

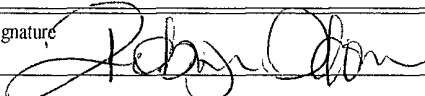
RECEIVED
MAY 07 2010
NMOCD ARTESIA**OCD-ARTESIA**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**APPLICATION FOR PERMIT TO DRILL OR REENTER**FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

1a. Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. NMLC A028731B
1b. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" 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 <229137>		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. Empire Federal SWD #3 <38152>
3b. Phone No. (include area code) (432) 685-4385		9 API Well No. 30-015- 37831
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1980' FSL & 1980' FWL, UL K At proposed prod. zone		10 Field and Pool, or Exploratory SWD; Cisco <96099>
14 Distance in miles and direction from nearest town or post office* 4 miles South East of Loco Hills, NM		11 Sec., T. R. M. or Blk. and Survey or Area Sec 10, T17S, R29E
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 1980'	16 No. of acres in lease 1480	17 Spacing Unit dedicated to this well N/A
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 560'	19. Proposed Depth 9200'	20. BLM/BIA Bond No. on file NMB000215
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3582.9' GL	22 Approximate date work will start* 04/30/2010	23 Estimated duration 10 days 20 days <i>per operation 4/13/10 DW</i>

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) Robyn M. Odom	Date 03/05/2010
Title Regulatory Analyst		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date MAY 05 2010
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

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

*(Instructions on page 2)

SWD-1213**ROSWELL CONTROLLED WATER BASIN****APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED****SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015- 37831	² Pool Code 96099 ✓	³ Pool Name SWD; CISCO
⁴ Property Code 38152	⁵ Property Name EMPIRE FEDERAL SWD ✓	⁶ Well Number 3
⁷ OGRID No. 229137 ✓	⁸ Operator Name COG OPERATING, LLC	⁹ Elevation 3582.9'

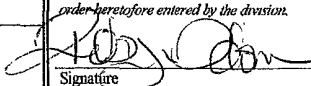
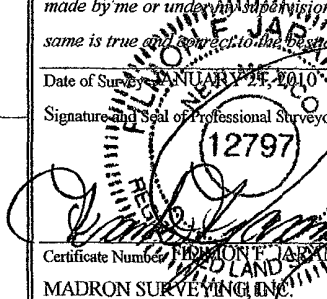
¹⁰ Surface Location

UL or lot no. K	Section 10	Township 17 S.	Range 29 E.	Lot Idn	Feet from the 1980	North/South line SOUTH	Feet from the 1980	East/West line WEST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres N/A	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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.

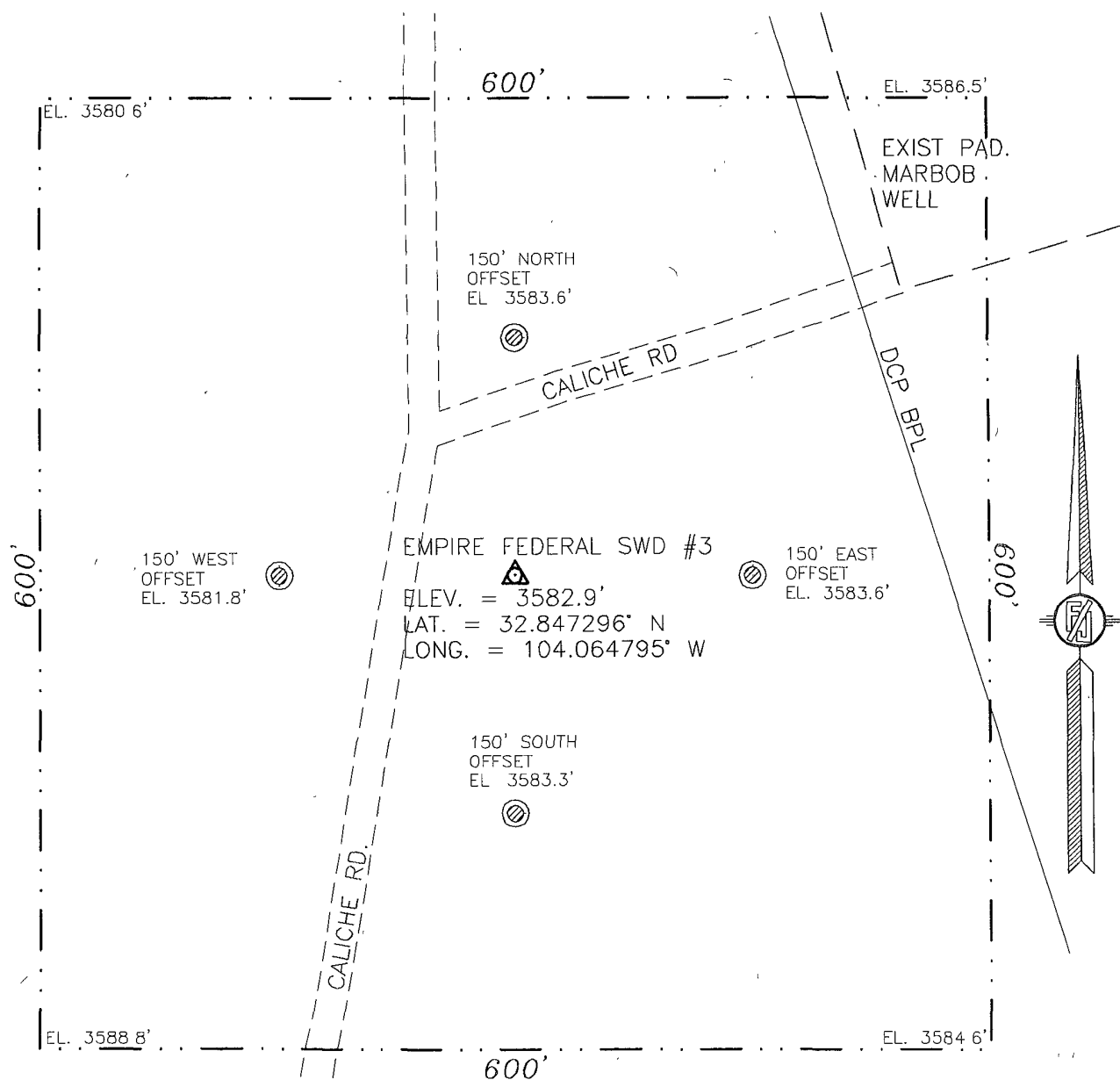
¹⁶				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Signature 2/03/2010 Date Robyn Odom Printed Name
				¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey JANUARY 24, 2010 Signature and Seal of Professional Surveyor:  Certificate Number 12797 MADRON SURVEYING, INC.

(NAD-83)
LAT: 32°50'50.3"
LONG: 104°03'53.3"
Y=672085.395 N
X=623791.146 E
ELEV.=3582.9'

1980'

1980'

SECTION 10, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO



0 10 50 100 200
SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM U.S. HWY. 82 AND CR. #214 (BARNEVILL DRAW) GO NORTH ON CO. RD. #214 1.5 MILES, TURN RIGHT ON LSE. ROAD AND GO EAST 0.1 MILE, TURN LEFT ON LSE. ROAD AND GO NORTH 0.3 MILES AND LOCATION IS ON RIGHT (EAST) APPROX 80'.

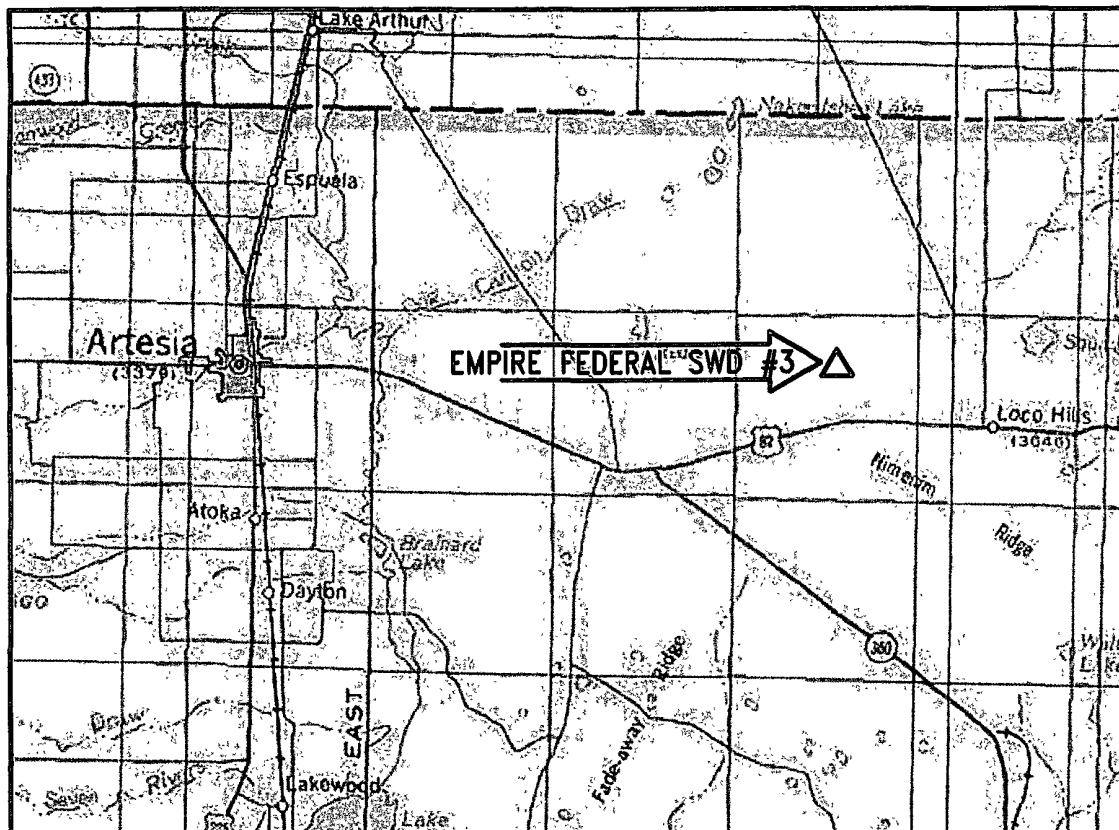
COC OPERATING, LLC
EMPIRE FEDERAL SWD #3
LOCATED 1980 FT. FROM THE SOUTH LINE
AND 1980 FT. FROM THE WEST LINE OF
SECTION 10, TOWNSHIP 17 SOUTH,
RANGE 29 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JANUARY 21, 2010

SURVEY NO. 060C

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 887-5830 CARLSBAD, NEW MEXICO

SECTION 10, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DIRECTIONS TO LOCATION
 FROM U.S. HWY. 82 AND CR. #214 (BARNEVILL
 DRAW) GO NORTH ON CO. RD. #214 1.5 MILES,
 TURN RIGHT ON LSE. ROAD AND GO EAST 0.1
 MILE, TURN LEFT ON LSE. ROAD AND GO NORTH
 0.3 MILES AND LOCATION IS ON RIGHT (EAST)
 APPROX 80'.

NOT TO SCALE

SEC. 10 TWP. 17-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 1980' FSL & 1980' FWL
 ELEVATION 3582.9
 OPERATOR C. O. G. OPERATING, LLC
 LEASE EMPIRE

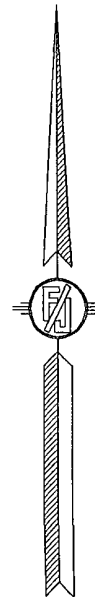
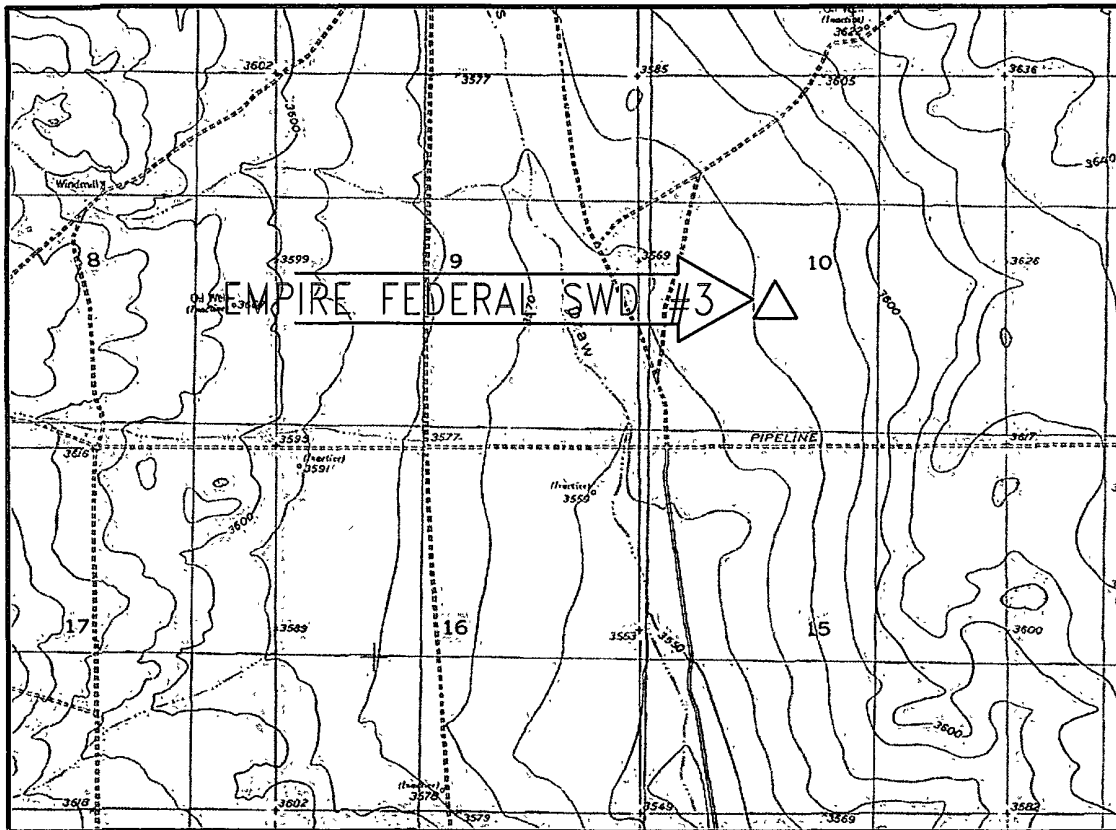
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JANUARY 21, 2010

SURVEY NO. 060C

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 887-5830 CARLSBAD, NEW MEXICO

SECTION 10, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



NOT TO SCALE

CONTOUR INTERVAL:
 Red Lake SE.

DIRECTIONS TO LOCATION

FROM U.S. HWY. 82 AND CR. #214 (BARNEVILL
 DRAW) GO NORTH ON CO. RD. #214 1.5 MILES,
 TURN RIGHT ON LSE ROAD AND GO EAST 0.1
 MILE, TURN LEFT ON LSE. ROAD AND GO NORTH
 0.3 MILES AND LOCATION IS ON RIGHT (EAST)
 APPROX 80'.

SEC. 10 TWP. 17-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 1980' FSL & 1980' FWL
 ELEVATION 3582.9
 OPERATOR C. O. G. OPERATING, LLC
 LEASE EMPIRE

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 EDDY COUNTY, STATE OF NEW MEXICO

JANUARY 21, 2010

SURVEY NO. 060C

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 887-5830

SWD WELL DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Rustler	400'
Yates	825
Seven Rivers	1,250'
Queen	1,800'
Grayburg	2,200'
San Andres	2,550'
Glorietta	3,950'
Tubb	5,375
Wolfcamp	7,250'
Cisco	8,175'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Fresh Water	None	
Grayburg	2,200'	Oil/Gas
San Andres	2,550'	Oil/Gas

No other formations are expected to give up oil, gas in measurable quantities. No interval capable of fresh water production is expected at any point in the well. Any salt and/or hydrocarbon bearing intervals will be protected by setting 9 5/8" casing to 2,650' and circulating cement back to the surface. All other zones above TD will be cased with 7" casing and that casing cemented to surface.

4. Casing Program

See COA

Hole Size	Interval	OD	Weight (ppf)	Grade	Joint	Condition
24"	0-40' (4)	20"	94	F-25	ST & C	Used
17.5"	450'	13 3/8"	48	H-40	ST & C	New
12.25"	650'-2650'	9 5/8"	2,650' of 36 ppf	J-55	ST & C	New
8.75"	2600-TD	7"	26	9,200' of L-80	LT & C	New

5. Cement Program

Burst-1.0 Collapse-1.125 Joint-2.0 Body Yield-1.8
 Per Operator *DAW* 3-23-10

20" Conductor

Hole size: 24"
 Class C, Neat, 1.32 cu ft/sx
 400 sxs, to surface

13 3/8" Surface Casing:

Hole size: 17 1/2"
Lead: 250 sxs Class C, w/ LCM; 2% Calcium Chloride, 1.35 cu ft/sx; 14.8 ppg
Tail: 250 sxs Class C w 2% Calcium Chloride, 1.35 cu ft/sx; 14.8 ppg to surface

9 5/8" Intermediate Casing:

Hole size: 12 1/4"
Lead: Class C, 2% Calcium Chloride, 4% Bentonite, 5 pps Gilsonite, 1/8 pps, flakes, 13.5 ppg, 1.75 cu ft/sx, 550 sxs
Tail: Class C, 2% Calcium Chloride, 14.8 ppg, 1.35 cu ft/sx, 200 sxs To surface.

7" Production Casing:

Actual cement volumes will be adjusted to OH caliper plus 25% excess
 Hole size: 8 3/4", DV Tool at approx 7000'
 All OH cement volumes calculated on 50% excess, and inside pipe volumes at 10% excess. Pmp Sxs are the number of sxs to be pumped, rounded up from the number of calculated sxs to an oilfield amount.

Below DV Tool

Annular ID	From	To	Ftg	Cu Ft/Ft	Excess	cu ft
8.750 OH	9,200	7,000	2,200	0.15033	50.00%	496.1

Lead Cement: 50/50 Poz Class H, 3 pps Gilsonite, 0.4% Fluid Loss Control, 0.5% Dispersant, 0.25 pps defoamer, 5% bwow Salt; 0.1% retarder

Cement Properties:

Slurry Wt:	14.2 ppg
Slurry Yld:	1.34 cu ft/sx

Slurry Lead Cement	Cu Ft	Yield	Sxs	Pmp Sxs
	496.1	1.34	370.2	400

Above DV Tool

Annular ID	From	To	Ftg	Cu Ft/Ft	Excess	cu ft
8.750 OH	7,000	2,650	4,350	0.15033	50.00%	981
8.921 Csg	2,650	0	2,650	0.16681	10.00%	486
					Tot Cu Ft:	1467

Lead Cement: Class H Light, 5 pps Gilsonite, 0.125 pps Flake, 0.3% Fluid loss control; 5% bwow Salt.

Cement Properties:

Slurry Wt:	12.40 ppg
Slurry Yld:	2.14 cu ft/sx

Tail In Cement: Cement Spec: Class H, Neat

Cement Properties:	Slurry Wt:	15.60 ppg
	Slurry Yld:	1.19 cu ft/sx

Slurry	Cu Ft	Yield	Sxs	Pmp Sxs
Lead	1,349.0	2.1	642	650
Tail In	118.0	1.18	100	100
Total Cu Ft	1,467.0		Tot Sxs:	750

6. Minimum Specifications for Pressure Control

See COA

See COA

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (2000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. The BOP will be nipped up on the 13 3/8" surface casing with BOP equipment and tested ~~together to 1000 psi by rig pump in one test.~~ The BOP will then be nipped up on the 9 5/8" intermediate casing and tested by a third party to ~~2000~~ ⁵⁰⁰⁰ psi and used continuously until total depth is reached. All BOP's and accessory equipment will be tested to ~~2000~~ ⁵⁰⁰⁰ psi before drilling out of the intermediate casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) will a ~~2000~~ ⁵⁰⁰⁰ psi WP rating.

7. Types and Characteristics of the Proposed Mud System See COA

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-450 ^{140'}	Fresh Water, spud	8.6-9.2	32-34	N.C.
450-2650	Cut Brine	9.8-10.1	28-30	N.C.
2650 - TD	Cut Brine	8.7 - 9.3	28	12 to Log

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

8. 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.

9. Logging, Testing and Coring Program

See COA

See COA

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, and CSNG Log and will be run from TD to 9 5/8" casing shoe and Gamma Ray from 9 5/8" to base 13 3/8".
Logging required to surface,
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Zones considered for injection will be perforated and acidized. These zones will be swabbed to insure there are no hydrocarbons present prior to injection operations.

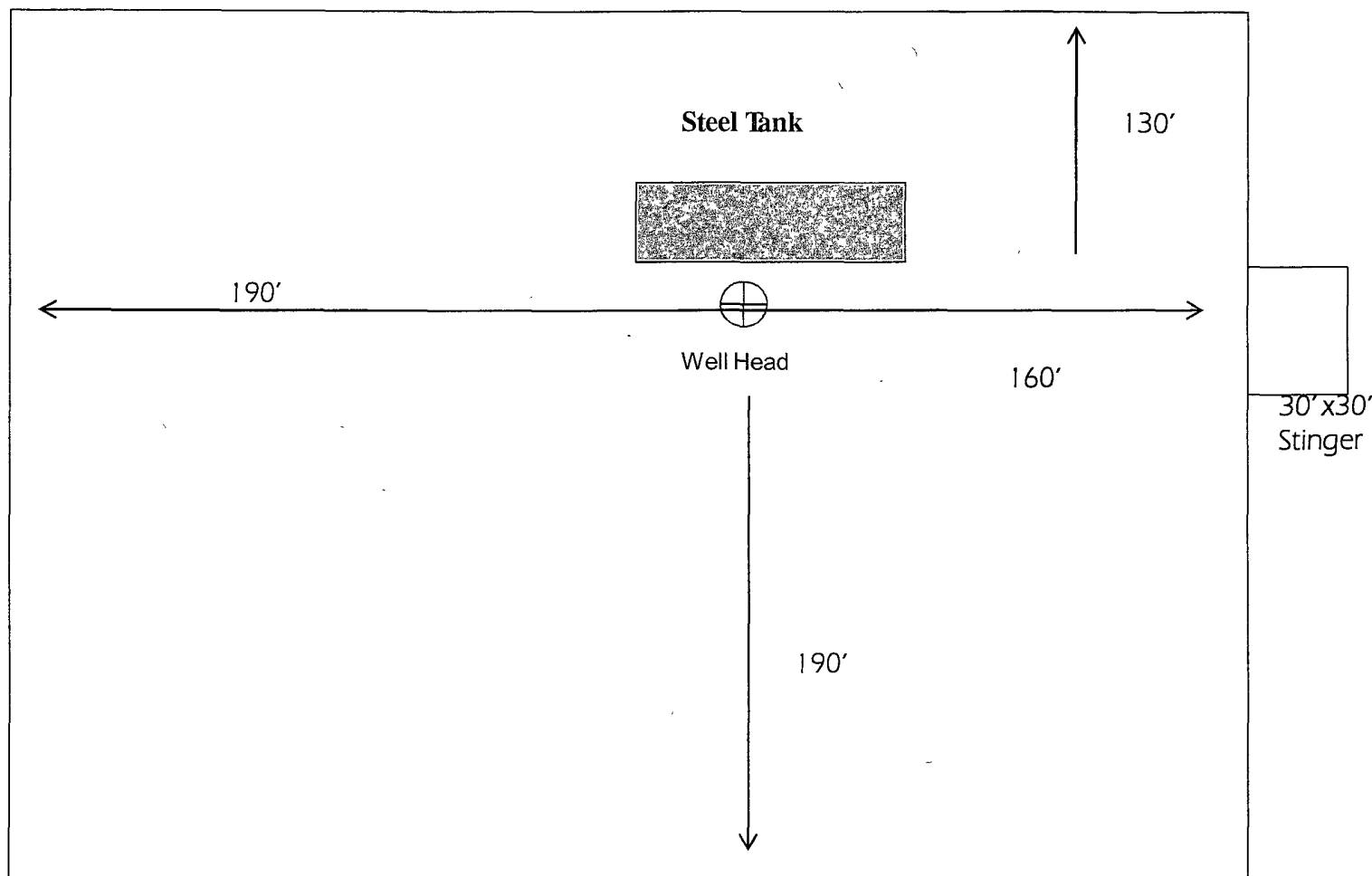
10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 125 to 140 degrees and the estimated maximum bottom hold pressure is 4,417 psig. Low levels of hydrogen sulfide have been monitored in producing wells in the area, so H₂S may be present while drilling the well. A Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations

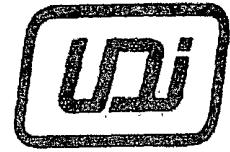
Road and location work will not begin until approval has been received from the BLM. Once commenced drilling operations should take 20 days. Completion operations should only require 10 or fewer days.

N →

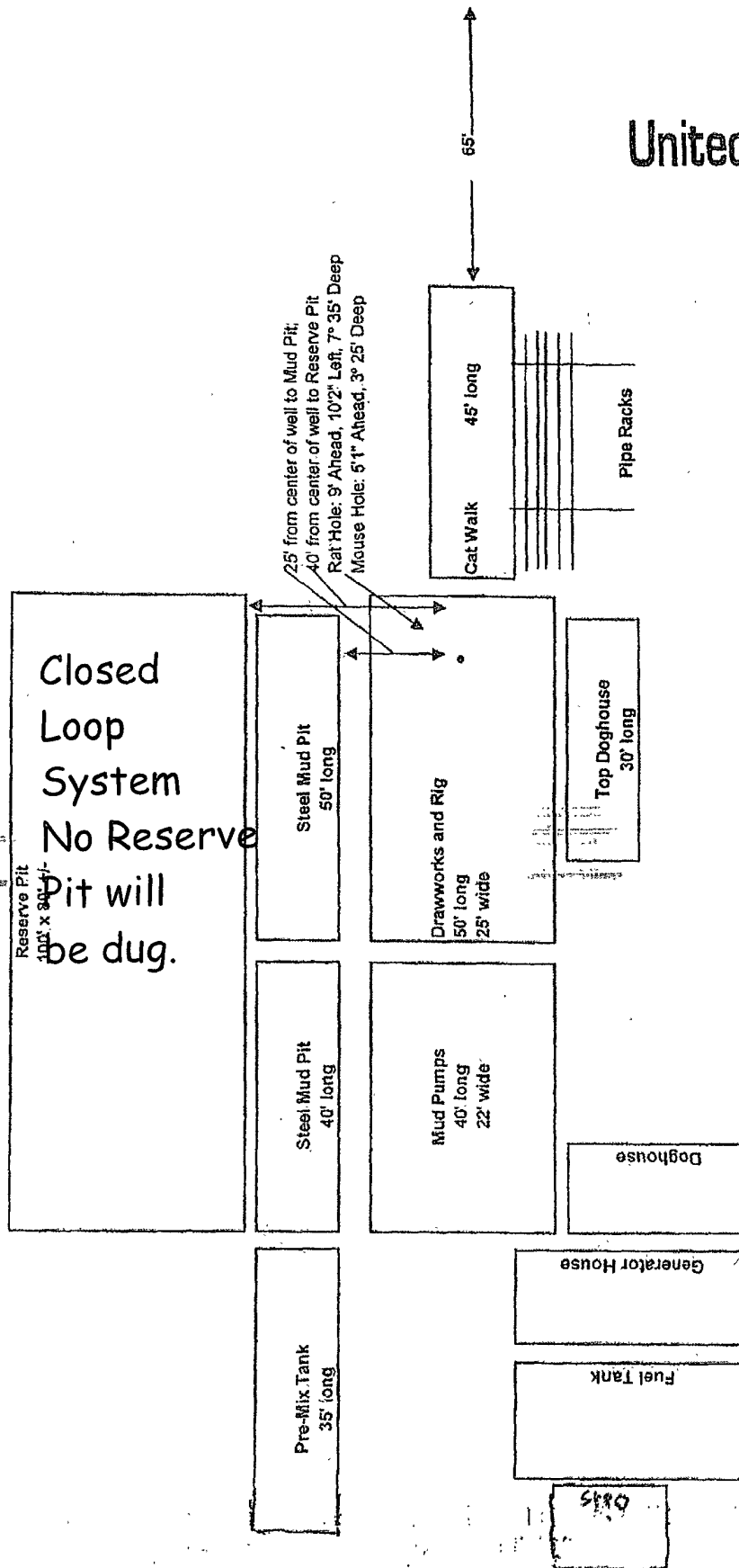


Not To Scale

COG OPERATING LLC
Rig Layout-Closed Loop
System



United Drilling, Inc.

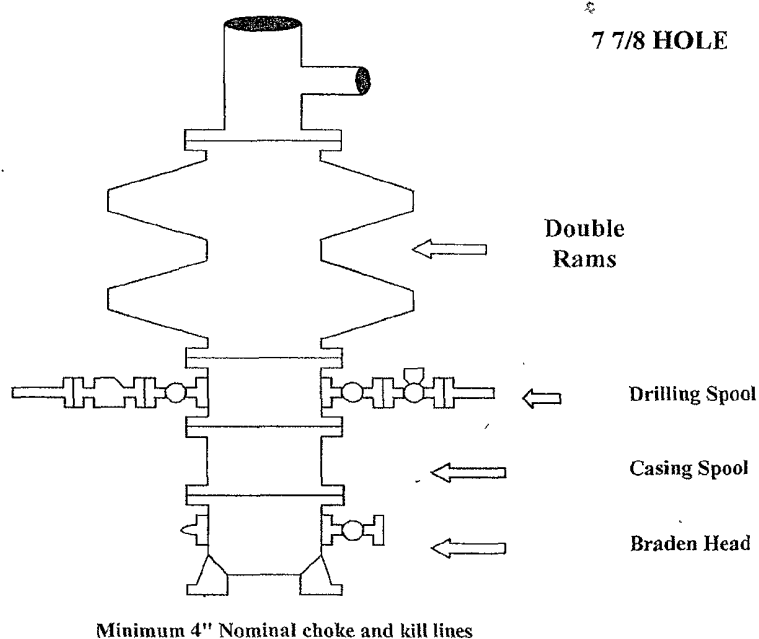


UNITED DRILLING, INC.
RIG NO. 41

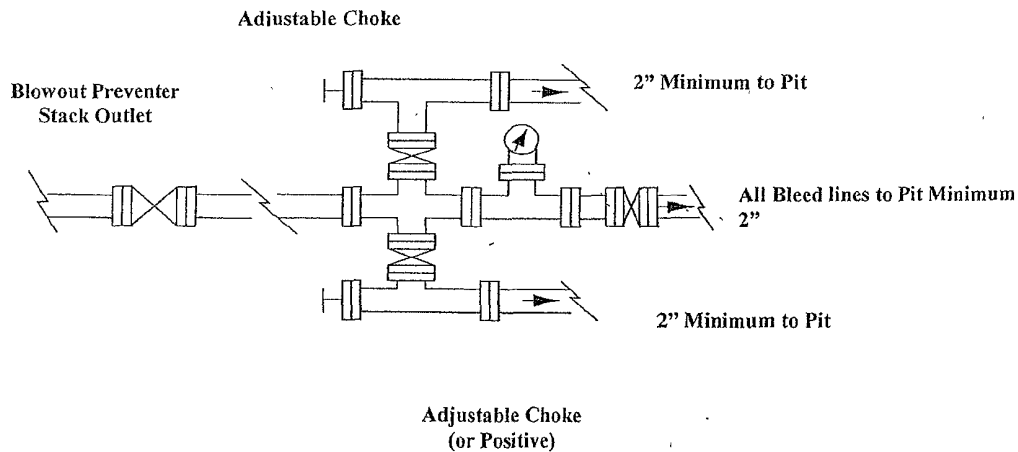
COG Operating LLC

Exhibit #9

BOPE and Choke Schematic



Choke Manifold Requirement (2000 psi WP)
No Annular Required



NOTES REGARDING THE BLOWOUT PREVENTERS
Master Drilling Plan
Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
6. All choke and fill lines to be securely anchored especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

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.

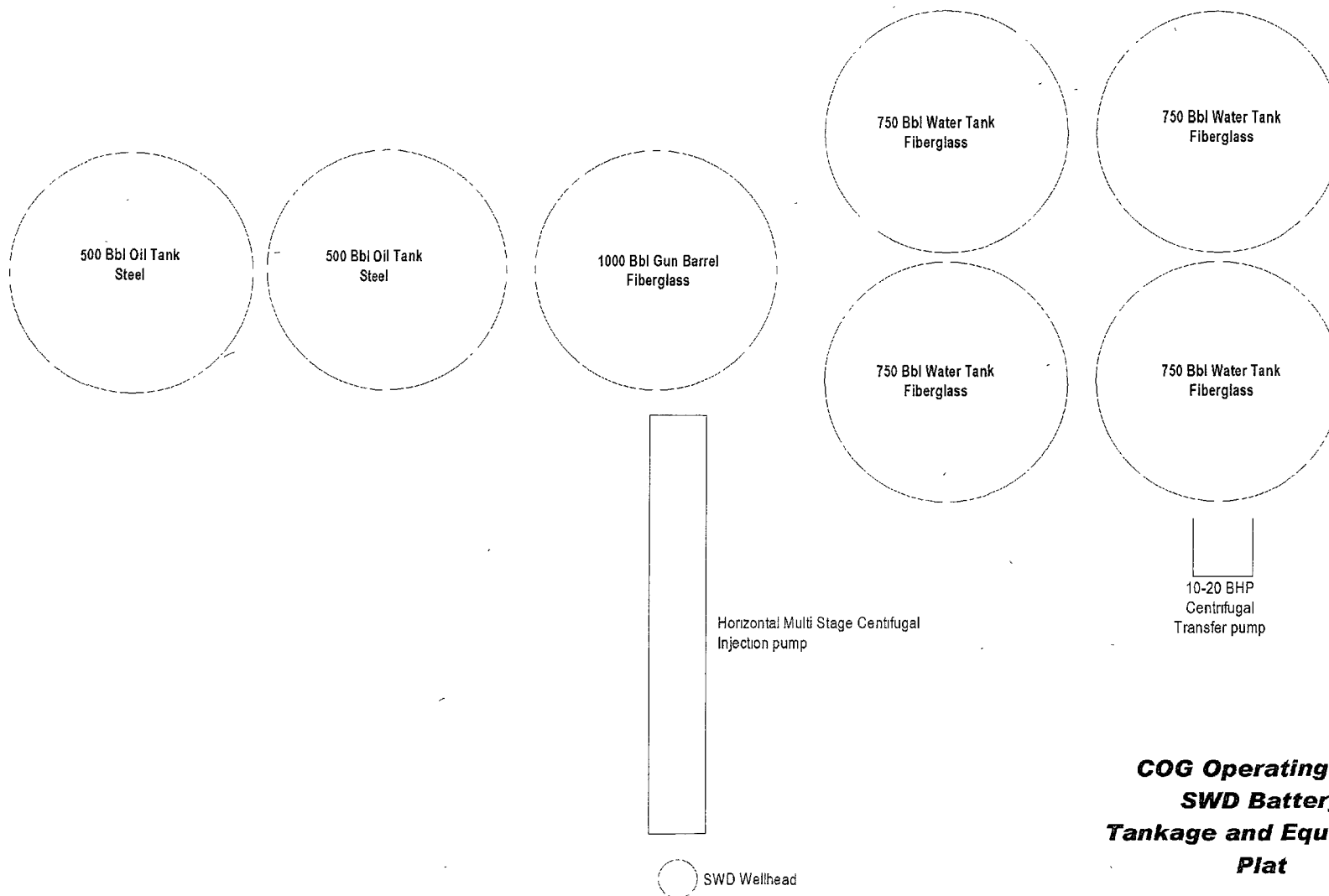
Cuttings will be hauled to either:

CRI (permit number R9166)

or

GMI (permit number 711-019-001)

dependent upon which rig is available to drill this well.



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 tubular 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

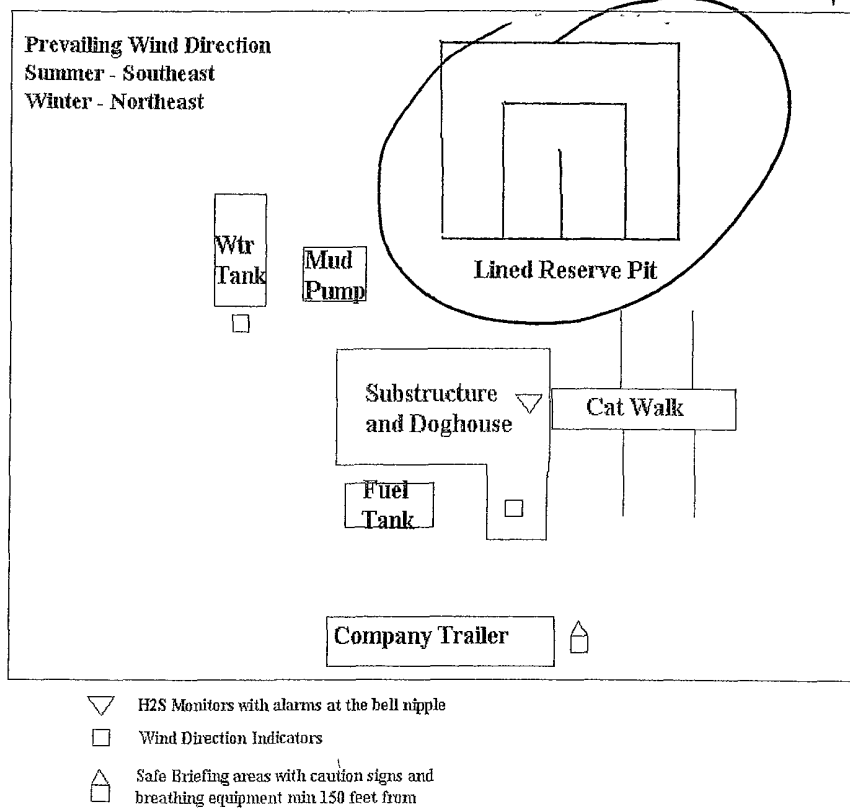
EDDY COUNTY EMERGENCY NUMBERS

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

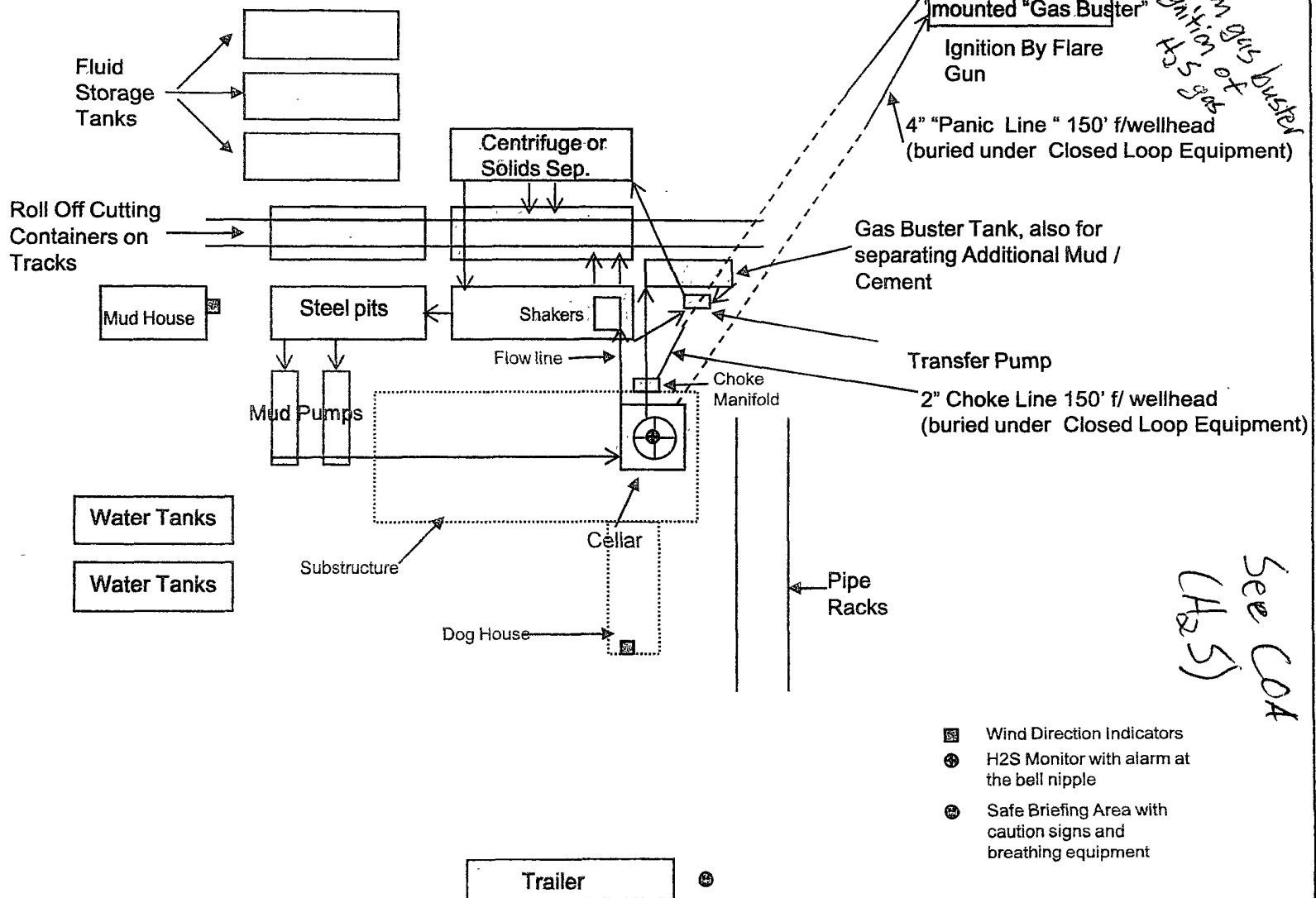
DRILLING LOCATION H₂S SAFETY EQUIPMENT Exhibit # 8

Not Applicable

COG Operating LLC

Drilling Location - H2S Safety Equipment Diagram

EXHIBIT 8



SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit #1. It was staked by Madron Surveying Inc., Carlsbad, NM.
- B. All roads to the location are shown in the topographic map Exhibit #2. 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.
- C. Directions to Location: From U S Hwy 82 and CR 214 (Barneville Draw), Go North 1.5 miles on CR 214. Turn Right on lease road and Go East 0.1 mile. Turn Left on lease road & Go North 0.3 mile and location is on Right (East) apprx 80'. See Vicinity Map, Exhibit #3.
- 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.

2. Proposed Access Road:

Exhibit #4 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 caliche pit.

3. Location of Existing Well:

Exhibit #5 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 will operate the SWD on location.
- B. Once the well is drilled, contemplated facilities will be as follows:
 - 1) Tank batteries will be set on the Empire Federal SWD 3 location. The facility location is shown in Exhibit #5.
 - 2) The tank battery and facilities including all flow lines and pipeline will be installed according to API specifications.
 - 3) Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.
 - 4) Proposed pipelines will follow an archaeologically approved route to the main Water Line tie in point that will be requested by a Right of Way Application.
 - 5) It will be necessary to run electric power after the well is drilled. Power will be provided by CVE, and they will submit a separate plan and ROW for service to the well location.

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 #2. 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. The procedure below has been approved by BLM personnel:

- A. The top 6 inches of "A" grade soil 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. "B" grade soil is removed and piled along side the 120' by 120' area.
- D. When caliche is found, material will be stock piled to build location and road.
- E. Then "B" grade soil 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.

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. 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 Madron Surveying in Carlsbad, New Mexico, is shown in Exhibit #4. Dimensions of the pad and pits are shown on Exhibit #6. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. Exhibit #6 also 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 depending on the size of the original pad. If the rig uses a 300'X250' pad, the pad will be shrunk 50' back towards the anchors (on the steel pit side) by the entire width of the pad and 50' towards the anchors on the back side of the pad (opposite of v-door side) by the entire length for the location. If the rig uses a 280'X250' pad, 50 will be removed on pit side and 20' foot will be removed on backside (opposite from v-door). The caliche will be picked up and recycled for road repairs or the construction of new well pads. The stockpiled topsoil will then be spread along these areas to help re-vegetate land with original plant-life and re-seeded if needed as per BLM specifications.

*add 3-17-10
as per conversation
with G. Oliver*

11. Surface Ownership:

- A. The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. 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 for this site is Bogel Farms, Lewis Derrick, P O Box 441, Artesia, NM.
- C. The proposed road routes and surface location will be restored as directed by the BLM.

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:

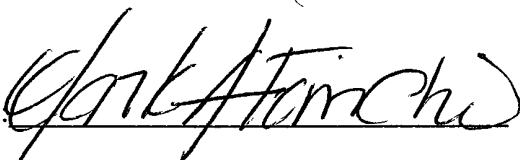
The COG Operating LLC representative responsible for assuring compliance with the surface use plan is as follows:

John Coffman,	Erick Nelson.
Drilling Superintendent	Division Operations 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) 683-7443 (office)	Phone (505) 746-2210 (office)
(432) 631-9762 (cell)	(432) 238-7591 (cell)

Surface Use Plan
COG Operating, LLC
Empire Federal SWD #3
1980' FSL & 1980' FWL
Section 10, T-17-S, R-29-E, UL K
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 March, 2010.

Signed:



Printed Name: Mark Fairchild

Position: Sr. Operations Engineer

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

Telephone: (432) 686-3021

Field Representative (if not above signatory): Same

E-mail: MFairchild@conchoresources.com

Exhibits:

- | | |
|--------------------|---------------------------------------------------------------|
| Exhibit #1 | Wellsite and Elevation Plat |
| | Form C-102 Well location and acreage dedication plat |
| Exhibit #2 | Topographic Map (Madron) |
| Exhibit #3 | Vicinity Map and area roads |
| Exhibit #4 | Elevation Plat (Madron) |
| Exhibit #5 | Topographic extract showing wells, roads and flowlines |
| Exhibit #6 | Pad Layout and orientation |
| Exhibit #7 | H2S Signage |
| Exhibit #8 | H2S Equipment location |
| Exhibit #9 | BOP and Choke diagrams |
| Exhibit #10 | Form C-144 NMOCD pit permit application |

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
LEASE NO.:	LC-028731B
WELL NAME & NO.:	EMPIRE FEDERAL SWD #3
SURFACE HOLE FOOTAGE:	1980' FSL & 1980' FWL
BOTTOM HOLE FOOTAGE	SAME
LOCATION:	Section 10, T. 17 S., R 29 E., NMPPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Application for ROW**
- ☐ **Construction**
 - Notification
 - V-Door Direction
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Completion requirements
 - Logging Requirements
 - H2S – Onshore Order 6
 - Casing/Cement
 - BOP
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - 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)

Application for ROW

The company should apply for a ROW prior to the construction of the well pad and installation of pipelines.

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) 234-5972 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. V-DOOR DIRECTION: not stipulated

C. TOPSOIL

The operator shall stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil will be used for interim and final reclamation.

D. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

E. 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.

F. 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.

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 thirty (30) 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

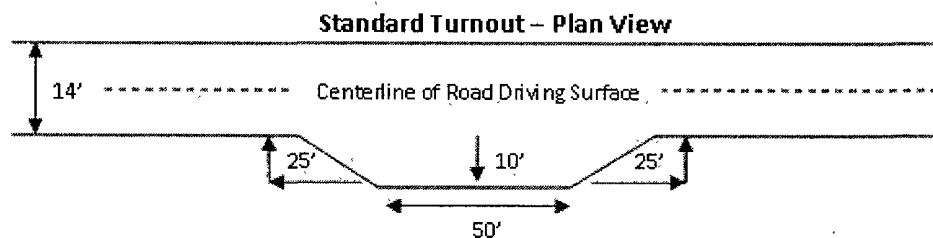
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

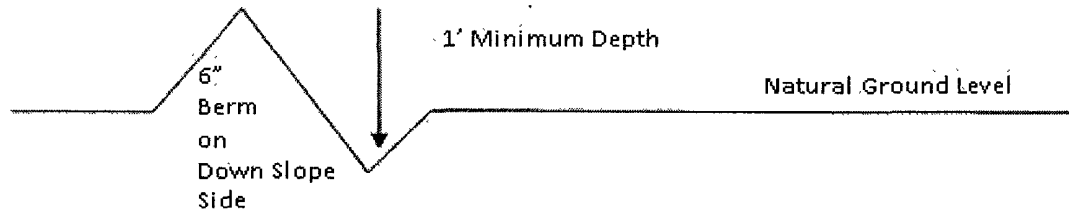


Drainage

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

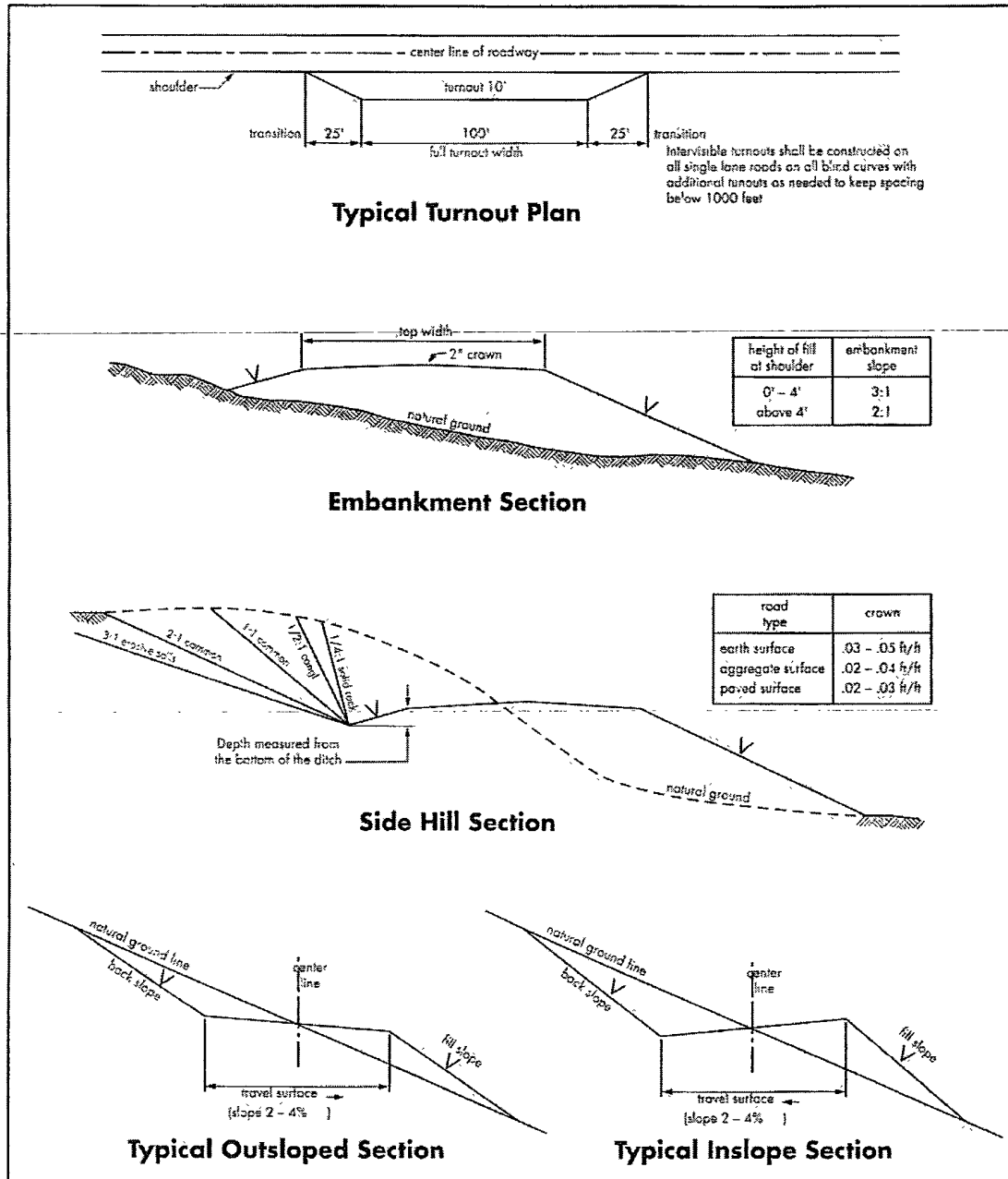
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. A Hydrogen Sulfide (H₂S) 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.
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 CAL/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 and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

Wait on cement (WOC) time 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. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. 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 high pressure in the Rustler and Salado in the form of nitrogen air pockets.

Possible brine or water flows in the Salado and Artesia group.

Possible lost circulation in the Grayburg and San Andres formations.

Possible over-pressure in the Pennsylvanian section.

1. The 13-3/8 inch surface casing shall be set at **approximately 180 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **If salt is penetrated, set casing shoe 25 feet above the top of salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Set casing in the San Andres, avoiding the Lovington member.**

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

a. First stage to DV tool, cement shall:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool, cement shall:

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

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

a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8 inch** intermediate casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. Casing cut-off and BOP installation will not be initiated until the cement has had a minimum of 8 hours setup time for a water basin. The casing shall remain stationary and under pressure for at least eight hours after the operator places the cement. In the potash area, the minimum time is 12 hours and the casing shall remain stationary and under pressure during this time period. Casing shall be under pressure if the operator uses some acceptable means of holding pressure or if the operator employs one or more float valves to hold the cement in place. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
 - ~~b. The tests shall be done by an independent service company utilizing a test plug.~~
 - c. The results of the test shall be reported to the appropriate BLM office.
 - d. 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.**
 - e. 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.
 - f. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

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

E. WELL COMPETITION

A NOI sundry with the procedure to complete this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion will allow the operator to restrict the injection fluid to in the approved reservoir, a fracture treatment shall not will NOT be approved.

DHW 040210

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

Not applied for in APD

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

*Pounds of pure live seed:

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