposed Depths: Horizontal TVD = 6760', MD = 11701'
4. Estimated tops of geological markers:

Quaternary	Surface
Tansil	500'
Yates	600'
Seven Rivers	845'
Queen	1370'
Grayburg	1780'
San Andres	2175'
Glorieta	3585'
Paddock	3615'
Blaine	3920'
Tubb	4930'
Drinkard	4990'
T/Abo	5600'
Abo Shale	5620'
Lower Abo Pay	6815'
Base Lo. Abo	7050'

5. Possible mineral bearing formations:

Water Sand	150'	Fresh Water **
Yates	600'	Oil / Gas
Queen	1370'	Oil / Gas
San Andres	2175'	Oil / Gas
Glorieta	3585'	Oil / Gas
Tubb	4930'	Oil / Gas
Lower Abo	6815'	Oil / Gas

The pool for this well includes the Abo formation

** Note 40' of 20" conductor will be set. Fresh water sands will be protected by 13 3/8" surface casing.

- ## 6. Casing Program - Proposed

Hole size	Interval	OD of Casing	Weight	Cond.	Collar	Grade
17-1/2"	0' - +/-500' ²⁰⁰ MD	13-3/8"	48#	New	STC	H40/J55 Hybrid
Collapse sf - 3.87, Burst sf - 8.7, Tension sf - 14.91						
8-3/4"	0' - 6100' MD	7"	26#	New	LTC	P110
Collapse sf - 2.19, Burst sf - 3.51, Tension sf - 4.44						
6-1/8"	0' - 11,701' MD ⁶⁰⁰⁰	4-1/2"	11.6#	New	LTC	P110
Collapse sf - 2.31, Burst sf - 3.27, Tension sf - 3.63						

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Blitzen 35 Federal Com #3
Page 2 of 4

If wellbore integrity cannot be maintained, then the 8-3/4" hole will be reamed out to 12-1/4" and new 9-5/8" casing contingency will be run as follows:

12-1/4" 0' - +/- 2175' 9-5/8" 40# New LTC J/K-55
Collapse sf - 3.02, Burst sf - 4.64, Tension sf - 7.22

Respectfully request permission for 100' liner overlap to set pump as deep as possible.

7. Cement Program

200

13 3/8" Surface Casing set at +/- 500', Circ to Surf with +/- 400 sx Class "C" w/ 2% CaCl₂ w/0.25 pps CF, wt. 14.8 ppg, yield 1.35 cf/sk. 138% excess calculated to surface.

7" Production Casing set at +/- 6100', Circ. to Surf with +/- 900 sx Class "C" w/ 4% gel, wt.13.5 ppg, yield 1.72 cf/sk, & 200 sx Class "C" w/ 0.35% R-3 wt.14.8 ppg, yield 1.33 cf/sk. 88% excess calculated to surface.

4 1/2" Production Liner set at +/- 11701' MD, 6760' TVD, Uncemented, with packers for isolation, and requesting permission for only 100' liner overlap. TOL (top of liner) at +/-6000'.

See COA
9 5/8" Contingency Intrmd. Csg. Set at +/- 2175'. Lead: 300sx 35:65:6 C:Poz:gel w/ 5pps LCM-1 0.2% sodium metasilicate, 0.3% FL5ZA, 5% NaCl, wt. 12.5 ppg, yield 2.05 cf/sk. Tail: 200sx Class "C" w/ 2% CaCl₂, yield 1.34 cu.ft./sk., wt. 14.8 ppg. 102% excess, calculated to surface

Note: 7" cement program will not change if 9 5/8" contingency casing string is installed.

8. Pressure Control Equipment: See COA

After setting 13 3/8" casing and installing 3000 psi x 13 5/8" casing head, NU 13 5/8" 3000 psi annular BOP. Test annular BOP, casing and manifold with clear fluid to 1000 psi w/ Independent tester.

2000 See COA

After setting 7" casing and installing 3000 psi casing spool, NU 3000 psi double ram BOP and 3000 psi annular BOP. Test double ram BOP and manifold to 3000# with clear fluid and annular to 1500 psi using an independent tester, this equipment will be used continuously until TD is reached. Blind rams will be operationally checked on each trip out of hole. Pipe rams will be operationally checked each 24 hour period. These checks will be noted on daily tour sheets. Other accessories to the BOP equipment include a Kelly cock and floor safety valves, choke lines and choke manifold with 3000 psi WP rating.

Pressure Control Equipment for contingency 9 5/8" casing as follows:

The 9 5/8" casing well be landed in the 13 3/8" x 13 5/8" casing head. Then a 13 5/8" 3000 psi x 13 5/8" 3000 psi casing spool will be installed and a 13 5/8" x 3000 psi double ram BOP with 3000 psi annular preventer will be nipped up. Test double ram BOP and manifold to 3000 psig and 3000 psi annular to 1500 psig with clear fluids using test plug and independent tester. This BOP equipment will be used continuously until TD is reached. Blind rams will be operationally checked on each trip out of hole. Pipe rams will be operationally checked each 24 hours. These checks will be noted on daily tour sheets. Other accessories to the BOP equipment include a kelly cock, floor safety valve, choke lines and choke manifold with 3000 psi WP system. This equipment will all be hydrostatically tested to 3000 psig with clear fluid also.

7" casing will then be landed in the above 13 5/8" x 3000 psi spool. A 13 5/8" x 3000 psi BOP stack with 3000 psi annular as above will be nipped up. This BOP stack will be again tested to 3000 psig (annular 1500 psig) by independent tester. Blind & pipe rams will be operationally checked as described above and results reported in tour sheets. Other accessories to BOP Equipment will be as noted above and tested again with clear fluid to 3000 psig..

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Blitzen 35 Federal Com #3
Page 3 of 4

9. Proposed Mud Circulating System

Interval	Mud Wt.	Visc.	FL	Type Mud System
0' - 500' ²⁰⁰	8.5	28	NC	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
500' - 6100'	9.1	29	NC	Drill section with fresh water/cut brine circulating the reserve utilizing periodic sweeps of paper as needed for seepage control and solids removal.
6100' - 11,701'	9.5	36	10	Drill curve and horizontal section with XCD polymer / cut brine / starch.

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

10. Auxiliary Well Control and Monitoring Equipment

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

11. Production Hole Drilling Summary:

Set 7" production casing at 6100'. Drill 6-1/8" hole to 6348'. Kick off 6-1/8" horizontal hole at +/- 6348' MD, building curve over +/- 756' to horizontal at +/-6825' TVD, 7104' MD. Drill horizontal section in a westerly direction for +/-4,597' lateral to TD @ +/-11701' MD, 6760' TVD. Run 4-1/2" production liner in open hole lateral and set isolation packers and liner top packer @ +/-6000' MD. (see attached directional plan)

12. Logging, Testing and Coring Program:

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be run from T.D. to 7" casing shoe.
- B. The mud logging program will consist of lagged 10' samples from intermediate casing point to T.D. in vertical ~~pot hole~~ and from Kick off point to TD in Horizontal hole.
- C. Drill Stem test is not anticipated.
- D. No conventional coring is anticipated.
- E. Further testing procedures will be determined after the 4 1/2" production casing has been run to TD based on drill shows and log evaluation.

13. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 3160 psig. Low levels of Hydrogen sulfide have been monitored in producing wells in the area, so H2S may be present while drilling of the well.

**ATTACHMENT TO FORM 3160-3
COG Operating, LLC
Blitzen 35 Federal Com #3
Page 4 of 4**

An H2S plan is attached to the Drilling Program. No major loss of circulation zones has been reported in offsetting wells..

14. Anticipated Starting Date

Drilling operations will commence approximately on August 31, 2012 with drilling and completion operations lasting approximately 45 days.



COG Operating LLC

Eddy County, NM (NAN27 NME)

Blitzen 35 Federal Com #3H

OH

Plan: Plan #1 8-3/4" Hole

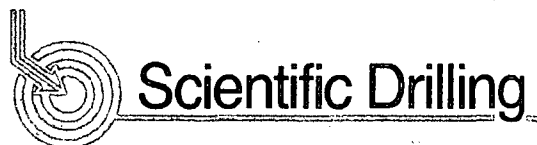
Surface: 1980' FSL, 235' FWL, Sec 36, T16S, R28E, Unit L

PP: 1980' FSL, 330' FEL, Sec 35, T16S, R28E, Unit I

BHL: 1980' FSL, 330' FWL, Sec 35, T16S, R28E, Unit L

Standard Planning Report

08 June, 2012





Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Blitzen 35 Federal Com #3H
Well: Blitzen 35 Federal Com #3H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Site Blitzen 35 Federal Com #3H
TVD Reference: GL @ 3606.00usft
MD Reference: GL @ 3606.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County, NM (NAN27 NME)		
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	Blitzen 35 Federal Com #3H				
Site Position:		Northing:	682,987.70 usft	Latitude:	32° 52' 38.860 N
From:	Map	Easting:	560,180.00 usft	Longitude:	104° 8' 14.321 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11 °

Well	Blitzen 35 Federal Com #3H					
Well Position	+N/-S	0.00 usft	Northing:	682,987.70 usft	Latitude:	32° 52' 38.860 N
	+E/-W	0.00 usft	Easting:	560,180.00 usft	Longitude:	104° 8' 14.321 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,606.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	06/08/12	7.78	60.67	48,847

Design	Plan #1 8-3/4" Hole			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	270.12

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	
6,347.50	0.00	0.00	6,347.50	0.00	0.00	0.00	0.00	0.00	0.00	
7,104.38	90.81	270.12	6,825.00	0.97	-484.30	12.00	12.00	0.00	270.12	
11,700.55	90.81	270.12	6,760.00	10.20	-5,080.00	0.00	0.00	0.00	0.00	PBHL-Blitzen 35 #3H



Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Blitzen 35 Federal Com #3H
Well: Blitzen 35 Federal Com #3H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Site Blitzen 35 Federal Com #3H
TVD Reference: GL @ 3606.00usft
MD Reference: GL @ 3606.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
6,347.50	0.00	0.00	6,347.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP Start Build 12.00°/100'									
6,400.00	6.30	270.12	6,399.89	0.01	-2.88	2.88	12.00	12.00	0.00
6,500.00	18.30	270.12	6,497.42	0.05	-24.14	24.14	12.00	12.00	0.00
6,600.00	30.29	270.12	6,588.40	0.13	-65.21	65.21	12.00	12.00	0.00
6,700.00	42.29	270.12	6,668.85	0.25	-124.30	124.30	12.00	12.00	0.00
6,800.00	54.29	270.12	6,735.26	0.40	-198.82	198.82	12.00	12.00	0.00
6,900.00	66.29	270.12	6,784.73	0.57	-285.51	285.51	12.00	12.00	0.00
7,000.00	78.29	270.12	6,815.10	0.76	-380.60	380.60	12.00	12.00	0.00
7,100.00	90.28	270.12	6,825.04	0.96	-479.92	479.92	12.00	12.00	0.00
7,104.38	90.81	270.12	6,825.00	0.97	-484.30	484.30	11.99	11.99	0.00
Land & hold 90.81°									
7,185.09	90.81	270.12	6,823.86	1.13	-565.00	565.00	0.00	0.00	0.00
PP=330° FEL Blitzen 35 #4H									
7,200.00	90.81	270.12	6,823.65	1.16	-579.91	579.91	0.00	0.00	0.00
7,300.00	90.81	270.12	6,822.23	1.37	-679.90	679.90	0.00	0.00	0.00
7,400.00	90.81	270.12	6,820.82	1.57	-779.89	779.89	0.00	0.00	0.00
7,500.00	90.81	270.12	6,819.40	1.77	-879.88	879.88	0.00	0.00	0.00
7,600.00	90.81	270.12	6,817.99	1.97	-979.87	979.87	0.00	0.00	0.00
7,700.00	90.81	270.12	6,816.58	2.17	-1,079.86	1,079.86	0.00	0.00	0.00
7,800.00	90.81	270.12	6,815.16	2.37	-1,179.85	1,179.85	0.00	0.00	0.00
7,900.00	90.81	270.12	6,813.75	2.57	-1,279.84	1,279.84	0.00	0.00	0.00
8,000.00	90.81	270.12	6,812.33	2.77	-1,379.83	1,379.83	0.00	0.00	0.00
8,100.00	90.81	270.12	6,810.92	2.97	-1,479.82	1,479.82	0.00	0.00	0.00
8,200.00	90.81	270.12	6,809.50	3.17	-1,579.80	1,579.81	0.00	0.00	0.00
8,300.00	90.81	270.12	6,808.09	3.37	-1,679.79	1,679.80	0.00	0.00	0.00
8,400.00	90.81	270.12	6,806.68	3.57	-1,779.78	1,779.79	0.00	0.00	0.00
8,500.00	90.81	270.12	6,805.26	3.77	-1,879.77	1,879.78	0.00	0.00	0.00
8,600.00	90.81	270.12	6,803.85	3.98	-1,979.76	1,979.77	0.00	0.00	0.00
8,700.00	90.81	270.12	6,802.43	4.18	-2,079.75	2,079.76	0.00	0.00	0.00
8,800.00	90.81	270.12	6,801.02	4.38	-2,179.74	2,179.75	0.00	0.00	0.00
8,900.00	90.81	270.12	6,799.61	4.58	-2,279.73	2,279.74	0.00	0.00	0.00
9,000.00	90.81	270.12	6,798.19	4.78	-2,379.72	2,379.73	0.00	0.00	0.00
9,100.00	90.81	270.12	6,796.78	4.98	-2,479.71	2,479.72	0.00	0.00	0.00
9,200.00	90.81	270.12	6,795.36	5.18	-2,579.70	2,579.71	0.00	0.00	0.00
9,300.00	90.81	270.12	6,793.95	5.38	-2,679.69	2,679.70	0.00	0.00	0.00
9,400.00	90.81	270.12	6,792.53	5.58	-2,779.68	2,779.69	0.00	0.00	0.00
9,500.00	90.81	270.12	6,791.12	5.78	-2,879.67	2,879.68	0.00	0.00	0.00
9,600.00	90.81	270.12	6,789.71	5.98	-2,979.66	2,979.67	0.00	0.00	0.00
9,700.00	90.81	270.12	6,788.29	6.18	-3,079.65	3,079.66	0.00	0.00	0.00
9,800.00	90.81	270.12	6,786.88	6.38	-3,179.64	3,179.65	0.00	0.00	0.00
9,900.00	90.81	270.12	6,785.46	6.59	-3,279.63	3,279.64	0.00	0.00	0.00
10,000.00	90.81	270.12	6,784.05	6.79	-3,379.62	3,379.63	0.00	0.00	0.00
10,100.00	90.81	270.12	6,782.64	6.99	-3,479.61	3,479.62	0.00	0.00	0.00
10,200.00	90.81	270.12	6,781.22	7.19	-3,579.60	3,579.61	0.00	0.00	0.00
10,300.00	90.81	270.12	6,779.81	7.39	-3,679.59	3,679.60	0.00	0.00	0.00
10,400.00	90.81	270.12	6,778.39	7.59	-3,779.58	3,779.59	0.00	0.00	0.00
10,500.00	90.81	270.12	6,776.98	7.79	-3,879.57	3,879.58	0.00	0.00	0.00
10,600.00	90.81	270.12	6,775.56	7.99	-3,979.56	3,979.57	0.00	0.00	0.00
10,700.00	90.81	270.12	6,774.15	8.19	-4,079.55	4,079.56	0.00	0.00	0.00
10,800.00	90.81	270.12	6,772.74	8.39	-4,179.54	4,179.55	0.00	0.00	0.00
10,900.00	90.81	270.12	6,771.32	8.59	-4,279.53	4,279.54	0.00	0.00	0.00



Database: EDM 5000.1 Single User Db
Company: COG Operating LLC
Project: Eddy County, NM (NAN27 NME)
Site: Blitzen 35 Federal Com #3H
Well: Blitzen 35 Federal Com #3H
Wellbore: OH
Design: Plan #1 8-3/4" Hole

Local Co-ordinate Reference: Site Blitzen 35 Federal Com #3H
TVD Reference: GL @ 3606.00usft
MD Reference: GL @ 3606.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
11,000.00	90.81	270.12	6,769.91	8.79	-4,379.52	4,379.53	0.00	0.00	0.00
11,100.00	90.81	270.12	6,768.49	8.99	-4,479.51	4,479.52	0.00	0.00	0.00
11,200.00	90.81	270.12	6,767.08	9.20	-4,579.50	4,579.51	0.00	0.00	0.00
11,300.00	90.81	270.12	6,765.66	9.40	-4,679.49	4,679.50	0.00	0.00	0.00
11,400.00	90.81	270.12	6,764.25	9.60	-4,779.48	4,779.49	0.00	0.00	0.00
11,500.00	90.81	270.12	6,762.84	9.80	-4,879.47	4,879.48	0.00	0.00	0.00
11,600.00	90.81	270.12	6,761.42	10.00	-4,979.46	4,979.47	0.00	0.00	0.00
11,700.00	90.81	270.12	6,760.01	10.20	-5,079.45	5,079.46	0.00	0.00	0.00
11,700.55	90.81	270.12	6,760.00	10.20	-5,080.00	5,080.01	0.00	0.00	0.00

PBHL-Blitzen 35 #3H

Design Targets**Target Name**

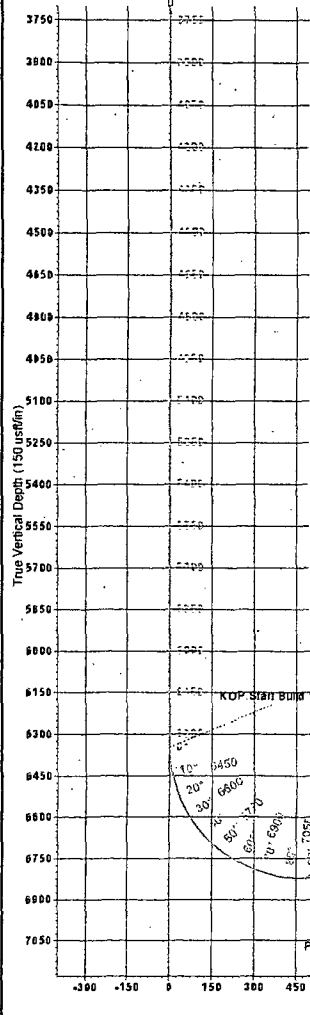
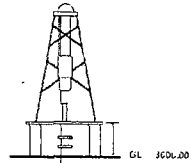
- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-Blitzen 35 #3H - plan hits target center - Point	0.00	0.00	6,760.00	10.20	-5,080.00	682,997.90	555,100.00	32° 52' 39.051 N	104° 9' 13.890 W
PP=330' FEL Blitzen 35 - plan hits target center - Point	0.00	0.00	6,823.86	1.13	-565.00	682,988.83	559,615.00	32° 52' 38.882 N	104° 8' 20.947 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,347.50	6,347.50	0.00	0.00	KOP Start Build 12.00°/100'
7,104.38	6,825.00	0.97	-484.30	Land & hold 90.81°



Blitzen 35 Federal Com #3H
Eddy County, NM (NAN27 NME)
Northing (Y) 682987.70
Easting (X) 560180.00
Plan #1 8-3/4" Hole



WELL DETAILS: Blitzen 35 Federal Com #3H									
+NAS	+EAS	Northing	Easting	Ground Level	Latitude	Longitude	Slct		
0.00	0.00	682987.70	560180.00	5066.00	N 27° 52' 38.260 W	104° 8' 14.521 W			

SECTION DETAILS									
Sec	MD	Int	ΔZ	TVD	+NAS	+EAS	Deg	True	V'Sect Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DESIGN TARGET DETAILS									
NAME	TVD	+NAS	+EAS	Northing	Easting	Latitude	Longitude	Shape	
PBHL-Blitzen 35 #3H	6700.00	10.20	-5086.50	682997.30	560180.00	27° 52' 38.261 W	104° 8' 14.521 W	Point	
-Plan NTS Target Center									
PP=330' FEL Blitzen 35 #4H	6829.26	1.10	-5086.50	682988.83	560180.00	27° 52' 38.261 W	104° 8' 14.521 W	Point	
-Plan NTS Target Center									

PROJECT DETAILS: Eddy County, NM (NAN27 NME)									
Geologic System: US State Plane 1927 (Exact solution)									
Datum: NAD 1983 (NAD 1983 CONUS)									
Elevations: 1985									
Zone: New Mexico East 2001									
System Datum: Mean Sea Level									

SITE DETAILS: Blitzen 35 Federal Com #3H									
Site Centre Northing: 682987.70									
Easting: 560180.00									
Positional Uncertainty: 0.10									
Convergence: 0.11									
Local North: Grid									

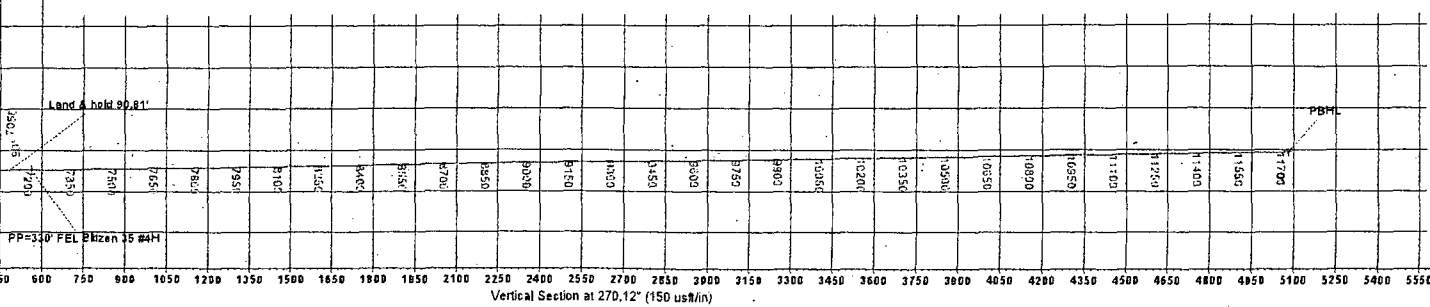
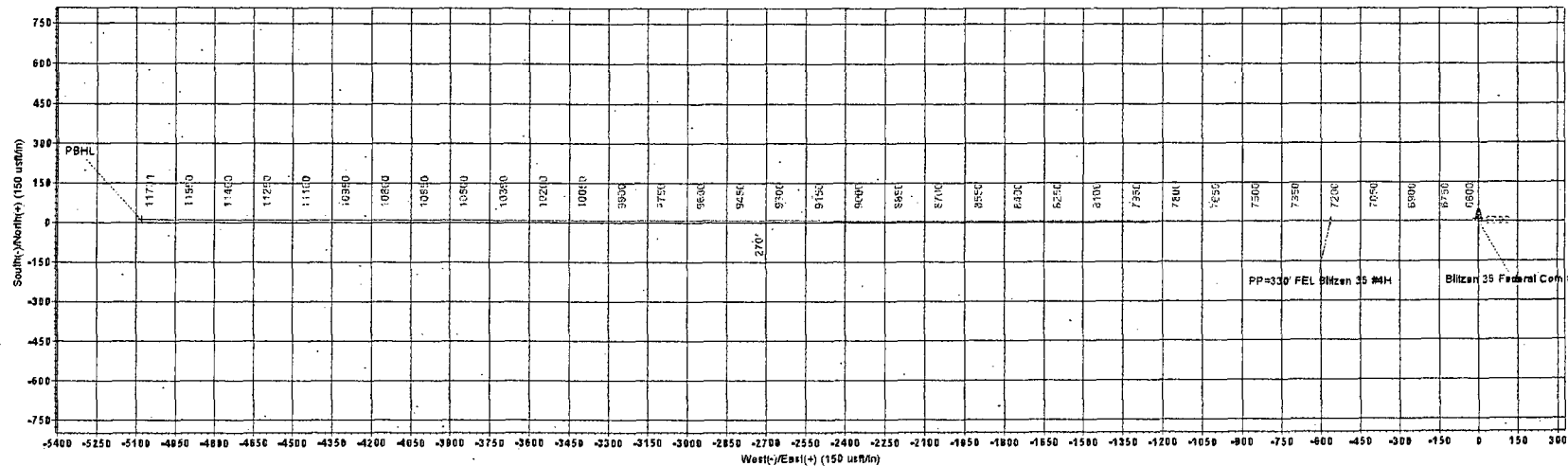
LEGEND									
Plan #1 8-3/4" Hole									



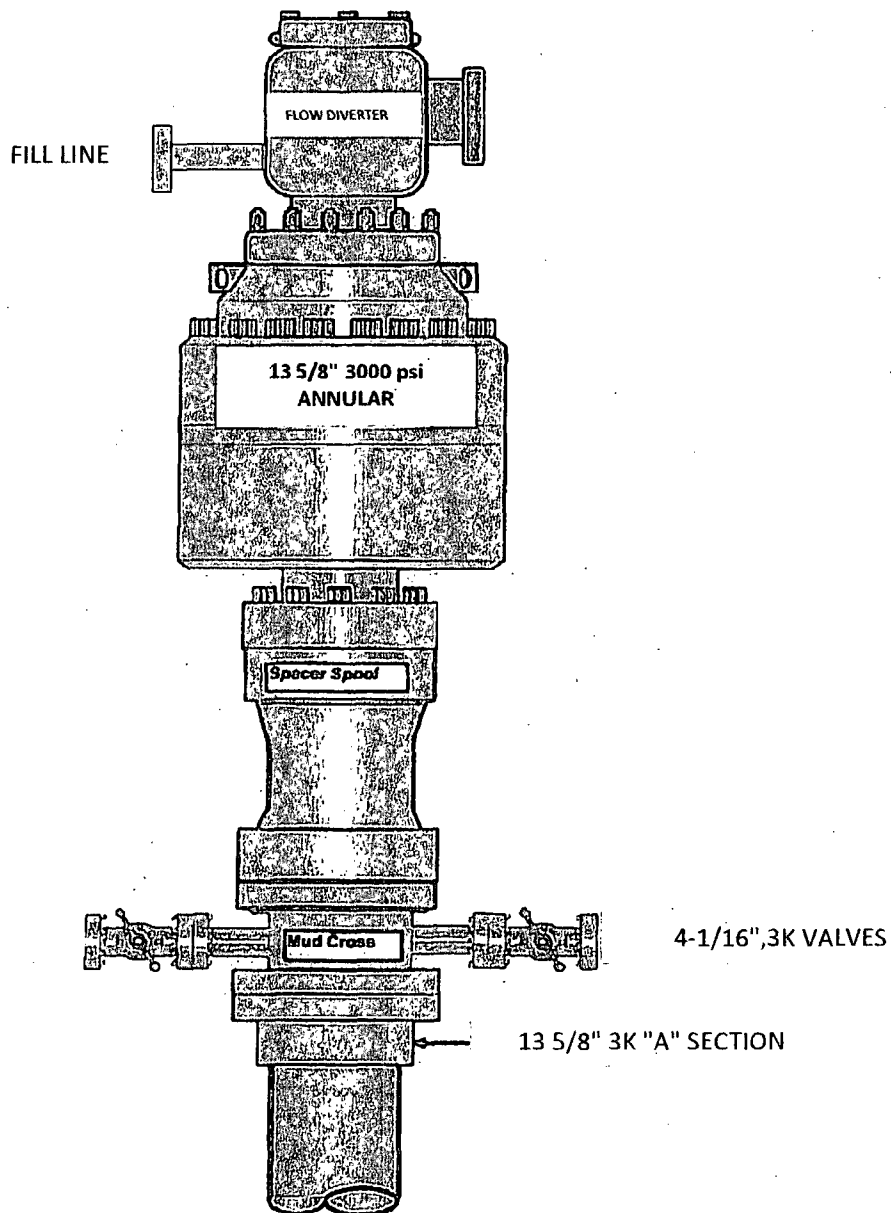
Altitude to Grid North
True North: -0.11°
Magnetic North: 7.67°
Magnetic Field
Strength: 48447 Gauss
Dip Angle: 60.3°
Date: 08/02/12
Model: IGRF2010

To convert Magnetic North to Grid, Add 7.67°
To convert True North to Grid, Subtract 0.11°

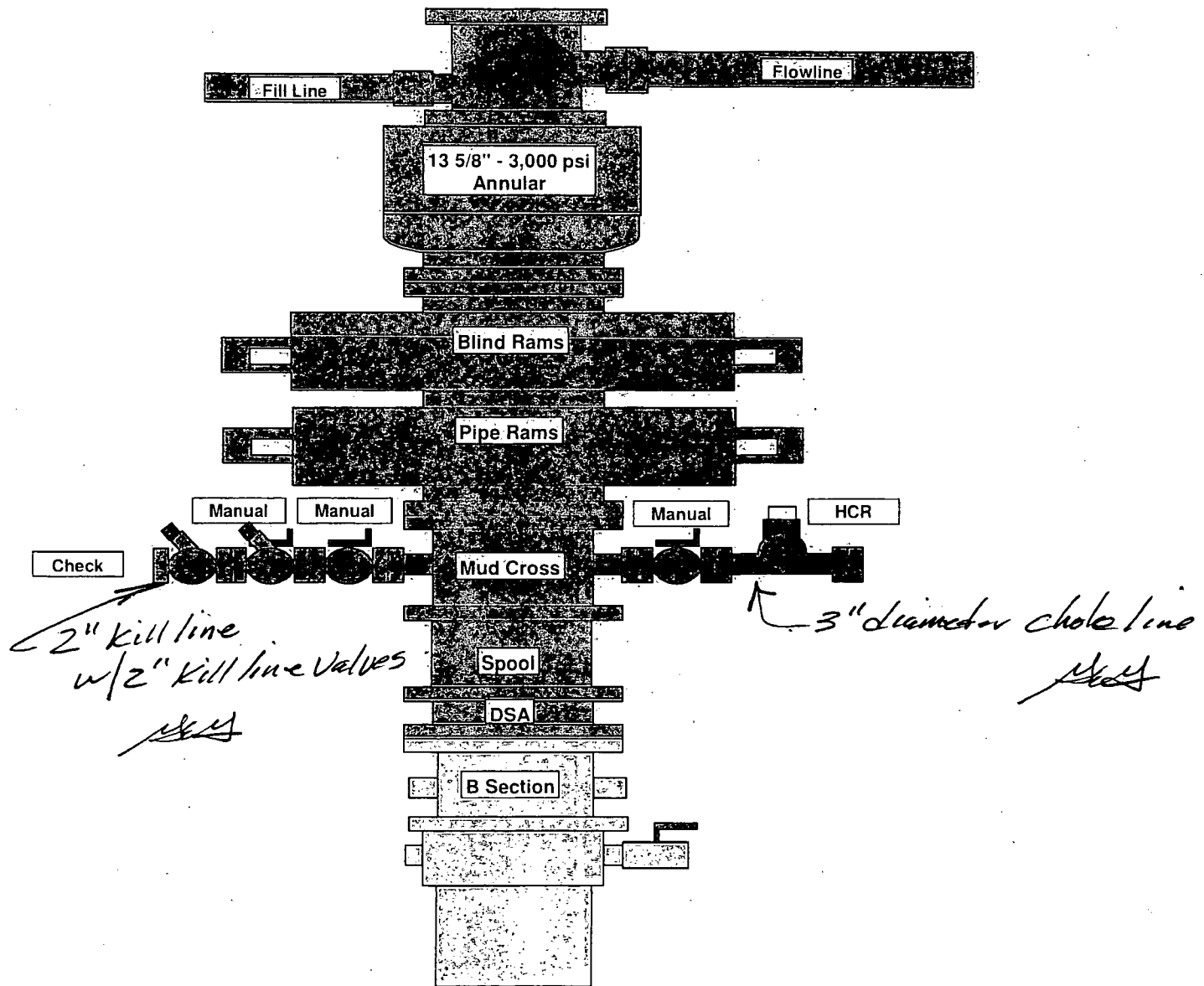
Map System: US State Plane 1927 (Exact solution)									
Datum: NAD 1983 (NAD 1983 CONUS)									
Elevations: 1985									
Zone: New Mexico East 2001									
Local Origin: Site Blitzen 35 Federal Com #3H Grid North									
Latitude: 27° 52' 38.260 N									
Longitude: 104° 8' 14.521 W									
Grid East: 560180.00									
Grid North: 682987.70									
Scale Factor: 1.000									
Geographic Model: IGRF2010									
Sample Date: 06/04/12									
Magnetic Declination: 7.76°									
Dip Angle from Horizontal: 60.31°									
Magnetic Field Strength: 48447									
To convert Magnetic North to Grid, Add 7.67°									
To convert True North to Grid, Add 7.76° East									
To convert True North to Grid, Subtract 0.11°									



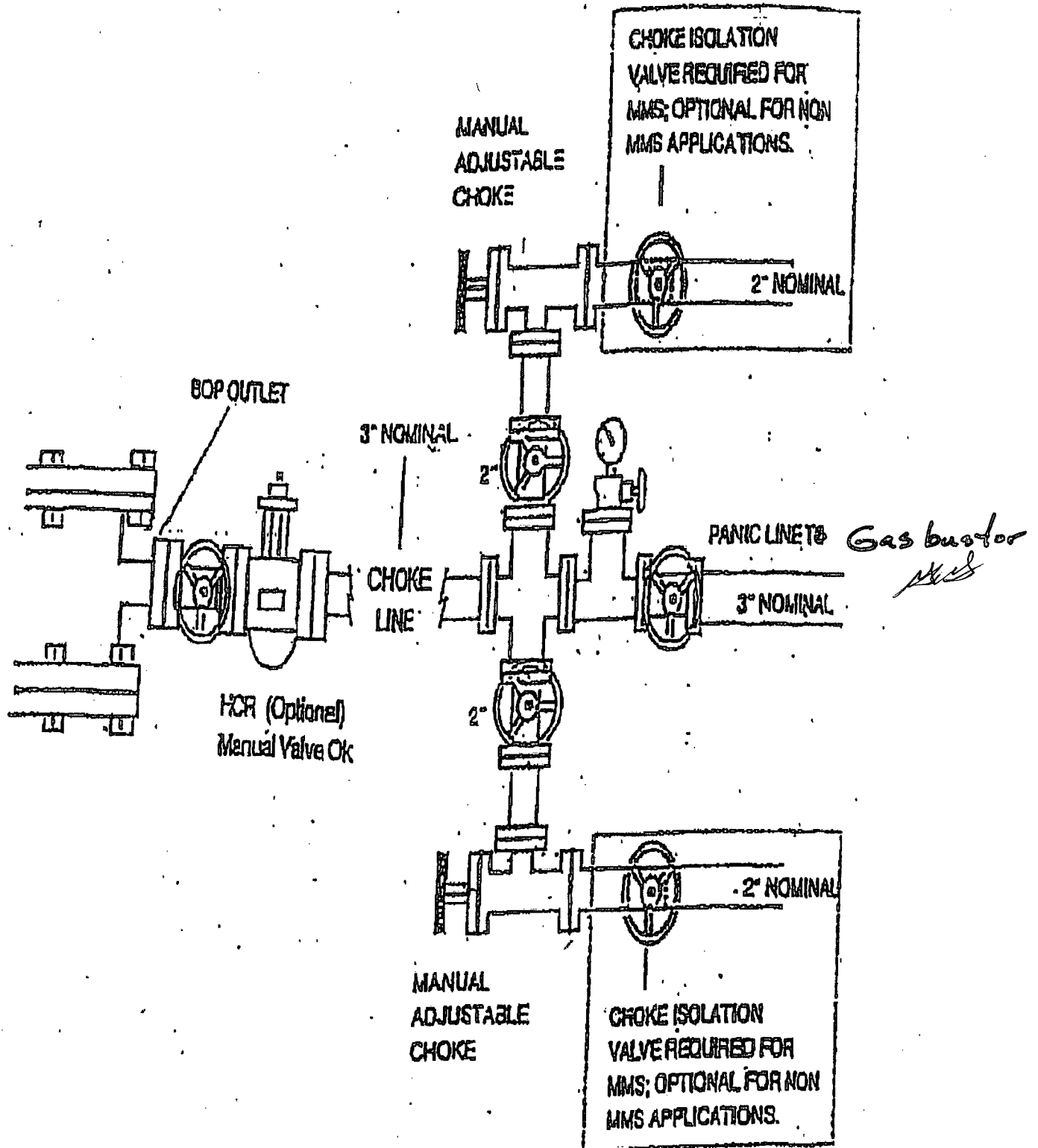
**13 5/8" 3K ANNULAR
BOP**



13 5/8" 3M BOP
FOR 8 3/4" + 6 1/8" open hole *MS*



3M SERVICE



Closed Loop Operation & Maintenance Procedure

All drilling fluid circulated over shaker(s) with cuttings discharged into roll off container.

Fluid and fines below shaker(s) are circulated with transfer pump through centrifuge(s) or solids separator with cuttings and fines discharged into roll off container.

Fluid is continuously re-circulated through equipment with polymer added to aid separation of cutting fines.

Roll off containers are lined and de-watered with fluids re-circulated into system.

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

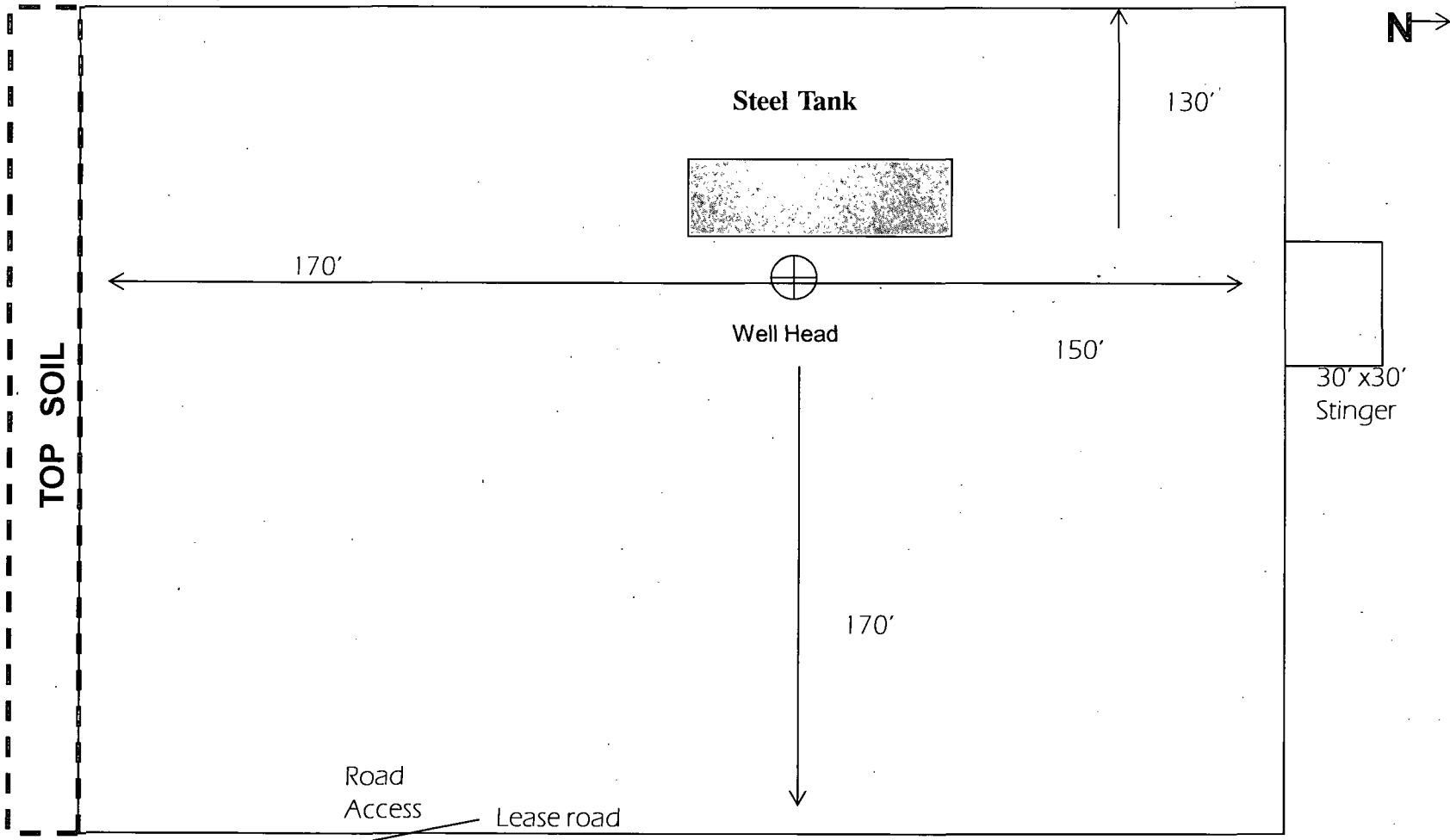
Cuttings will be hauled to either:

CRI (permit number R9166)

or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.



Not To Scale

COG OPERATING LLC
Rig Layout-Closed Loop
System: Blitzen 3H

COG Operating LLC

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H₂S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.
-

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

EXHIBIT #7

WARNING
YOU ARE ENTERING AN H₂S
AUTHORIZED PERSONNEL ONLY

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC
1-432-683-7443
1-575-746-2010

EDDY COUNTY EMERGENCY NUMBERS

ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

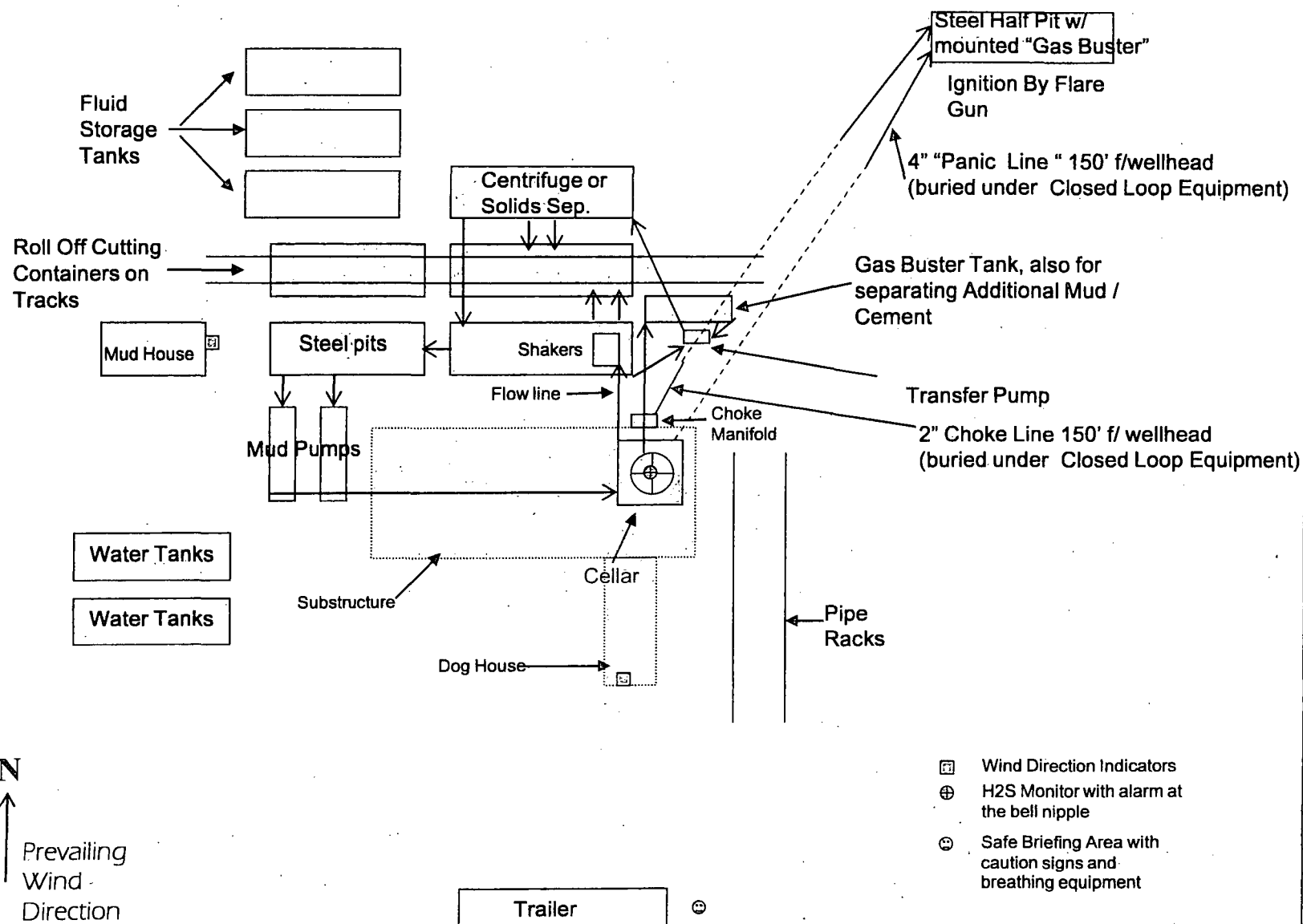
LEA COUNTY EMERGENCY NUMBERS

HOBBS FIRE DEPT. 575-397-9308
HOBBS POLICE DEPT. 575-397-9285
LEA CO. SHERIFF DEPT. 575-396-1196

COG Operating LLC

EXHIBIT 8

Drilling Location - H2S Safety Equipment Diagram



320

This area will be reclaimed to the anchors on the steel pit side 50' will be reclaimed towards the wellhead

N →

60' will be reclaimed on motor side of pad

anchor

anchor



Stinger removed

30' x 30' Stinger

anchor

anchor

Road Access

Lease Road

Not To Scale

COG OPERATING LLC
Rig Layout-Closed Loop
Interim reclamation plat

300

Surface Use & Operating Plan

Blitzen 35 Federal Com 3H

- Surface Tenant: Bogle Farms, Lewis Derrick, P O Box 441, Artesia, NM 88211.
- New Road: approx. 0'
- Flow Line: approx. 0.5 miles
- Facilities: Blitzen 35 Federal #2 Federal Tank Battery

Well Site Information

V Door: North

Topsoil: South

Interim Reclamation: South/West

Notes

-move to avoid caverns

Onsite: 5/3/2012

John Fast (BLM), Caden Jameson (COG), Gary Box (J.W.S), Noel Olivas (COG)

SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

- A. The well site survey and elevation plat for the proposed well is attached with this application. It was staked by John West Engineering, Hobbs, NM.
- B. All roads to the location are shown in the Vicinity Map. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary. The road route to the well site is depicted in Exhibit #2. The road highlighted in Exhibit #2 will be used to access the well.
- C. Directions to location: See exhibit #2.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease. Roads will be maintained according to specifications in section 2A of this Surface Use and Operating Plan.

2. Proposed Access Road:

The Elevation Plat shows that 0' of new access road will be required for this location. If any road is required it will be constructed as follows:

- A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM approved caliche pit.

3. Location of Existing Well:

The 1-mile Map shows all existing wells within a one-mile radius of this well.

As shown on this plat there are numerous wells producing from the San Andres and Yeso formations.

4. Location of Existing and/or Proposed Facilities:

- A. COG Operating LLC does operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:
 - 1) Production will be sent to the Blitzen 35 Federal Tank Battery located at the Blitzen 35 Federal #2 In Sec 35, T16S, R28E, Unit H. The facility location is shown in Exhibit #1.
 - 2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.
 - 3) Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.
 - 4) Proposed flow lines, will follow an archaeologically approved route to the Blitzen 35 Federal Tank Battery located at the Blitzen 35 Federal #2 In Sec 35, T16S, R28E, Unit H. The flowline will be SDR 7 3" poly line laid on the surface and will be approximately 0.5 miles in length. See Exhibit #1.
 - 5) It will be necessary to run electric power if this well is productive. Power will be provided by CVE and they will submit a separate plan and ROW for service to the well location.
 - 6) If the well is productive, rehabilitation plans will include the following:
 - The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #1. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

6. Source of Construction Materials and Location "Turn-Over" Procedure:

Obtaining caliche: The primary 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 sight. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu. Yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

- A. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.**
- B. An approximate 120' X 120' area is used within the proposed well site to remove caliche.**
- C. Subsoil is removed and piled alongside the 120' by 120' area within the pad site.**
- D. When caliche is found, material will be stock piled within the pad site to build the location and road.**
- E. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.**
- F. 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. 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 attached plat.**

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

7. Methods of Handling Water Disposal:

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. Human waste and grey water will need to be properly contained and disposed of. Proper disposal and elimination of waste and grey water may include but are not limited to portable septic systems and/or portable waste gathering systems (i.e. portable toilets).
- F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

9. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in the Elevation Plat. Dimensions of the pad and pits are shown on the Rig Layout. V door direction is South. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. The Rig Layout Closed-Loop exhibit shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

10. Plans for Restoration of the Surface:

- A. Interim Reclamation will take place after the well has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.
- B. Final Reclamation: Upon plugging and abandoning the well all caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be reseeded with a BLM approved mixture and re-vegetated as per BLM orders.

11. Surface Ownership:

- A. The surface is owned by the State of New Mexico. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.
- B. The surface tenant is Bogle Farms, Lewis Derrick, P.O. Box 441, Artesia, NM 88211.
- C. The proposed road routes and surface location will be restored as directed by the BLM

Surface Use Plan
COG Operating, LLC
Blitzen 35 Federal Com 3H
SL: 1980' FSL & 235' FWL *UL L*
Section 36, T-16-S, R-28-E
BHL: 1980' FSL & 330' FWL
Section 35, T-16-S, R-28-E
Eddy County, New Mexico

12. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within 2 miles of this location.
- D. If needed, a Cultural Resources Examination is being prepared by Southern New Mexico Archaeological Services, Inc. P.O. Box 1, Bent New Mexico, 88314, phone # 505-671-4797 and the results will be forwarded to your office in the near future. Otherwise, **COG will be participating in the Permian Basin MOA Program.**

13. Bond Coverage:

Bond Coverage is Nationwide Bond # 000215

14. Lessee's and Operator's Representative:

The COG Operating LLC representative responsible for assuring compliance with the surface use plan is as follows:

Jim Evans

Ray Peterson

Drilling Superintendent

Drilling Manager

COG Operating LLC

COG Operating LLC

550 W. Texas, Suite 1300

550 W. Texas, Suite 1300

Midland, TX 79701

Midland, TX 79701

Phone (432) 685-4304 (office)

Phone (432) 685-4304 (office)

(432) 221-0346 (business)

(432) 818-2254 (business)

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	NM103875
WELL NAME & NO.:	3H Blitzen 35 Federal Com
SURFACE HOLE FOOTAGE:	1980' FSL & 235' FWL
BOTTOM HOLE FOOTAGE:	1980' FSL & 330' FWL, Sec.35
LOCATION:	Section 36, T.16 S., R.28 E., NMPM
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**
- ☒ **Special Requirements**
 - Pad Berming/Tank battery**
 - Flowline ROW**
 - Communitization Agreement
- ☐ **Construction**
 - Notification
 - Topsoil
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 - Cement Requirements
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- ☐ **Production (Post Drilling)**
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 - Pipelines
 - Electric Lines
- ☐ **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)

Pad Berming:

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:

Tank battery locations 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.

Prior to installation of flowline a ROW shall be applied for

Communitization Agreement

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

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-6235 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 stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used 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. 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 (20) 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

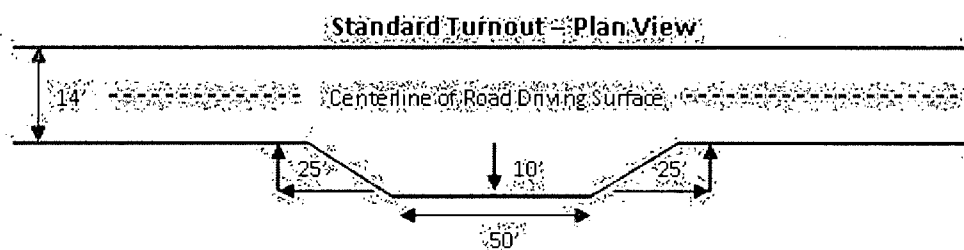
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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 be constructed on all blind curves. Turnouts shall conform to the following diagram:

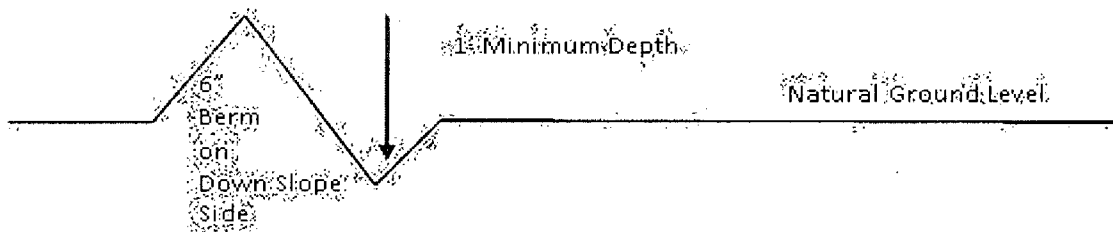


Drainage

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:

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

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

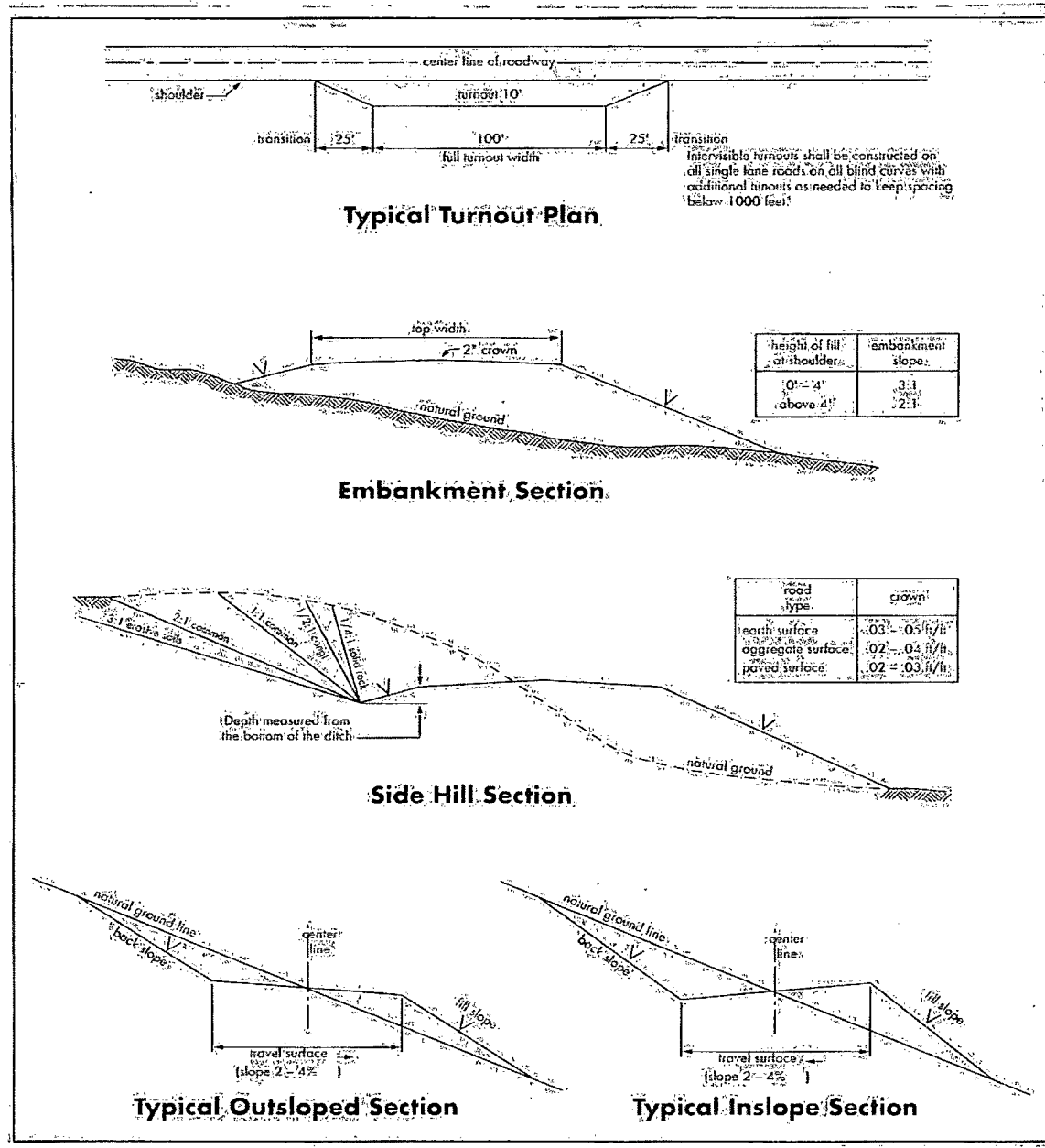
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

- The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#).

Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. See individual casing strings for details regarding lead cement slurry requirements.

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

Possible lost circulation in the Grayburg and San Andres formations.

1. The **13-3/8** inch surface casing shall be set at **approximately 200 feet (a minimum of 25 feet 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.

Contingency Casing

The minimum required fill of cement behind the **9-5/8** inch intermediate contingency casing is:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Additional cement may be required – excess calculates to 24%.

2. The minimum required fill of cement behind the **7** inch production casing is:

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

3. The minimum required fill of cement behind the **4-1/2** inch production liner is:

- ☒ Cement not required – packer system to be used. Approved for 100 foot liner overlap.

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

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. **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).** (Note to engineer – this will eliminate all tests against casing – modify those items.)
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7** inch intermediate casing shoe shall be **3000 (3M)** 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, 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.
- 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.

CRW 072913

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.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

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, Munsell Soil Color Chart # 5Y 4/2

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. All construction and maintenance activity will be confined to the authorized right-of-way width of 20 feet.
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.

C. ELECTRIC LINES (not applied for in APD)

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

Seed Mixture 1, for Loamy Sites

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

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

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

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