Form 3160-3
(June 2015)

OCD Received 10/22/2020

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM0473362

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.
DAWSON 34 FED STATE COM
134H

2. Name of Operator
COLGATE OPERATING LLC

9. API Well No.

3a. Address
306 W. Wall St., Suite 500, Midland, TX 79701

3b. Phone No. *(include area code)*
(432) 695-4224

10. Field and Pool, or Exploratory
~~WINCHESTER/BONE SPRING~~ Old Millman Ranch;Bone Spring

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SESE / 340 FSL / 560 FEL / LAT 32.6109475 / LONG -104.1581513
At proposed prod. zone SWSW / 430 FSL / 10 FWL / LAT 32.6110823 / LONG -104.1904602

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 34/T19S/R28E/NMP

14. Distance in miles and direction from nearest town or post office*
14 miles

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
340 feet

16. No of acres in lease
880

17. Spacing Unit dedicated to this well
320.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
45 feet

19. Proposed Depth
8520 feet / 19010 feet

20. BLM/BIA Bond No. in file
FED: NMB001382

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3300 feet

22. Approximate date work will start*
09/01/2020

23. Estimated duration
90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRIAN WOOD / Ph: (432) 695-4224	06/20/2020

Title
President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	10/21/2020

Title	Office
Assistant Field Manager Lands & Minerals	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.

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.

Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

- Will require a directional survey with the C-104

Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

APPROVED WITH CONDITIONS

SL

KP 10/23/2020 GEO Review

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 10/21/2020

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-	~~65010~~ 48035	~~WINCHESTER; BONE SPRING~~ Old Millman Ranch;Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
	DAWSON 34 FED COM	134H

[7] OGRID No.	[8] Operator Name	[9] Elevation
371449	COLGATE OPERATING, LLC	3299.9

[10] Surface Location

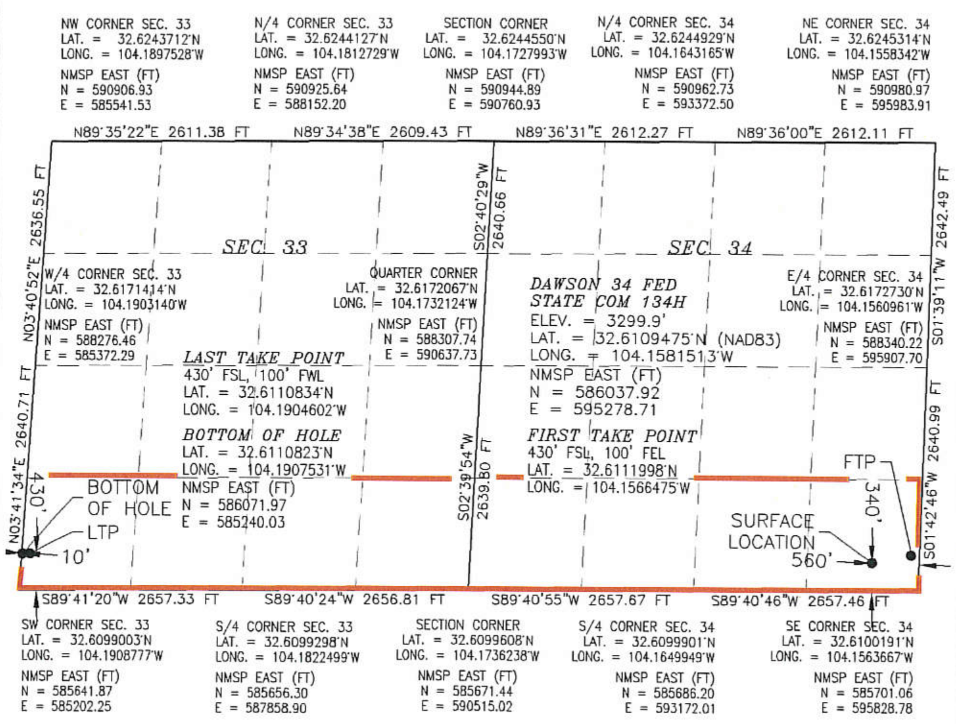
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	34	19 S	28E		340	SOUTH	560	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	33	19 S	28 E		430	SOUTH	10	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320.00		C	

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.



[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] 6-20-20
Signature Date

BRIAN WOOD
Printed Name

brian@permitswest.com
E-mail Address

505 466-8120

[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.

FEBRUARY 14, 2020
Date of Survey

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor:

Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 7982

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 6/19/2020

X Original Operator & OGRID No.: Colgate Operating, LLC (371449)
□ Amended - Reason for Amendment: _____
This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – Name of facility
The well(s) that will be located at the production facility are shown in the table below.

Well	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Dawson 34 Fed Com 124H	30-015-	P-34-19S-28E	295 FSL & 560 FEL	3000	30 days	Time depends on well clean up
Dawson 34 Fed Com 134H	30-015-	P-34-19S-28E	340 FSL & 560 FEL	3000	30 days	Time depends on well clean up

Gathering System and Pipeline Notification
Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. No gas contract has been signed, but a potential transporter is DCP Operating Company, LP (36785) who transports gas from OXY's DWU Federal 6 well in I-34-19s-28e. That well is ≈1,700'north. Colgate Operating, LLC will provide (periodically) to its Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Colgate Operating, LLC and its Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at an as yet undetermined Gas Transporter Processing Plant located in Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy
After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on its Gas Transporter system at that time. Based on current information, it is Colgate Operating, LLC's belief an existing or new system can take this gas upon completion of the well(s). Safety requirements during cleanout operations from using underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring
Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: SESE / 340 FSL / 560 FEL / TWSP: 19S / RANGE: 28E / SECTION: 34 / LAT: 32.6109475 / LONG: -104.1581513 (TVD: 0 feet, MD: 0 feet)

PPP: SESE / 384 FSL / 320 FEL / TWSP: 19S / RANGE: 28E / SECTION: 34 / LAT: 32.6110679 / LONG: -104.157372 (TVD: 4324 feet, MD: 4335 feet)

BHL: SWSW / 430 FSL / 10 FWL / TWSP: 19S / RANGE: 28E / SECTION: 33 / LAT: 32.6110823 / LONG: -104.1904602 (TVD: 8520 feet, MD: 19010 feet)

BLM Point of Contact

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: (575) 234-5972

Email: gmickwee@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	DAWSON 34 FED COM 133H
SURFACE HOLE FOOTAGE:	1505'/S & 760'/E
BOTTOM HOLE FOOTAGE	1750'/S & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	DAWSON 34 FED COM 123H
SURFACE HOLE FOOTAGE:	1505'/S & 715'/E
BOTTOM HOLE FOOTAGE	1650'/S & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	DAWSON 34 FED COM 124H
SURFACE HOLE FOOTAGE:	295'/S & 560'/E
BOTTOM HOLE FOOTAGE	330'/S & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	DAWSON 34 FED COM 134H
SURFACE HOLE FOOTAGE:	340'/S & 560'/E
BOTTOM HOLE FOOTAGE	430'/S & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	SHAMROCK 34 FED COM 121H
SURFACE HOLE FOOTAGE:	700'/N & 330'/W
BOTTOM HOLE FOOTAGE	990'/N & 10'/W
LOCATION:	Section 35, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	SHAMROCK 34 FED COM 122H
SURFACE HOLE FOOTAGE:	2610'/S & 295'/E
BOTTOM HOLE FOOTAGE	2295'/N & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico
OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	SHAMROCK 34 FED COM 131H
SURFACE HOLE FOOTAGE:	655'/N & 330'/W
BOTTOM HOLE FOOTAGE	890'/N & 10'/W
LOCATION:	Section 35, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico

Approval Date: 10/21/2020

OPERATOR'S NAME:	COLGATE OPERATING LLC
WELL NAME & NO.:	SHAMROCK 34 FED COM 132H
SURFACE HOLE FOOTAGE:	2610'/S & 340'/E
BOTTOM HOLE FOOTAGE	2210'/N & 10'/W
LOCATION:	Section 34, T.19 S., R.28 E., NMP
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60-day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

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

V. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

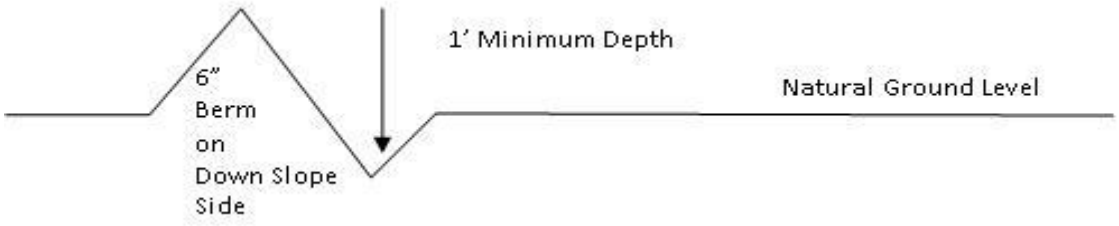
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.
If a readjustment to the existing fenceline is deemed necessary by the proponent and project lead, the reroute shall proceed following consultation with the grazing allotment holder and BLM range staff. Project lead shall be responsible for making sure such reroute will not result in any impact greater than the proposed action. Operator shall be responsible for submitting new shapefiles of re-route to the BLM, as well as constructing

fence to BLM Specification. No allotment boundary fences shall be moved unless explicitly discussed with the CFO Range staff.

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

Construction Steps

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

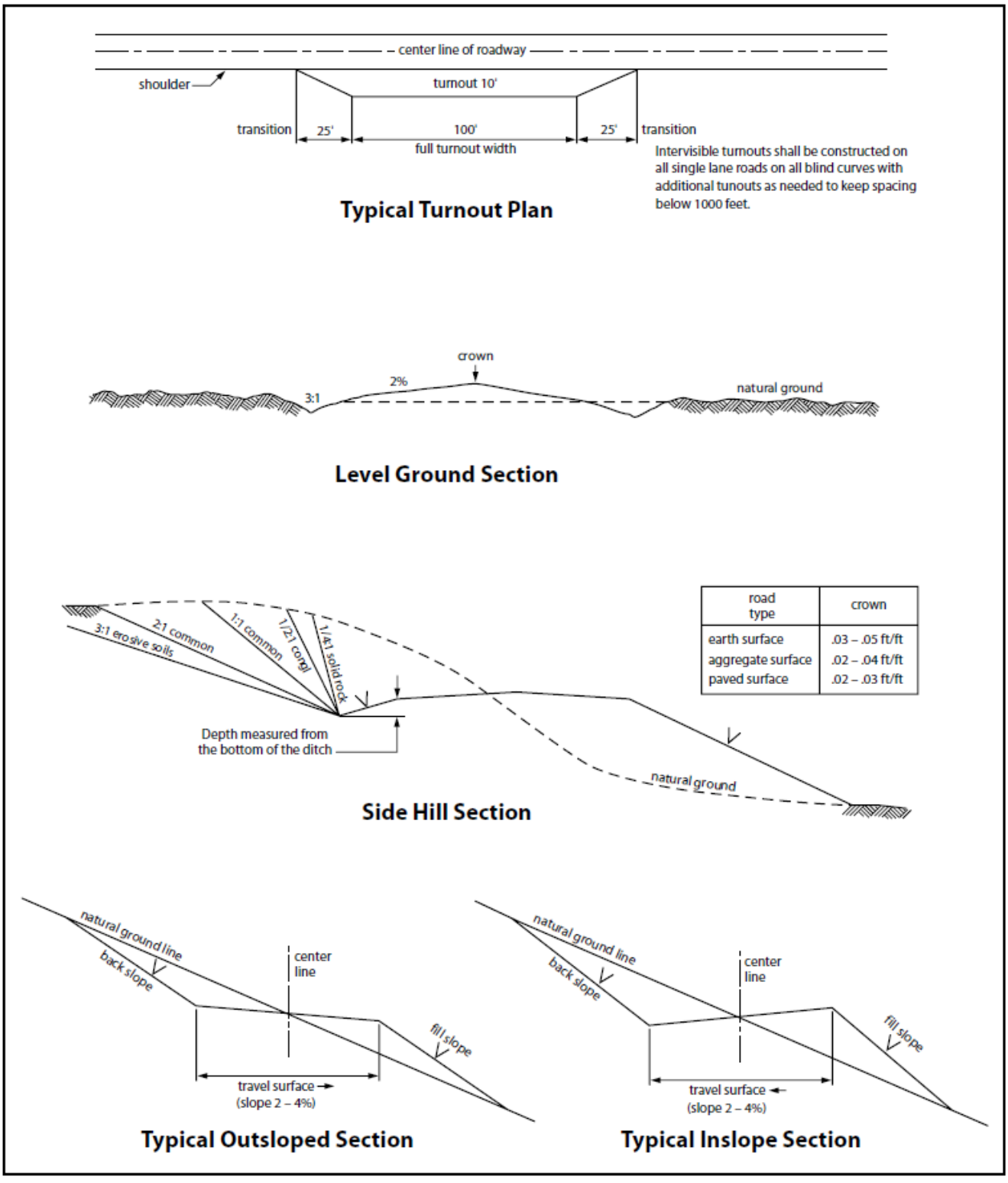


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VI. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

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

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

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

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

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

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

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

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

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

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

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

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

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

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches that are not otherwise fenced, screened, or netted to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. OIL AND GAS RELATED SITES

STANDARD STIPULATIONS FOR OIL AND GAS RELATED SITES

A copy of the application (Grant/Sundry Notice) and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

The holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer, BLM.

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 and for all response costs, penalties, damages, claims, and other costs arising from the provisions of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Chap. 82, Section 6901 et. seq., from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Chap. 109, Section 9601 et. seq., and from other applicable environmental statues.

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 U.S.C. 2601, et. seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR,

Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et. seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the site or related pipeline(s), any oil or other pollutant should be discharged from site facilities, the pipeline(s) or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil of 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 to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup 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 liability or responsibility.

5. Sites shall be maintained in an orderly, sanitary condition at all times. Waste materials, both liquid and solid, shall be disposed of promptly at an appropriate, authorized waste disposal facility in accordance with all applicable State and Federal laws. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, petroleum products, brines, chemicals, oil drums, ashes, and equipment.

6. The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

7. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" designated by the Rocky Mountain

Five-State Interagency Committee. The color selected for this project is **Shale Green**, Munsell Soil Color Chart Number 5Y 4/2.

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

9. A sales contract for removal of mineral material (caliche, sand, gravel, fill dirt) from an authorized pit, site, or on location must be obtained from the BLM prior to commencing construction. There are several options available for purchasing mineral material: contact the BLM office (575-234-5972).

10. 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.

11. Once the site is no longer in service or use, the site must undergo final abandonment. At final abandonment, the site 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 the abandonment of the site. All pads and 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. 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).

12. The holder shall stockpile an adequate amount of topsoil where blading occurs. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles. The topsoil will be used for final reclamation.

13. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

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

14. In those areas where erosion control structures are required to stabilize soil conditions, the holder shall install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound management practices. Any earth work will require prior approval by the Authorized Officer.

15. Open-topped Tanks - The operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps

16. The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an

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

17. Open-Vent Exhaust Stack Exclosures – The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.) Production

equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

18. Containment Structures - Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

19. Special Stipulations:

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

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 or 24-hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

Range:

Cattleguards

Where a permanent cattleguard is approved, 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 on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Karst:
Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD or project:

General Construction:
- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:
- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required:

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.

- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

Production Mitigation
In order to mitigate the impacts from production activities and due to the nature of karst terrane, the following Conditions of Approval will apply to this APD:

- Tank battery locations and facilities will be bermed and lined with a 20 mil thick permanent liner that has a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.
- Development and implementation of a leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Residual and Cumulative Mitigation
The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be taken to correct the problem to the BLM's approval.

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

D. OVERHEAD ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and

especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

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

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

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

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities.

Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

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

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

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

11. Special Stipulations:

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

E. TEMPORARY WATER LINES

Subject to the terms and conditions which are shown below, is hereby approved:

- Surface pipelines 6.5 inch to 16 inch OD may be in place for no more than 180 days not including installation. In accordance with your request, this 180-day period is requested to begin 5/1//2018.

- Surface pipelines will be in operation for no more than 180 days; a maximum of seven (7) days authorized for installation of the lay flat poly line prior to operation.

- Surface pipelines larger than 6.5 inch to-16-inch OD may be in place for no more than 180 days from date of authorization; 5/1/2018, unless a SF-299 is submitted within 30 days of this decision expiring requesting a long term buried fresh water pipeline, and processing of the SF-299 is not yet complete at the end of 30 days, in which case the line(s) may be left in place until a decision is made on the SF-299.

- All lines will be removed when no longer in use.

- Width of authorized use is 15-feet.

• No blading and/or earthwork will be allowed in order to place the pipeline except burying the line under crossings.

• The pipeline will be buried under all intersecting routes, including BLM-designated trails and access roads into caliche pits, rancher watering stations, etc. All such buried crossings will be removed when the pipeline is removed, unless otherwise approved by the Authorized Officer. Pipelines larger than 6.5-inch OD may utilize other crossing methodologies (but any fill placed over pipeline must be brought in from off-site).

• Pipeline crossings of fences should be avoided where possible. If a crossing is necessary, contact fence owner [usually the grazing permittee] prior to installation, and install by threading pipeline under the lowest wire of the fence; pipeline should never cross on top of any fence wires.

• The pipeline shall stay within 10 feet maximum of existing disturbance (e.g. lease road, pipeline right-of-way etc.); placement should be within 5 feet whenever possible.

• Placement of pumps or other high-maintenance equipment shall be installed along maintained lease roads.
• Gas or diesel pumps, generators, or compressors shall be placed on visquen matting [or 20 mil plastic] and in a containment structure capable of containing all potentially released fuels. Containments must be protected against wildlife deaths in accordance with oilfield best management practices.

• Due to potential damage to natural resources, no work is allowed during inclement weather.

• Pipeline will be marked with your company's name and contact number, at beginning and ending points, at all public-road crossings, and at intervals not exceeding every 0.6 mile, unless otherwise approved by the Authorized Officer.

• Should unforeseen damage occur to resources, BLM will require reclamation of the impacted land.
• No water may be released into the environment without BLM consent.

• Placement of surface pipelines along or under public roadways may require permits from the road authority.

• This authorization is limited to lands under BLM jurisdiction. If your proposed pipeline crosses lands under private ownership or under other agency jurisdiction, you are responsible for obtaining all necessary permits and approvals from those parties.

F. FRESH WATER FRAC POND

FRAC POND CONDITIONS OF APPROVAL

A copy of the application (APD, Grant, or Sundry Notice) and attachments, including stipulations, survey plat and diagram, will be on location during construction. BLM personnel may request to see a copy of your permit during construction to ensure compliance with all conditions of approval.

Holder agrees to comply with the following conditions of approval 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 permit.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated.

3. Required Standard Conditions of Approval:

a. Notification
Contact the Supervisory Environmental Protection Specialist, Jim Amos, at 575-234-5909 at least 24 hours prior to starting construction.

b. Freshwater Only
The frac pond will only be authorized to contain freshwater and testing of water quality is required. Additives are not allowed without consent of the authorized officer in writing.

c. Contamination
If at any time the water in the frac pond becomes polluted with salts or other contaminants, use of the frac pond will cease and desist, and all liquids will be removed from the frac pond and disposed of properly. The operator will preclude releases of oil into open pits. The operator must remove any accumulation of oil, condensate, or contaminant in a pit within 48 hours of discovery.

d. Authorized Disturbance
Confine all construction and maintenance activity to the approved authorized area applied for in the application.

e. Facilities
Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations. Grey-water, sewage, and trash shall be removed from the site and disposed of properly at a state approved facility.

f. Escape Ramps
The operator will construct and maintain frac ponds to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in frac ponds. Escape ramps must be installed at every corner of the frac pond and in the center of each side if that side exceeds 100 feet in length. Escape ramps must be in contact with the side of the frac pond, bottom of the frac pond, and the top of the frac pond berm. Escape ramps cannot be made of metal and cannot be steeper than a 3:1 slope (Horizontal Distance: Vertical Distance) or 30% slope. (*Examples of escape ramps: 12" wide wooden planks wrapped in matting, felt lining, etc.*)

g. Frac Pond Pipelines

Temporary pipelines flowing from the frac pond to the target well will be laid along existing roadways unless an exception has been granted by the authorized officer in writing.

h. Mineral Material from Excavation

Mineral materials extracted during construction of the frac pond will be stored on-location and/or used for constructing the frac pond.

i. Frac Pond Liner

The frac pond will be lined with at least a 20 mil. plastic liner.

j. Topsoil Stockpile

The operator shall strip at least the top 6 inches of soil (root zone) from the entire frac pond area and stockpile the topsoil approximately 25 feet outside the bermed perimeter of the pond in a low profile manner, reasonably protected from wind and water erosion. Topsoil shall not be used for constructing the frac pond. The topsoil will be used for final reclamation purposes only.

k. Frac Pond Fence

The operator will install and maintain exclosure fencing on all sides of the frac pond to prevent access to public, livestock, and large forms of wildlife. The fence shall be installed at the base of the berm and never on top of the berm. Construction of the fence shall consist of steel and/or wooden posts set firmly into natural ground. Hog panel or chain-link fencing must be used as the fence and tied securely to the fence posts. Barbed-wire fencing or electric fences shall not be used. The fence height shall not be shorter than six (6) feet. The erected fence shall be maintained in adequate condition until the frac pond is reclaimed.

l. Erosion Prevention

Install earthen erosion-control structures as are suitable for the specific terrain and soil conditions.

m. Reclamation Start

I. Reclamation efforts will commence immediately after the frac pond is no longer needed for the purpose of completing wells.

II. Within 3 months of completion of frac operations on associated wells, all earthwork and final reclamation must be completed. This includes reclaiming and/or removal of:

i. Any roads approved for use with the pond

ii. Surface water lines

iii. Tanks, pumps, fencing etc.

Requirements for Operations and Final Reclamation:

4. If, during any phase of the construction, operation, maintenance, or termination of the frac pond, any pollutant should be released from the contaminated frac pond, the control and total removal, disposal, and cleaning up of such pollutant, wherever found, shall be the responsibility of holder, regardless of fault.

Upon failure of holder to control, dispose of, or clean up such discharge, or to repair all damages resulting there-from, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

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

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 6 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

6. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

7. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations

in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

8. 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.

9. After all disturbed areas have been satisfactorily contoured and prepared for seeding the location needs to be revegetated with the seed mixture provided. Seeding may need to be repeated until revegetation is successful. Operators shall contact Jim Amos, Supervisor, Environmental Protection – (575)234-5909, **prior** to beginning surface reclamation operations.

10. Seeding is required: Use the following seed mix.

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

VII. 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).

VIII. 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 2, for Sandy Sites

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

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

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

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

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Colgate Operating LLC**
LEASE NO.:	**NMNM0473362**
LOCATION:	Section 34, T.19 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Dawson 34 Fed State Com 123H
SURFACE HOLE FOOTAGE:	1505'/S & 715'/E
BOTTOM HOLE FOOTAGE	1650'/S & 10'/W

WELL NAME & NO.:	Dawson 34 Fed State Com 124H
SURFACE HOLE FOOTAGE:	295'/S & 560'/E
BOTTOM HOLE FOOTAGE	330'/S & 10'/W

WELL NAME & NO.:	Dawson 34 Fed State Com 133H
SURFACE HOLE FOOTAGE:	1505'/S & 760'/E
BOTTOM HOLE FOOTAGE	1750'/S & 10'/W

WELL NAME & NO.:	Dawson 34 Fed State Com 134H
SURFACE HOLE FOOTAGE:	340'/S & 560'/E
BOTTOM HOLE FOOTAGE	430'/S & 10'/W

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Cherry Canyon and Brushy Canyon** 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.

Approval Date: 10/21/2020

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **310 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    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 shall be set at approximately **2890 feet** is:

    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-

Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

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

    - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.
      Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record),

or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. 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.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. 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.

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher 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. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. 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.

g. 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.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. 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.

Operator Certification Data Report

10/23/2020

APD ID: 10400058241

Submission Date: 06/20/2020

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM

Well Number: 134H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
765572	QUATERNARY	3300	0	0	OTHER : None	USEABLE WATER	N
765573	RUSTLER ANHYDRITE	3200	100	100	ANHYDRITE	NONE	N
765574	TOP SALT	2948	352	352	SALT	NONE	N
765575	BASE OF SALT	2632	668	668	SALT	NONE	N
765576	YATES	2324	976	976	SANDSTONE	NONE	N
765577	CAPITAN REEF	777	2523	2526	LIMESTONE, SANDSTONE	USEABLE WATER	N
765578	CHERRY CANYON	262	3038	3044	SANDSTONE	NONE	N
765579	LOWER BRUSHY CANYON 8A	-534	3834	3943	SANDSTONE	NATURAL GAS, OIL	N
765580	BONE SPRING	-1024	4324	4335	LIMESTONE	NATURAL GAS, OIL	N
765581	BONE SPRING 1ST	-3138	6438	6458	SANDSTONE	NATURAL GAS, OIL	N
765582	BONE SPRING 2ND	-3366	6666	6687	LIMESTONE	NATURAL GAS, OIL	N
765583	BONE SPRING 2ND	-3835	7135	7158	SANDSTONE	NATURAL GAS, OIL	N
765606	BONE SPRING 3RD	-4377	7677	7701	LIMESTONE	NATURAL GAS, OIL	N
765607	BONE SPRING 3RD	-5110	8410	8450	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM **Well Number:** 134H

Pressure Rating (PSI): 10M **Rating Depth:** 10000

Equipment: 10M BOPE with WP ratings in excess of anticipated maximum surface pressure will be used for well control from drilling out of the surface casing to TMD. A rotating head will also be installed and used as needed. All BOPE connections will be flanged, welded, or clamped. All choke lines will be straight, unless targeted with running tees, or tee blocks are used. Choke lines will be anchored to prevent whip and reduce vibrations. All valves in the choke line and choke manifold will be full opening to avoid restrictions and to allow straight fluid paths to minimize potential erosion. All gauges used in the well control system will be designed for drilling fluid service. A top drive inside BOP valve will be used at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate the valve equipped subs will be on the rig floor at all times. Accumulator system will have sufficient capacity to open the HCR and close all 3 sets of rams plus the annular preventer while retaining >300 psi above pre-charge on the closing manifold. (Accumulator system will be capable of doing so without using the closing unit pumps). Fluid reservoir capacity will be twice the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at the manufacturer's recommended level. Before connecting the closing unit to the BOP stack, an accumulator pre-charge pressure test will be performed to ensure the pre-charge pressure is within 100 psi of the desired pre-charge pressure. (Only nitrogen gas will be used to pre-charge). Two independent power sources will available at all times to power the closing unit pumps so the pumps can automatically start when the closing valve manifold pressure has decreased to the pre-set level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving >200 psi above pre-charge pressure with the accumulator system isolated from service in 2 minutes. A valve will be installed in the closing line as close to the annular preventer as possible to act as a locking device. The valve will be maintained in the open position and will be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers and the HCR will be readily accessible to the driller. Master controls with the same capability will be operable at the accumulator. Wellhead will be a multi-bowl speed head allowing for hang-off of intermediate casing and isolation of the 13.375 x 9.625 annulus without breaking the connection between the BOP and wellhead to install an additional casing head. A wear bushing will be installed and inspected frequently to guard against internal wear to wellhead.

Requesting Variance? YES

Variance request: Colgate requests a variance to drill the well using a co-flex line between the BOP and choke manifold. Certificate for proposed hose is attached. Manufacturer does not require the hose to be anchored. If this hose is not available, then a hose of equal or higher rating will be used.

Testing Procedure: After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a 3rd party tester using water and a test plug to 250 psi low and 10,000 psi high. To deem a pressure test successful, pressure must be maintained for 10 minutes without any bleed-off. A valve on the wellhead below the test plug seat will be open at all time during BOPE tests to guard against casing damage. BOPE will be re-tested in this manner after any connection breaks or passage of allotted time (25 days). Any BOPE which fails a pressure test after initial installation will be replaced before drilling out of the surface casing shoe. If at any time a BOPE component cannot function to secure the hole, the hole will be secured using a retrievable packer. The non-functioning BOPE component will be repaired or replaced. After repair or replacement, a pressure test of the component and any connection broken to repair or replace the non-functioning component will be tested in the same manner as described for the initial BOPE installation. Annular preventer will be function tested at least weekly. Ram preventers will be function tested on each trip. BOPE pit levels drills will be conducted weekly with each drilling crew. All pressure tests performed on BOPE and BOPE pit level drills will be recorded in the drilling log. Isolation of the 13.375 x 9.625 casing annulus will be confirmed by pressure testing of wellhead sealing component after said sealing component is installed.

Choke Diagram Attachment:

Dawson_134H_Choke_20200620144525.pdf

BOP Diagram Attachment:

Dawson_134H_BOP_20200620144534.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM **Well Number:** 134H

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	310	0	310	3300	2990	310	J-55	54.5	BUTT	1.125	1.2	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3550	0	3542	3298	-242	3550	J-55	36	BUTT	1.125	1.2	DRY	1.6	DRY	1.6
3	PRODUCTION	8.75	5.5	NEW	API	N	0	19010	0	8106	3298	-4806	19010	HCP-110	20	OTHER - CDC-HTQ	1.125	1.2	DRY	1.6	DRY	1.6

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dawson_134H_Casing_Design_Assumptions_20200620144611.pdf

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM **Well Number:** 134H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dawson_134H_Casing_Design_Assumptions_20200620144637.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dawson_134H_Casing_Design_Assumptions_20200620144716.pdf

5.5in_USS_CDC_Casing_Spec_20200620144726.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Tail		0	310	224	1.8	13.5	403	100	Class C	Salt + accelerator + extender + LCM
PRODUCTION	Lead		0	0	0	0	0	0	0	None	Noneo
PRODUCTION	Tail		2050	19010	4095	1.24	14.2	5077	20	Class H	Fluid loss + dispersant + retarder + LCM

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM **Well Number:** 134H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	3550	775	2.19	12.7	1697	100	Class C	Salt + extender + LCM
INTERMEDIATE	Tail		0	3550	209	1.33	14.8	277	25	Class C	Accelerator + LCM

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: All necessary mud products for weight addition and fluid loss control will be on site at all times. Mud program is subject to change due to hole conditions. Both visual and electronic mud monitoring equipment will be used to detect volume changes indicating loss or gain of circulating system fluid volume. Slow pump rates will be taken and recorded every tour in the drilling log. Mud engineer will perform tests and provide a written report at least every 12 hours while circulating. A trip tank will be used. Trip sheet will be recorded to ensure wellbore is taking proper fill or displacing proper fluid volume during all tripping operations. Gas detecting equipment will be used to monitor for hydrocarbon gas at the shakers while drilling and/or circulating. H2S monitors with visual and auditory alarms will be installed and operational at the shakers, rig floor, and cellar while drilling and/or circulating. A flare system with an effective method for ignition will be used to gather and burn all gas. Flare will discharge >100 from the wellbore. Flare line will be straight unless targeted with running tees. A mud gas separator will be installed and operable >500 before the first anticipated hydrocarbon zone.

Describe the mud monitoring system utilized: Electronic Pason PVT system satisfying Onshore Order 1. Both visual and electronic mud monitoring equipment will be used to detect volume changes indicating loss or gain of circulating system fluid volume.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	310	OTHER : Fresh water spud	8.6	9							
310	3550	OTHER : Brine water	10	10.2							
3550	19010	OTHER : Cut brine poly oil mud	9	10							

Operator Name: COLGATE OPERATING LLC

Well Name: DAWSON 34 FED STATE COM **Well Number:** 134H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

Directional surveys will be collected via MWD tools at <200 intervals.

GR log will be acquired by MWD tools from the intermediate casing to TD.

A formation integrity test (FIT) will be performed on all casing strings after BOPE is installed to at least 1 ppg over planned section mud after drilling 10 of new hole.

List of open and cased hole logs run in the well:

GAMMA RAY LOG,

Coring operation description for the well:

No core, drill stem test, open hole log, CBL, or temperature survey is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3689 **Anticipated Surface Pressure:** 1814

Anticipated Bottom Hole Temperature(F): 120

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Dawson_134H_H2S_Plan_20200620144925.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Dawson_134H_Horiztonal_Plan_20200620145001.pdf

Other proposed operations facets description:

Cement will be placed on all casing strings using the pump and plug method. A float will be installed in the casing shoe and float collar on all casing strings to hold cement in place once pumping is completed. A top plug will be used on all casing strings to prevent contamination of the cement by the displacement fluid. A pre-flush fluid will be pumped before cementing to aid in removal of the drilling mud from the wellbore, prevent drilling mud contamination of the cement, and prepare the surfaces of the wellbore and casing for cement.

After cement has set undisturbed for 8-hours and has reached a compressive strength of 500-psi across the zone of interest, then the 13.375" surface casing will be pressured to 1500 psi and held for 30-minutes. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period.

The casing pressure test will be completed against the blind rams of the 13.625"10M BOPE before picking up tools to drill out. After cement has set undisturbed for 8-hours and has reached a compressive strength of 500-psi across the zone of interest, then the 9.625" intermediate casing will be pressured to 2500 psi and held for 30-minutes. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period.

The casing pressure test will be completed against the lower pipe rams of the 13.625" 10M BOPE immediately before drilling out the float equipment. Casing pressure test on the 5.5 production casing will occur >72 hours after the cement is placed and reached ultimate compressive strength. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period. Casing will be tested by pressuring up to 10,000 psi and holding pressure for 30-minutes before starting perforation and stimulation operations.

Other proposed operations facets attachment:

Dawson_134H_Drill_Plan_20200620145053.pdf

CoFlex_Certs_20200620145115.pdf

Dawson_134H_Speedhead_Specs_20200620145129.pdf

Other Variance attachment:

Colgate Operating, LLC
Dawson 34 Fed Com 134H
SHL 340' FSL & 560' FEL 34-19S-28E
BHL 330' FSL & 10' FWL 33-19S-28E
Eddy County, NM

Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD	MD	Bearing
Quaternary	0'	0'	water
Rustler anhydrite	100'	100'	N/A
top salt	352'	352'	N/A
base salt	668'	668'	N/A
Yates sandstone	976'	976'	N/A
Capitan Reef limestone	2523'	2526'	water
Cherry Canyon sandstone	3038'	3044'	N/A
Lower Brushy Canyon sandstone	3834'	3843'	hydrocarbons
Bone Spring limestone	4324'	4335'	hydrocarbons
1st Bone Spring sandstone	6438'	6458'	hydrocarbons
2nd Bone Spring limestone	6666'	6687'	hydrocarbons
2nd Bone Spring sandstone	7135'	7158'	hydrocarbons
3rd Bone Spring limestone	7677'	7701'	hydrocarbons
(KOP	8106'	8129'	hydrocarbons)
3rd Bone Spring sandstone	8410'	8450'	Hydrocarbons
TD	8520'	19010'	hydrocarbons

2. NOTABLE ZONES

Third Bone Spring is the goal. All perforations will be ≥100' from the dedication perimeter. Closest water well (CP 00926 POD1) is 1.86 miles southeast. Depth to water was not recorded in this 300' deep water well.

3. PRESSURE CONTROL

10M BOPE with WP ratings in excess of anticipated maximum surface pressure will be used for well control from drilling out of the surface casing to TMD. A rotating head will also be installed and used as needed. All BOPE connections will be flanged, welded, or clamped. All choke lines will be straight, unless targeted with running tees, or tee blocks are used. Choke lines will be anchored to prevent whip and reduce vibrations.

All valves in the choke line and choke manifold will be full opening to avoid restrictions and to allow straight fluid paths to minimize potential erosion. All gauges used in the well control system will be designed for drilling fluid service. A top drive inside BOP valve will be used at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate the valve equipped subs will be on the rig floor at all times.

Accumulator system will have sufficient capacity to open the HCR and close all 3 sets of rams plus the annular preventer while retaining ≥300 psi above pre-charge on the closing manifold. (Accumulator system will be capable of doing so without using the closing unit pumps). Fluid reservoir capacity will be twice the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at the manufacturer's recommended level. Before connecting the closing unit to the BOP stack, an accumulator pre-charge pressure test will be performed to ensure the pre-charge pressure is within 100 psi of the desired pre-charge pressure. (Only nitrogen gas will be used to pre-charge). Two independent power sources will available at all times to power the closing unit pumps so the pumps can automatically start when the closing valve manifold pressure has decreased to the pre-set level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving ≥200 psi above pre-charge pressure with the accumulator system isolated from service in <2 minutes. A valve will be installed in the closing line as close to the annular preventer as possible to act as a locking device. The valve will be

maintained in the open position and will be closed only when the power source for the accumulator system is inoperative.

Remote controls capable of opening and closing all preventers and the HCR will be readily accessible to the driller. Master controls with the same capability will be operable at the accumulator. Wellhead will be a multi-bowl speed head allowing for hang-off of intermediate casing and isolation of the 13.375" x 9.625" annulus without breaking the connection between the BOP and wellhead to install an additional casing head. A wear bushing will be installed and inspected frequently to guard against internal wear to wellhead.

Colgate requests a variance to drill the well using a co-flex line between the BOP and choke manifold. Certificate for proposed hose is attached. Manufacturer does not require the hose to be anchored. If this hose is not available, then a hose of equal or higher rating will be used.

After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a 3rd party tester using water and a test plug to 250 psi low and 10,000 psi high. To deem a pressure test successful, pressure must be maintained for 10 minutes without any bleed-off. A valve on the wellhead below the test plug seat will be open at all time during BOPE tests to guard against casing damage. BOPE will be re-tested in this manner after any connection breaks or passage of allotted time (25 days).

Any BOPE which fails a pressure test after initial installation will be replaced before drilling out of the surface casing shoe. If at any time a BOPE component cannot function to secure the hole, the hole will be secured using a retrievable packer. The non-functioning BOPE component will be repaired or replaced. After repair or replacement, a pressure test of the component and any connection broken to repair or replace the non-functioning component will be tested in the same manner as described for the initial BOPE installation.

Annular preventer will be function tested at least weekly. Ram preventers will be function tested on each trip. BOPE pit levels drills will be conducted weekly with

each drilling crew. All pressure tests performed on BOPE and BOPE pit level drills will be recorded in the drilling log. Isolation of the 13.375" x 9.625" casing annulus will be confirmed by pressure testing of wellhead sealing component after said sealing component is installed.

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption worksheet.

Hole O. D.	Set MD	Set TVD	Casing OD	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
17.5"	0' - 310'	0' - 310'	13.375" surface	54.5	J-55	BTC	1.125	1.2	1.60
12.25"	0' - 3550'	0' - 3542'	9.625" intermed.	36	J-55	BTC	1.125	1.2	1.60
8.75"	0' – 19010'	0' – 8106'	5.5" product.	20	HCP-110	CDC HTQ	1.125	1.2	1.60

Name	Type	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Tail	224	1.8	403	13.5	Class C + salt + accelerator + extender + LCM
TOC = GL		100% Excess			Centralizers on bottom 3 joints starting with the shoe joint, then every other joint to GL	
Intermediate	Lead	775	2.19	1697	12.7	Class C + salt + extender + LCM
	Tail	209	1.33	277	14.8	Class C + accelerator + LCM
TOC = GL		100% Excess Lead & 25% Excess Tail			2 centralizers on 1st joint + 1 centralizer on 2nd joint + 1 centralizer every 4th joint to GL	
Production	Tail	4095	1.24	5077	14.2	Class H + fluid loss + dispersant + retarder + LCM
TOC = 2050'		20% Excess			2 centralizers on 1st joint + 1 centralizer on 2nd joint + 1 centralizer every 3rd joint to 2470'	

Cement will be placed on all casing strings using the pump and plug method. A float will be installed in the casing shoe and float collar on all casing strings to hold cement in place once pumping is completed. A top plug will be used on all casing strings to prevent contamination of the cement by the displacement fluid. A pre-flush fluid will be pumped before cementing to aid in removal of the drilling mud from the wellbore, prevent drilling mud contamination of the cement, and prepare the surfaces of the wellbore and casing for cement.

After cement has set undisturbed for 8-hours and has reached a compressive strength of 500-psi across the zone of interest, then the 13.375" surface casing will be pressured to 1500 psi and held for 30-minutes. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period.

The casing pressure test will be completed against the blind rams of the 13.625" 10M BOPE before picking up tools to drill out. After cement has set undisturbed for 8-hours and has reached a compressive strength of 500-psi across the zone of interest, then the 9.625" intermediate casing will be pressured to 2500 psi and held for 30-minutes. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period.

The casing pressure test will be completed against the lower pipe rams of the 13.625" 10M BOPE immediately before drilling out the float equipment. Casing pressure test on the 5.5" production casing will occur >72 hours after the cement is placed and reached ultimate compressive strength. Lab reports with the 500-psi compressive strength time for the cement will be on-site for review. A casing test will be deemed successful if test pressure does not decline >10% over the 30-minute period. Casing will be tested by pressuring up to 10,000 psi and holding pressure for 30-minutes before starting perforation and stimulation operations.

5. MUD PROGRAM

All necessary mud products for weight addition and fluid loss control will be on site at all times. Mud program is subject to change due to hole conditions. Mud monitoring system will be an electronic Pason PVT system satisfying Onshore Order 1. Both visual and electronic mud monitoring equipment will be used to detect volume changes indicating loss or gain of circulating system fluid volume.

Slow pump rates will be taken and recorded every tour in the drilling log. Mud engineer will perform tests and provide a written report at least every 12 hours while circulating.

A trip tank will be used. Trip sheet will be recorded to ensure wellbore is taking proper fill or displacing proper fluid volume during all tripping operations.

Gas detecting equipment will be used to monitor for hydrocarbon gas at the shakers while drilling and/or circulating. H2S monitors with visual and auditory alarms will be installed and operational at the shakers, rig floor, and cellar while drilling and/or circulating.

A flare system with an effective method for ignition will be used to gather and burn all gas. Flare will discharge ≥100' from the wellbore. Flare line will be straight unless targeted with running tees. A mud gas separator will be installed and operable ≥500' before the first anticipated hydrocarbon zone.

Type	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water spud	0' - 310'	8.6 – 9.0	28 - 34	NC
brine water	310' - 3550'	10.0 – 10.2	30 -32	NC
cut brine poly oil mud	3550' – 19010'	9.0 – 10.0	32 - 35	NC

6. CORES, TESTS, & LOGS

No core, drill stem test, open hole log, CBL, or temperature survey is planned.

Directional surveys will be collected via MWD tools at ≤200' intervals.

GR log will be acquired by MWD tools from the intermediate casing to TD.

A formation integrity test (FIT) will be performed on all casing strings after BOPE is installed to at least 1 ppg over planned section mud after drilling 10' of new hole.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈3689 psi. Expected bottom hole temperature is ≈120° F. An H2S plan is attached.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈3 months to drill and complete the well.

COLGATE ENERGY

WELL DETAILS: Dawson 34 Fed State Com 134H

Northing	Easting	Latittude	Longitude
586037.92	595278.71	32.61094751	-104.15815129

Site: Dawson 34 Fed State Com
Well: Dawson 34 Fed State Com 134H
Wellbore: 134H
Plan: Plan #1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
100.00	100.00	Rustler
352.00	352.00	Top of Salt
668.00	668.00	Base of Salt
976.00	976.00	Yates
2523.00	2526.35	Capitan
3038.00	3043.54	DLWR Mnt. Group
3834.00	3842.92	Lower Brushy Canyon
4324.00	4335.00	Bone Spring Lime
6438.00	6457.99	1st Bone Spring SD
6666.00	6686.95	2nd Bone Spring LM
7135.00	7157.95	2nd Bone Spring SD
7677.00	7700.50	3rd Bone Spring LM
8410.00	8449.96	3rd Bone Spring SD

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00
3	1851.50	5.27	79.74	1851.00	2.88	15.90	1.50	79.74	-15.92
4	7172.01	5.27	79.74	7149.00	89.95	497.00	0.00	0.00	-497.49
5	7523.50	0.00	0.00	7500.00	92.83	512.90	1.50	180.00	-513.41
6	8129.42	0.00	0.00	8105.92	92.83	512.90	0.00	0.00	-513.41
7	9040.92	91.15	269.68	8678.76	89.57	-71.55	10.00	269.68	71.05
8	11408.35	91.15	269.68	8631.25	76.35	-2438.46	0.00	0.00	2438.00
9	11419.35	91.37	269.68	8631.01	76.28	-2449.46	2.00	0.00	2449.00
10	13943.58	91.37	269.68	8570.66	62.19	-4972.92	0.00	0.00	4972.50
11	13989.08	90.46	269.68	8569.93	61.94	-5018.42	2.00	180.00	5017.99
12	16471.16	90.46	269.68	8550.00	48.07	-7500.39	0.00	0.00	7500.00
13	16482.57	90.69	269.68	8549.89	48.01	-7511.79	2.00	0.86	7511.40
14	19009.68	90.69	269.68	8519.54	34.05	-10038.68	0.00	0.00	10038.33

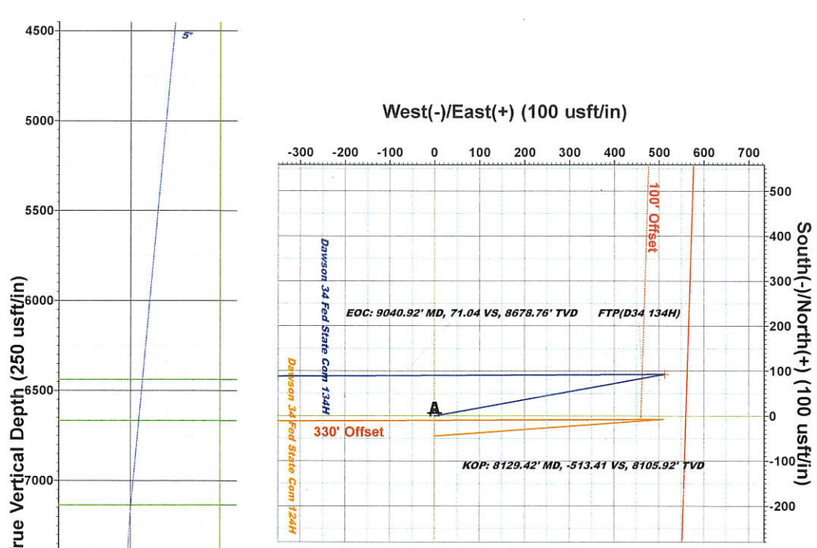
Azimuths to Grid North
True North: -0.09°
Magnetic North: 6.90°

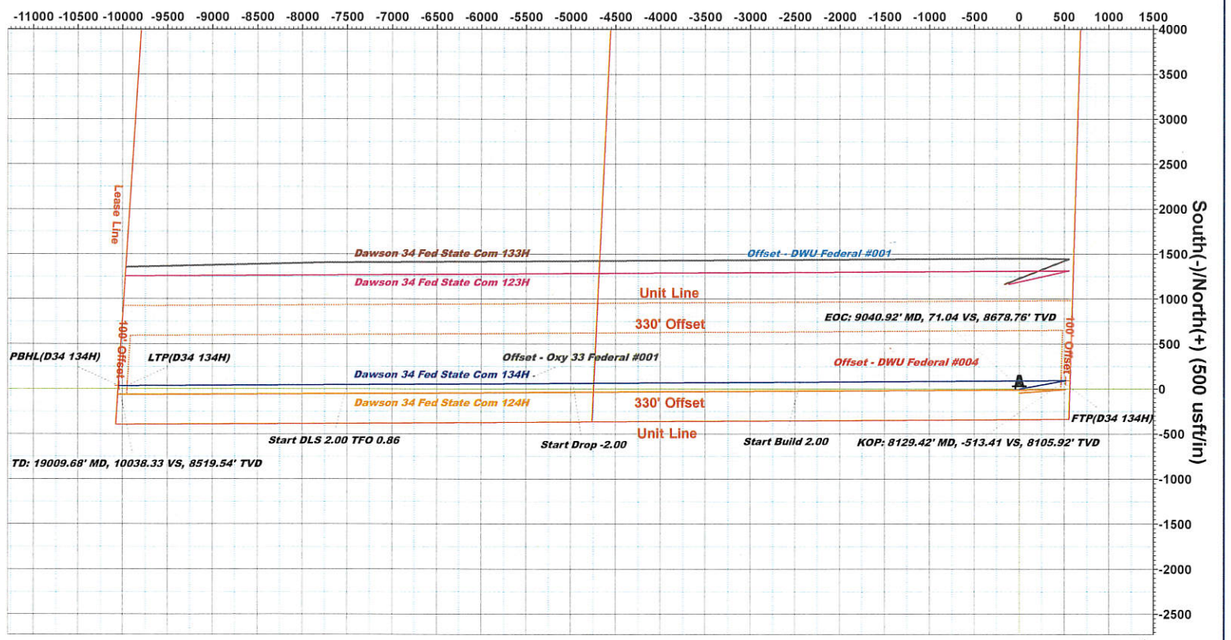
Magnetic Field
Strength: 47797.3snT
Dip Angle: 60.21°
Date: 2/27/2020
Model: IGRF2020

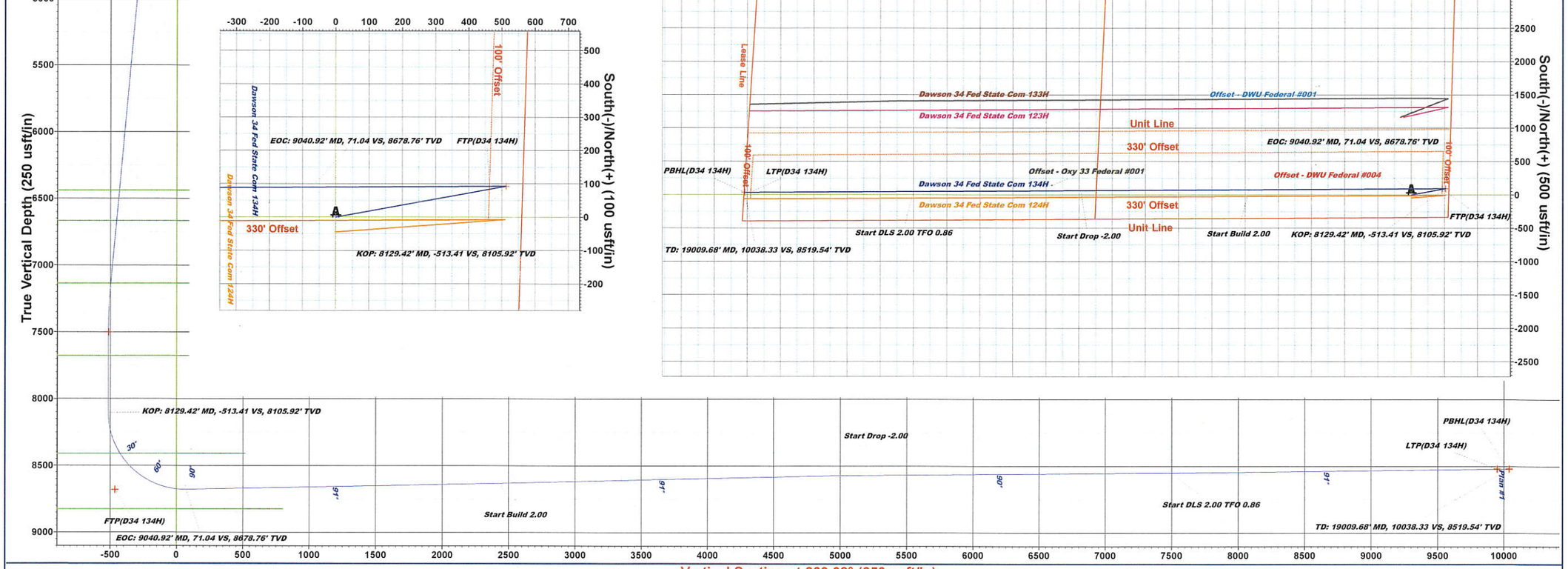
PROJECT DETAILS: Eddy County, NM (N83-NME)
Well Name: Dawson 34 Fed State Com 134H
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid
KB Elevation: 3300+25 @ 3325.00usft (Permit)
Elevation: 3300.00

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
EON(D34 134H)	7500.00	92.83	512.90	586130.75	595791.61	32.61120034	-104.15648508
FTP(D34 134H)	8680.00	92.55	462.89	586130.47	595741.60	32.61119980	-104.15664750
LTP(D34 134H)	8519.54	34.56	-9948.48	586072.48	585330.23	32.61108340	-104.19046020
PBHL(D34 134H)	8519.54	34.05	-10038.68	586071.97	585240.03	32.61108234	-104.19075314







TURNAZONTAL WELL PLANNING

Plan: Plan #1 (Dawson 34 Fed State Com 134H/134H)
Created By: Adrian Castro Date: 14:49, March 02 2020

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
Company:	Colgate Energy	**TVD Reference:**	3300+25 @ 3325.00usft (Permit)
Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Project	Eddy County, NM (N83-NME)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Dawson 34 Fed State Com				
Site Position:		**Northing:**	586,037.92 usft	**Latitude:**	32.61094751
From:	Map	**Easting:**	595,278.71 usft	**Longitude:**	-104.15815129
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.09 °

Well	Dawson 34 Fed State Com 134H				
Well Position	**+N/-S** 0.00 usft	**Northing:**	586,037.92 usft	**Latitude:**	32.61094751
	+E/-W 0.00 usft	**Easting:**	595,278.71 usft	**Longitude:**	-104.15815129
Position Uncertainty	0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,300.00 usft

Wellbore	134H				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2020	2/27/2020	7.00	60.21	47,797.27369661

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	269.68	

Plan Survey Tool Program **Date** 3/2/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,009.68	Plan #1 (134H)	OWSG MWD Rev 4	
				OWSG MWD - Standard	

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
Company:	Colgate Energy	**TVD Reference:**	3300+25 @ 3325.00usft (Permit)
Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,851.50	5.27	79.74	1,851.00	2.88	15.90	1.50	1.50	0.00	79.74	
7,172.01	5.27	79.74	7,149.00	89.95	497.00	0.00	0.00	0.00	0.00	
7,523.50	0.00	0.00	7,500.00	92.83	512.90	1.50	-1.50	0.00	180.00	EON(D34 134H)
8,129.42	0.00	0.00	8,105.92	92.83	512.90	0.00	0.00	0.00	0.00	
9,040.92	91.15	269.68	8,678.76	89.57	-71.55	10.00	10.00	0.00	269.68	
11,408.35	91.15	269.68	8,631.25	76.35	-2,438.46	0.00	0.00	0.00	0.00	
11,419.35	91.37	269.68	8,631.01	76.28	-2,449.46	2.00	2.00	0.00	0.00	
13,943.58	91.37	269.68	8,570.66	62.19	-4,972.93	0.00	0.00	0.00	0.00	
13,989.08	90.46	269.68	8,569.93	61.94	-5,018.42	2.00	-2.00	0.00	180.00	
16,471.16	90.46	269.68	8,550.00	48.07	-7,500.39	0.00	0.00	0.00	0.00	
16,482.57	90.69	269.68	8,549.89	48.01	-7,511.79	2.00	2.00	0.03	0.86	
19,009.68	90.69	269.68	8,519.54	34.05	-10,038.68	0.00	0.00	0.00	0.00	PBHL(D34 134H)

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
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Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
352.00	0.00	0.00	352.00	0.00	0.00	0.00	0.00	0.00	0.00
Top of Salt									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
668.00	0.00	0.00	668.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
976.00	0.00	0.00	976.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	1.50	79.74	1,599.99	0.23	1.29	-1.29	1.50	1.50	0.00
1,700.00	3.00	79.74	1,699.91	0.93	5.15	-5.16	1.50	1.50	0.00
1,800.00	4.50	79.74	1,799.69	2.10	11.59	-11.60	1.50	1.50	0.00
1,851.50	5.27	79.74	1,851.00	2.88	15.90	-15.92	1.50	1.50	0.00
1,900.00	5.27	79.74	1,899.30	3.67	20.29	-20.31	0.00	0.00	0.00
2,000.00	5.27	79.74	1,998.88	5.31	29.33	-29.36	0.00	0.00	0.00
2,100.00	5.27	79.74	2,098.45	6.95	38.37	-38.41	0.00	0.00	0.00
2,200.00	5.27	79.74	2,198.03	8.58	47.42	-47.46	0.00	0.00	0.00
2,300.00	5.27	79.74	2,297.61	10.22	56.46	-56.51	0.00	0.00	0.00
2,400.00	5.27	79.74	2,397.18	11.85	65.50	-65.57	0.00	0.00	0.00
2,500.00	5.27	79.74	2,496.76	13.49	74.54	-74.62	0.00	0.00	0.00
2,526.35	5.27	79.74	2,523.00	13.92	76.92	-77.00	0.00	0.00	0.00
Capitan									
2,600.00	5.27	79.74	2,596.34	15.13	83.58	-83.67	0.00	0.00	0.00
2,700.00	5.27	79.74	2,695.91	16.76	92.63	-92.72	0.00	0.00	0.00
2,800.00	5.27	79.74	2,795.49	18.40	101.67	-101.77	0.00	0.00	0.00
2,900.00	5.27	79.74	2,895.07	20.04	110.71	-110.82	0.00	0.00	0.00
3,000.00	5.27	79.74	2,994.64	21.67	119.75	-119.87	0.00	0.00	0.00
3,043.54	5.27	79.74	3,038.00	22.39	123.69	-123.81	0.00	0.00	0.00
DLWR Mnt. Group									
3,100.00	5.27	79.74	3,094.22	23.31	128.80	-128.92	0.00	0.00	0.00
3,200.00	5.27	79.74	3,193.80	24.95	137.84	-137.98	0.00	0.00	0.00
3,300.00	5.27	79.74	3,293.38	26.58	146.88	-147.03	0.00	0.00	0.00
3,400.00	5.27	79.74	3,392.95	28.22	155.92	-156.08	0.00	0.00	0.00
3,500.00	5.27	79.74	3,492.53	29.86	164.96	-165.13	0.00	0.00	0.00
3,600.00	5.27	79.74	3,592.11	31.49	174.01	-174.18	0.00	0.00	0.00
3,700.00	5.27	79.74	3,691.68	33.13	183.05	-183.23	0.00	0.00	0.00
3,800.00	5.27	79.74	3,791.26	34.77	192.09	-192.28	0.00	0.00	0.00
3,842.92	5.27	79.74	3,834.00	35.47	195.97	-196.17	0.00	0.00	0.00
Lower Brushy Canyon									

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Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,900.00	5.27	79.74	3,890.84	36.40	201.13	-201.33	0.00	0.00	0.00
4,000.00	5.27	79.74	3,990.41	38.04	210.18	-210.39	0.00	0.00	0.00
4,100.00	5.27	79.74	4,089.99	39.68	219.22	-219.44	0.00	0.00	0.00
4,200.00	5.27	79.74	4,189.57	41.31	228.26	-228.49	0.00	0.00	0.00
4,300.00	5.27	79.74	4,289.14	42.95	237.30	-237.54	0.00	0.00	0.00
4,335.00	5.27	79.74	4,324.00	43.52	240.47	-240.71	0.00	0.00	0.00
Bone Spring Lime									
4,400.00	5.27	79.74	4,388.72	44.59	246.35	-246.59	0.00	0.00	0.00
4,500.00	5.27	79.74	4,488.30	46.22	255.39	-255.64	0.00	0.00	0.00
4,600.00	5.27	79.74	4,587.88	47.86	264.43	-264.69	0.00	0.00	0.00
4,700.00	5.27	79.74	4,687.45	49.50	273.47	-273.74	0.00	0.00	0.00
4,800.00	5.27	79.74	4,787.03	51.13	282.51	-282.80	0.00	0.00	0.00
4,900.00	5.27	79.74	4,886.61	52.77	291.56	-291.85	0.00	0.00	0.00
5,000.00	5.27	79.74	4,986.18	54.41	300.60	-300.90	0.00	0.00	0.00
5,100.00	5.27	79.74	5,085.76	56.04	309.64	-309.95	0.00	0.00	0.00
5,200.00	5.27	79.74	5,185.34	57.68	318.68	-319.00	0.00	0.00	0.00
5,300.00	5.27	79.74	5,284.91	59.32	327.73	-328.05	0.00	0.00	0.00
5,400.00	5.27	79.74	5,384.49	60.95	336.77	-337.10	0.00	0.00	0.00
5,500.00	5.27	79.74	5,484.07	62.59	345.81	-346.15	0.00	0.00	0.00
5,600.00	5.27	79.74	5,583.64	64.22	354.85	-355.21	0.00	0.00	0.00
5,700.00	5.27	79.74	5,683.22	65.86	363.89	-364.26	0.00	0.00	0.00
5,800.00	5.27	79.74	5,782.80	67.50	372.94	-373.31	0.00	0.00	0.00
5,900.00	5.27	79.74	5,882.38	69.13	381.98	-382.36	0.00	0.00	0.00
6,000.00	5.27	79.74	5,981.95	70.77	391.02	-391.41	0.00	0.00	0.00
6,100.00	5.27	79.74	6,081.53	72.41	400.06	-400.46	0.00	0.00	0.00
6,200.00	5.27	79.74	6,181.11	74.04	409.11	-409.51	0.00	0.00	0.00
6,300.00	5.27	79.74	6,280.68	75.68	418.15	-418.56	0.00	0.00	0.00
6,400.00	5.27	79.74	6,380.26	77.32	427.19	-427.62	0.00	0.00	0.00
6,457.99	5.27	79.74	6,438.00	78.27	432.43	-432.86	0.00	0.00	0.00
1st Bone Spring SD									
6,500.00	5.27	79.74	6,479.84	78.95	436.23	-436.67	0.00	0.00	0.00
6,600.00	5.27	79.74	6,579.41	80.59	445.27	-445.72	0.00	0.00	0.00
6,686.95	5.27	79.74	6,666.00	82.01	453.14	-453.59	0.00	0.00	0.00
2nd Bone Spring LM									
6,700.00	5.27	79.74	6,678.99	82.23	454.32	-454.77	0.00	0.00	0.00
6,800.00	5.27	79.74	6,778.57	83.86	463.36	-463.82	0.00	0.00	0.00
6,900.00	5.27	79.74	6,878.14	85.50	472.40	-472.87	0.00	0.00	0.00
7,000.00	5.27	79.74	6,977.72	87.14	481.44	-481.92	0.00	0.00	0.00
7,100.00	5.27	79.74	7,077.30	88.77	490.49	-490.97	0.00	0.00	0.00
7,157.95	5.27	79.74	7,135.00	89.72	495.73	-496.22	0.00	0.00	0.00
2nd Bone Spring SD									
7,172.01	5.27	79.74	7,149.00	89.95	497.00	-497.49	0.00	0.00	0.00
7,200.00	4.85	79.74	7,176.88	90.39	499.43	-499.92	1.50	-1.50	0.00
7,300.00	3.35	79.74	7,276.62	91.67	506.47	-506.97	1.50	-1.50	0.00
7,400.00	1.85	79.74	7,376.52	92.47	510.94	-511.44	1.50	-1.50	0.00
7,500.00	0.35	79.74	7,476.50	92.82	512.83	-513.34	1.50	-1.50	0.00
7,523.50	0.00	0.00	7,500.00	92.83	512.90	-513.41	1.50	-1.50	0.00
EON(D34 134H)									
7,600.00	0.00	0.00	7,576.50	92.83	512.90	-513.41	0.00	0.00	0.00
7,700.00	0.00	0.00	7,676.50	92.83	512.90	-513.41	0.00	0.00	0.00
7,700.50	0.00	0.00	7,677.00	92.83	512.90	-513.41	0.00	0.00	0.00
3rd Bone Spring LM									
7,800.00	0.00	0.00	7,776.50	92.83	512.90	-513.41	0.00	0.00	0.00

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Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.00	0.00	0.00	7,876.50	92.83	512.90	-513.41	0.00	0.00	0.00
8,000.00	0.00	0.00	7,976.50	92.83	512.90	-513.41	0.00	0.00	0.00
8,100.00	0.00	0.00	8,076.50	92.83	512.90	-513.41	0.00	0.00	0.00
8,129.42	0.00	0.00	8,105.92	92.83	512.90	-513.41	0.00	0.00	0.00
KOP: 8129.42' MD, -513.41 VS, 8105.92' TVD									
8,150.00	2.06	269.68	8,126.49	92.83	512.53	-513.04	10.00	10.00	0.00
8,200.00	7.06	269.68	8,176.32	92.81	508.56	-509.07	10.00	10.00	0.00
8,250.00	12.06	269.68	8,225.61	92.76	500.26	-500.77	10.00	10.00	0.00
8,300.00	17.06	269.68	8,273.99	92.69	487.70	-488.21	10.00	10.00	0.00
8,350.00	22.06	269.68	8,321.09	92.60	470.96	-471.47	10.00	10.00	0.00
8,400.00	27.06	269.68	8,366.55	92.48	450.19	-450.70	10.00	10.00	0.00
8,449.96	32.05	269.68	8,410.00	92.34	425.55	-426.06	10.00	10.00	0.00
3rd Bone Spring SD									
8,450.00	32.06	269.68	8,410.03	92.34	425.53	-426.04	10.00	10.00	0.00
8,500.00	37.06	269.68	8,451.20	92.18	397.18	-397.69	10.00	10.00	0.00
8,550.00	42.06	269.68	8,489.73	92.01	365.35	-365.86	10.00	10.00	0.00
8,600.00	47.06	269.68	8,525.35	91.81	330.28	-330.79	10.00	10.00	0.00
FTP(D34 134H)									
8,650.00	52.06	269.68	8,557.77	91.60	292.24	-292.75	10.00	10.00	0.00
8,700.00	57.06	269.68	8,586.76	91.37	251.52	-252.02	10.00	10.00	0.00
8,750.00	62.06	269.68	8,612.08	91.13	208.42	-208.93	10.00	10.00	0.00
8,800.00	67.06	269.68	8,633.56	90.88	163.29	-163.79	10.00	10.00	0.00
8,850.00	72.06	269.68	8,651.01	90.62	116.45	-116.96	10.00	10.00	0.00
8,900.00	77.06	269.68	8,664.32	90.35	68.27	-68.78	10.00	10.00	0.00
8,950.00	82.06	269.68	8,673.38	90.07	19.12	-19.62	10.00	10.00	0.00
9,000.00	87.06	269.68	8,678.12	89.79	-30.64	30.14	10.00	10.00	0.00
9,040.92	91.15	269.68	8,678.76	89.57	-71.55	71.04	10.00	10.00	0.00
EOC: 9040.92' MD, 71.04 VS, 8678.76' TVD									
9,100.00	91.15	269.68	8,677.58	89.24	-130.61	130.11	0.00	0.00	0.00
9,200.00	91.15	269.68	8,675.57	88.68	-230.59	230.09	0.00	0.00	0.00
9,300.00	91.15	269.68	8,673.56	88.12	-330.57	330.07	0.00	0.00	0.00
9,400.00	91.15	269.68	8,671.56	87.56	-430.55	430.05	0.00	0.00	0.00
9,500.00	91.15	269.68	8,669.55	87.00	-530.53	530.03	0.00	0.00	0.00
9,600.00	91.15	269.68	8,667.54	86.44	-630.50	630.01	0.00	0.00	0.00
9,700.00	91.15	269.68	8,665.53	85.89	-730.48	729.99	0.00	0.00	0.00
9,800.00	91.15	269.68	8,663.53	85.33	-830.46	829.97	0.00	0.00	0.00
9,900.00	91.15	269.68	8,661.52	84.77	-930.44	929.95	0.00	0.00	0.00
10,000.00	91.15	269.68	8,659.51	84.21	-1,030.42	1,029.93	0.00	0.00	0.00
10,100.00	91.15	269.68	8,657.51	83.65	-1,130.40	1,129.91	0.00	0.00	0.00
10,200.00	91.15	269.68	8,655.50	83.09	-1,230.37	1,229.89	0.00	0.00	0.00
10,300.00	91.15	269.68	8,653.49	82.54	-1,330.35	1,329.87	0.00	0.00	0.00
10,400.00	91.15	269.68	8,651.49	81.98	-1,430.33	1,429.85	0.00	0.00	0.00
10,500.00	91.15	269.68	8,649.48	81.42	-1,530.31	1,529.83	0.00	0.00	0.00
10,600.00	91.15	269.68	8,647.47	80.86	-1,630.29	1,629.81	0.00	0.00	0.00
10,700.00	91.15	269.68	8,645.47	80.30	-1,730.27	1,729.79	0.00	0.00	0.00
10,800.00	91.15	269.68	8,643.46	79.74	-1,830.24	1,829.77	0.00	0.00	0.00
10,900.00	91.15	269.68	8,641.45	79.18	-1,930.22	1,929.75	0.00	0.00	0.00
11,000.00	91.15	269.68	8,639.44	78.63	-2,030.20	2,029.73	0.00	0.00	0.00
11,100.00	91.15	269.68	8,637.44	78.07	-2,130.18	2,129.71	0.00	0.00	0.00
11,200.00	91.15	269.68	8,635.43	77.51	-2,230.16	2,229.69	0.00	0.00	0.00
11,300.00	91.15	269.68	8,633.42	76.95	-2,330.13	2,329.67	0.00	0.00	0.00
11,408.35	91.15	269.68	8,631.25	76.35	-2,438.46	2,438.00	0.00	0.00	0.00
Start Build 2.00									

COLGATE ENERGY

Planning Report

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
Company:	Colgate Energy	**TVD Reference:**	3300+25 @ 3325.00usft (Permit)
Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,419.35	91.37	269.68	8,631.01	76.28	-2,449.46	2,449.00	2.00	2.00	0.00
11,500.00	91.37	269.68	8,629.08	75.83	-2,530.08	2,529.62	0.00	0.00	0.00
11,600.00	91.37	269.68	8,626.69	75.28	-2,630.05	2,629.59	0.00	0.00	0.00
11,700.00	91.37	269.68	8,624.30	74.72	-2,730.02	2,729.56	0.00	0.00	0.00
11,800.00	91.37	269.68	8,621.91	74.16	-2,829.99	2,829.54	0.00	0.00	0.00
11,900.00	91.37	269.68	8,619.51	73.60	-2,929.96	2,929.51	0.00	0.00	0.00
12,000.00	91.37	269.68	8,617.12	73.04	-3,029.93	3,029.48	0.00	0.00	0.00
12,100.00	91.37	269.68	8,614.73	72.48	-3,129.90	3,129.45	0.00	0.00	0.00
12,200.00	91.37	269.68	8,612.34	71.93	-3,229.87	3,229.42	0.00	0.00	0.00
12,300.00	91.37	269.68	8,609.95	71.37	-3,329.84	3,329.39	0.00	0.00	0.00
12,400.00	91.37	269.68	8,607.56	70.81	-3,429.81	3,429.36	0.00	0.00	0.00
12,500.00	91.37	269.68	8,605.17	70.25	-3,529.78	3,529.34	0.00	0.00	0.00
12,600.00	91.37	269.68	8,602.78	69.69	-3,629.75	3,629.31	0.00	0.00	0.00
12,700.00	91.37	269.68	8,600.39	69.13	-3,729.72	3,729.28	0.00	0.00	0.00
12,800.00	91.37	269.68	8,598.00	68.58	-3,829.69	3,829.25	0.00	0.00	0.00
12,900.00	91.37	269.68	8,595.61	68.02	-3,929.66	3,929.22	0.00	0.00	0.00
13,000.00	91.37	269.68	8,593.22	67.46	-4,029.63	4,029.19	0.00	0.00	0.00
13,100.00	91.37	269.68	8,590.82	66.90	-4,129.60	4,129.16	0.00	0.00	0.00
13,200.00	91.37	269.68	8,588.43	66.34	-4,229.57	4,229.14	0.00	0.00	0.00
13,300.00	91.37	269.68	8,586.04	65.78	-4,329.54	4,329.11	0.00	0.00	0.00
13,400.00	91.37	269.68	8,583.65	65.23	-4,429.51	4,429.08	0.00	0.00	0.00
13,500.00	91.37	269.68	8,581.26	64.67	-4,529.48	4,529.05	0.00	0.00	0.00
13,600.00	91.37	269.68	8,578.87	64.11	-4,629.45	4,629.02	0.00	0.00	0.00
13,700.00	91.37	269.68	8,576.48	63.55	-4,729.42	4,728.99	0.00	0.00	0.00
13,800.00	91.37	269.68	8,574.09	62.99	-4,829.39	4,828.96	0.00	0.00	0.00
13,900.00	91.37	269.68	8,571.70	62.43	-4,929.36	4,928.94	0.00	0.00	0.00
13,943.58	91.37	269.68	8,570.66	62.19	-4,972.93	4,972.50	0.00	0.00	0.00
Start Drop -2.00									
13,989.08	90.46	269.68	8,569.93	61.94	-5,018.42	5,017.99	2.00	-2.00	0.00
14,000.00	90.46	269.68	8,569.84	61.88	-5,029.34	5,028.92	0.00	0.00	0.00
14,100.00	90.46	269.68	8,569.04	61.32	-5,129.34	5,128.91	0.00	0.00	0.00
14,200.00	90.46	269.68	8,568.24	60.76	-5,229.33	5,228.91	0.00	0.00	0.00
14,300.00	90.46	269.68	8,567.43	60.20	-5,329.33	5,328.91	0.00	0.00	0.00
14,400.00	90.46	269.68	8,566.63	59.64	-5,429.32	5,428.90	0.00	0.00	0.00
14,500.00	90.46	269.68	8,565.83	59.08	-5,529.32	5,528.90	0.00	0.00	0.00
14,600.00	90.46	269.68	8,565.02	58.53	-5,629.31	5,628.90	0.00	0.00	0.00
14,700.00	90.46	269.68	8,564.22	57.97	-5,729.31	5,728.89	0.00	0.00	0.00
14,800.00	90.46	269.68	8,563.42	57.41	-5,829.30	5,828.89	0.00	0.00	0.00
14,900.00	90.46	269.68	8,562.62	56.85	-5,929.30	5,928.89	0.00	0.00	0.00
15,000.00	90.46	269.68	8,561.81	56.29	-6,029.29	6,028.88	0.00	0.00	0.00
15,100.00	90.46	269.68	8,561.01	55.73	-6,129.29	6,128.88	0.00	0.00	0.00
15,200.00	90.46	269.68	8,560.21	55.17	-6,229.28	6,228.88	0.00	0.00	0.00
15,300.00	90.46	269.68	8,559.40	54.62	-6,329.28	6,328.87	0.00	0.00	0.00
15,400.00	90.46	269.68	8,558.60	54.06	-6,429.27	6,428.87	0.00	0.00	0.00
15,500.00	90.46	269.68	8,557.80	53.50	-6,529.27	6,528.87	0.00	0.00	0.00
15,600.00	90.46	269.68	8,557.00	52.94	-6,629.26	6,628.86	0.00	0.00	0.00
15,700.00	90.46	269.68	8,556.19	52.38	-6,729.26	6,728.86	0.00	0.00	0.00
15,800.00	90.46	269.68	8,555.39	51.82	-6,829.25	6,828.86	0.00	0.00	0.00
15,900.00	90.46	269.68	8,554.59	51.26	-6,929.25	6,928.85	0.00	0.00	0.00
16,000.00	90.46	269.68	8,553.78	50.71	-7,029.24	7,028.85	0.00	0.00	0.00
16,100.00	90.46	269.68	8,552.98	50.15	-7,129.24	7,128.85	0.00	0.00	0.00
16,200.00	90.46	269.68	8,552.18	49.59	-7,229.24	7,228.85	0.00	0.00	0.00
16,300.00	90.46	269.68	8,551.38	49.03	-7,329.23	7,328.84	0.00	0.00	0.00
16,400.00	90.46	269.68	8,550.57	48.47	-7,429.23	7,428.84	0.00	0.00	0.00

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
Company:	Colgate Energy	**TVD Reference:**	3300+25 @ 3325.00usft (Permit)
Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,471.16	90.46	269.68	8,550.00	48.07	-7,500.38	7,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.86									
16,482.57	90.69	269.68	8,549.89	48.01	-7,511.79	7,511.40	2.00	2.00	0.03
16,500.00	90.69	269.68	8,549.68	47.92	-7,529.22	7,528.83	0.00	0.00	0.00
16,600.00	90.69	269.68	8,548.48	47.36	-7,629.21	7,628.83	0.00	0.00	0.00
16,700.00	90.69	269.68	8,547.28	46.81	-7,729.20	7,728.82	0.00	0.00	0.00
16,800.00	90.69	269.68	8,546.08	46.26	-7,829.19	7,828.81	0.00	0.00	0.00
16,900.00	90.69	269.68	8,544.87	45.71	-7,929.18	7,928.81	0.00	0.00	0.00
17,000.00	90.69	269.68	8,543.67	45.15	-8,029.18	8,028.80	0.00	0.00	0.00
17,100.00	90.69	269.68	8,542.47	44.60	-8,129.17	8,128.79	0.00	0.00	0.00
17,200.00	90.69	269.68	8,541.27	44.05	-8,229.16	8,228.78	0.00	0.00	0.00
17,300.00	90.69	269.68	8,540.07	43.50	-8,329.15	8,328.78	0.00	0.00	0.00
17,400.00	90.69	269.68	8,538.87	42.94	-8,429.14	8,428.77	0.00	0.00	0.00
17,500.00	90.69	269.68	8,537.67	42.39	-8,529.13	8,528.76	0.00	0.00	0.00
17,600.00	90.69	269.68	8,536.47	41.84	-8,629.12	8,628.76	0.00	0.00	0.00
17,700.00	90.69	269.68	8,535.27	41.29	-8,729.11	8,728.75	0.00	0.00	0.00
17,800.00	90.69	269.68	8,534.07	40.73	-8,829.11	8,828.74	0.00	0.00	0.00
17,900.00	90.69	269.68	8,532.87	40.18	-8,929.10	8,928.73	0.00	0.00	0.00
18,000.00	90.69	269.68	8,531.67	39.63	-9,029.09	9,028.73	0.00	0.00	0.00
18,100.00	90.69	269.68	8,530.46	39.08	-9,129.08	9,128.72	0.00	0.00	0.00
18,200.00	90.69	269.68	8,529.26	38.52	-9,229.07	9,228.71	0.00	0.00	0.00
18,300.00	90.69	269.68	8,528.06	37.97	-9,329.06	9,328.71	0.00	0.00	0.00
18,400.00	90.69	269.68	8,526.86	37.42	-9,429.05	9,428.70	0.00	0.00	0.00
18,500.00	90.69	269.68	8,525.66	36.87	-9,529.05	9,528.69	0.00	0.00	0.00
18,600.00	90.69	269.68	8,524.46	36.31	-9,629.04	9,628.68	0.00	0.00	0.00
18,700.00	90.69	269.68	8,523.26	35.76	-9,729.03	9,728.68	0.00	0.00	0.00
18,800.00	90.69	269.68	8,522.06	35.21	-9,829.02	9,828.67	0.00	0.00	0.00
18,900.00	90.69	269.68	8,520.86	34.66	-9,929.01	9,928.66	0.00	0.00	0.00
LTP(D34 134H)									
19,009.68	90.69	269.68	8,519.54	34.05	-10,038.68	10,038.33	0.00	0.00	0.00
TD: 19009.68' MD, 10038.33 VS, 8519.54' TVD - PBHL(D34 134H)									

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
EON(D34 134H) - plan hits target center - Point	0.00	0.00	7,500.00	92.83	512.90	586,130.75	595,791.61	32.61120034	-104.15648508
LTP(D34 134H) - plan misses target center by 19.51usft at 18900.00usft MD (8520.86 TVD, 34.66 N, -9929.01 E) - Point	0.00	0.00	8,519.54	34.56	-9,948.48	586,072.48	585,330.23	32.61108340	-104.19046020
PBHL(D34 134H) - plan hits target center - Point	0.00	0.00	8,519.54	34.05	-10,038.68	586,071.97	585,240.03	32.61108234	-104.19075314
FTP(D34 134H) - plan misses target center by 203.72usft at 8600.00usft MD (8525.35 TVD, 91.81 N, 330.28 E) - Point	0.00	0.00	8,680.00	92.55	462.89	586,130.47	595,741.60	32.61119980	-104.15664750

Database:	EDM 5000.14 Single User Db	**Local Co-ordinate Reference:**	Well Dawson 34 Fed State Com 134H
Company:	Colgate Energy	**TVD Reference:**	3300+25 @ 3325.00usft (Permit)
Project:	Eddy County, NM (N83-NME)	**MD Reference:**	3300+25 @ 3325.00usft (Permit)
Site:	Dawson 34 Fed State Com	**North Reference:**	Grid
Well:	Dawson 34 Fed State Com 134H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	134H		
Design:	Plan #1		

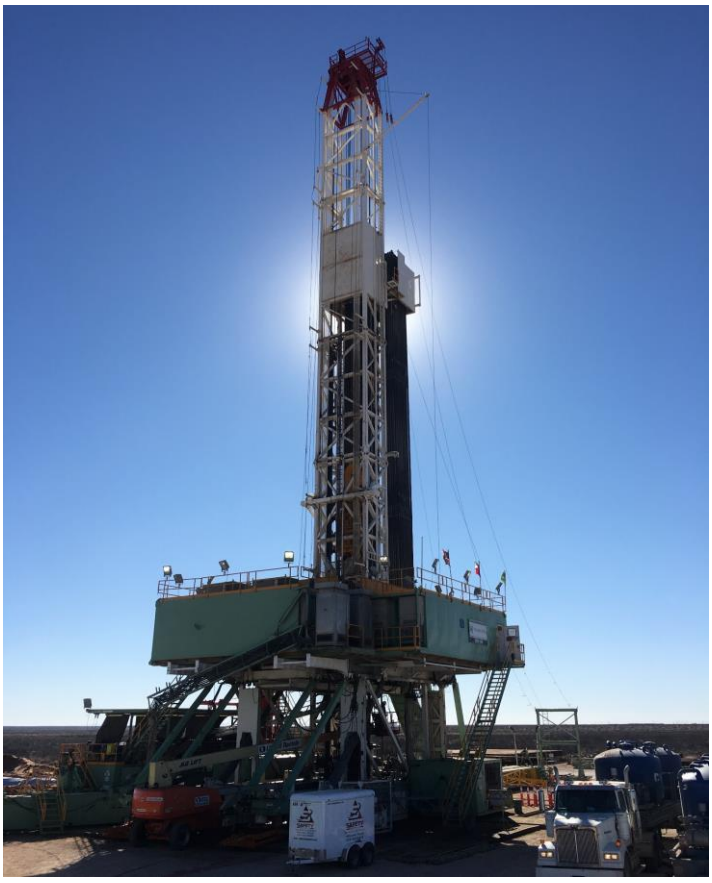
Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
100.00	100.00	Rustler		0.00	
352.00	352.00	Top of Salt		0.00	
668.00	668.00	Base of Salt		0.00	
976.00	976.00	Yates		0.00	
2,526.35	2,523.00	Capitan		0.00	
3,043.54	3,038.00	DLWR Mnt. Group		0.00	
3,842.92	3,834.00	Lower Brushy Canyon		0.00	
4,335.00	4,324.00	Bone Spring Lime		0.00	
6,457.99	6,438.00	1st Bone Spring SD		0.00	
6,686.95	6,666.00	2nd Bone Spring LM		0.00	
7,157.95	7,135.00	2nd Bone Spring SD		0.00	
7,700.50	7,677.00	3rd Bone Spring LM		0.00	
8,449.96	8,410.00	3rd Bone Spring SD		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,129.42	8,105.92	92.83	512.90	KOP: 8129.42' MD, -513.41 VS, 8105.92' TVD
9,040.92	8,678.76	89.57	-71.55	EOC: 9040.92' MD, 71.04 VS, 8678.76' TVD
11,408.35	8,631.25	76.35	-2,438.46	Start Build 2.00
13,943.58	8,570.66	62.19	-4,972.93	Start Drop -2.00
16,471.16	8,550.00	48.07	-7,500.38	Start DLS 2.00 TFO 0.86
19,009.68	8,519.54	34.05	-10,038.68	TD: 19009.68' MD, 10038.33 VS, 8519.54' TVD

H_2S Contingency Plan



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I. EMERGENCY ASSISTANCE TELEPHONE LIST

PUBLIC SAFETY	**911 or**
Sheriff's Department:	
Eddy County Sherriff's Office	(575) 887-7551
Fire Department:	
Carlsbad Fire Department	(575) 885-3125
Artesia Fire Department	(575) 746-5051
Ambulance:	
Elite Medical Transport (Carlsbad)	(915) 542-1144
Trans Aero MedEvac (Artesia)	(970) 657-7449
Hospitals:	
Carlsbad Medical Center	(575) 887-4100
Artesia General Hospital	(575) 748-3333
New Mexico Dept. of Transportation:	
Highway & Transportation Department	(505) 795- 1401
New Mexico Railroad Commission:	
Main Line	(505) 476-3441
OSHA 24 Hr. Reporting	(800) 321-6742
(8 hrs. after death or 24 hrs. after in-patient, amputation, loss of an eye)	

Office Contacts 911 or

Colgate Energy LLC.	**(432) 695-4222**
Vice President of Operations:	
Casey McCain	(432) 664-6140
Drilling Engineering Supervisor	
Rafael Madrid	(432) 556-6387
Drilling Engineering Technical Adviser	
Steven Segrest	(405) 550-0277
Operations Superintendent	
Rick Lawson	(432) 530- 3188
Drilling Superintendent	
Daniel Cameron	(405) 933-0435
Onsite Supervision (H&P 481 Rig Managers)	
Juan Gutierrez	(970)394-4768
Jonathan Jackson	(970)394-4768
Onsite Supervision (H&P 481 Company Men)	
Pierre Dupuis	(432)438-0114
Eric Rutherford	(432)438-0114
Rolando Torres	(432)438-0114
Trevor Hein	(432)438-0114

Emergency Accommodations

Safety Solutions Office	(432) 563-0400
Safety Solutions Dispatch	(432) 556-2002
Craig Strasner	(432) 894-0341 (Cell)

II. H_2S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H_2S).

Objective:

Prevent any and all accidents and prevent the uncontrolled release of H_2S into the atmosphere.
Provide proper evacuation procedures to cope with emergencies.
Provide immediate and adequate medical attention should an injury occur.

Purpose, Distribution and Updating of Contingency Plan:

The Purpose of this contingency plan is to protect the general public from the harmful effects of H_2S accidentally escaping from the subject producing well. This plan is designed to accomplish its purpose by assuring the preparedness necessary to:

1. Minimize the possibility of releasing H_2S into the atmosphere during related operations.
2. Provide for the logical, efficient, and safe emergency actions required to protect the general public in the event of an accidental release of a potentially hazardous quantity of H_2S.

Supplemental information is included with this plan and is intended as reference material for anyone needing a more detailed understanding of the many factors pertinent to H_2S drilling operations safety. The release of a potentially hazardous quantity of H_2S is highly unlikely. If such a release should occur however, obviously the exact time, rate, duration, and other pertinent facts will be known in advance thus, this contingency plan must necessarily be somewhat general. The plan does review in detail, as is reasonably possible, the type of accidental release that could possibly endanger the general public, the probable extent of such danger, and the emergency actions generally appropriate. In the event of such an accidental release, the specific actions to be taken will have to be determined at the time of release by the responsible personnel at the drilling location. Complete familiarity with this plan will help such personnel make the proper decisions rapidly. Familiarity with this plan is so required all operators, operator representatives, and drilling contractor supervisory personnel who could possibly be on duty at the drilling location at the time of an H_2S emergency.

IT IS THE RESPONSIBILITY OF THE OPERATOR TO ASSURE SUCH FAMILIARITY BEFORE DRILLING WITHIN 1000' OR THREE DAYS PRIOR TO PENETRATION OF THE SHALLOWEST FORMATION KNOWN OR SUSPECTED TO CONTAIN H_2S IN POTENTIALLY HAZARDOUS QUANTITIES, AND ALSO TO ASSURE THE TIMELY ACCOMPLISHMENT OF ALL THE OTHER ACTION SPECIFIED HERE IN.

As this contingency plan was prepared considerably in advance of the anticipated H_2S operation, the plan must be kept current if it is to effectively serve its purpose. The operators will be responsible for seeing that all copies are updated. Updating the plan is required when any changes to the personnel Call List (Section) including telephone numbers occur or when any pertinent data or plans for the well are altered. The plan must also be updated when any changes in the general public likely to be within the exposure area in the event of an

accidental release from the well bore of a potentially hazardous quantity of H_2S. Two copies of this plan shall be retained at the office of Colgate Energy. Two copies shall be retained at the drilling location.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000' before drilling into the first sour zone.

Emergency call list: Included are the telephone numbers of all persons that would need to be contacted, should an H_2S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

III. OPERATING PROCEDURES

A. Blowout Preventer Drills

Due to the special piping and Mani folding necessary to handle poisonous gas, particular care will be taken to ensure that all rig personnel are completely familiar with their jobs during the drills. The Drilling Consultant and Tool Pusher (Rig Superintendent) are thoroughly familiar with the additional controls and piping necessary.

B. H_2S Alarm Drills

The Company Man and/ or designee will conduct frequent H_2S alarm drills for each crew by injecting a trace of H_2S where the detector will give an alarm. Under these conditions all personnel on location will put on air equipment and remain masked until all clear is announced.

C. Surface Annular Preventer/ Diverter System Testing

After installation of the surface annular preventer, Hydraulic Control Valve and diverter system, both are to be function tested. They also should be function tested frequently while drilling surface hole.

D. Blowout Preventer

After installation of the Blowout Preventer Stack, the stack will be pressure tested. The Choke manifold is also to be pressure tested at this time. This procedure will be repeated as required by the NMOCD, the BLM, or if any of the stack is nipped down. Also, at this time, the Blind and Pipe Rams are checked for correct operation.

E. Well Control Practice Drills and Safety Meeting for Crew Members

Pit drills are for the purpose of acquainting each member of the drilling crew with his duties in the event of an emergency. Drills will be held with each crew as frequently as required to thoroughly familiarize each man with his duties. Drills are to be held at least weekly from that time forward.

1. BOP Drill while on Bottom Drilling:
    A. Signal will be three or more long blast given by driller on the horn.

    B. Procedure will be as follows:
        1. Tool Pusher: Supervises entire operation.
        2. Driller
            a. Gives signal.
            b. Picks up Kelly.
            c. Stops pumps.
            d. Observes flow.
            e. Signal to close (pipe rams if necessary).
            f. Check that Choke Manifold is closed.
            g. Record drill pipe pressure, casing pressure and determine mud volume gain.
        3. Motorman
            a. Go to closing unit and standby for signal to close BOP.
            b. Close BOP in signal.
            c. Check on BOP closing.
            d. Go to floor to assist driller. (NOTE: During test drills the BOP

need not be completely closed at the discretion of the supervisor. Supervisor should make it very clear that it is a test drill only!)

4. Derrickman
    a. Check pumps.
    b. Go to floor for directions from the driller.
5. Floorman
    a. Go to manifold.
    b. Observe and record pressure.
    c. Check manifold and BOP for leaks.
    d. Check with driller for additional instructions.

2. BOP Drill While Making Trip:

A. During trip driller will fill hole every five (5) stands and check the pits to be sure hole is taking mud.

B. Drill Procedure is as follows:

1. Driller
    a. Order Safety valve installed.
    b. Alert those not on the floor.
    c. Go to stations as described in above drill.

3. Safety Meetings

A. Every person involved in the operating will be informed of the characteristics of H_2S, its danger and safety procedures to be used when it is encountered, and recommended first-aid procedure for regular rig personnel. This will be done through a series of talks made before spud.

B. The Safety Advisor or Drilling Supervisor will conduct these training sessions and will repeat them as deemed necessary by him or as instructed by Colgate Energy. Talks may include the following subjects:

1. Dangers of Hydrogen Sulfide (H_2S).
2. Use and limitations of air equipment.
3. Use of resuscitator.
4. Organize Buddy System.
5. First Aid procedures.
6. Use of H_2S detection devices.
7. Designate responsible people.
8. Explain rig layout and policy to visitors.
    a. Designate smoking and safety or Muster area.
    b. Emphasize the importance of wind directions.
9. Describe and explain operation of BOP stack, manifold, separator, and pit piping. Include maximum allowable pressure for casing procedure.
10. Explain functions of Safety Supervisor.
11. Explain organize H_2S Drills.
12. Explain the overall emergency plan with emphasis given to the evacuation phase of the plans.

- Note: The above talks will be attended by every person involved in the operation. When drilling has reached a depth where H_2S is anticipated, temporary service personnel and visitors will be directed to the Drilling Consultant, who will designate the air equipment to be used by them in case of emergency, acquaint them with the dangers involved and be sure of their safety while they are in the area. He will point out the Briefing Areas, Windsocks, and Smoking Areas. He may refuse entrance to anyone, who in his opinion should not be admitted because of lack of safety equipment, special operations in progress or for other reasons involving personnel safety.

F. Outside Service Personnel

All service people such as cementing crews, logging crews, specialist, mechanics, and welders will furnish their own safety equipment. The Company Man/ or designee will be sure that the number of people on location does not exceed the number of masks on location, and they have been briefed regarding safety procedures. He will also be sure each of these people know about smoking and "Briefing Areas" and know what to do in case of an emergency alert or drill. Visitors will be restricted, except with special permission from the Drilling Consultant, when H_2S might be encountered. They will be briefed as to what to do in case of an alert or drill.

G. Onsite/ off shift workers

All workers that are staying on site must be identified as to where they are staying while off tour. If a drill/ or emergency takes place related to an H_2S release, each crew must have a designated person(s) that will wake them up and ensure that they are cleared to the appropriate muster area immediately.

H. Simultaneous Operations (SIMOPS)

If work is going on adjacent to the location is the responsibility of the Drilling Consultant or designee to communicate any applicable risks that may affect personnel working on that adjacent location. In the case of an H2S drill or event, there should be a designated crew member that is responsible for contacting personnel on adjacent locations. This could include just communication on potential events or in case of an event, notification to evacuate location. Drilling Consultant or designee are the Point of Contact and oversee all activities at such point of an H_2S event occurrence.

I. Area Residences/ Occupied Locations/ Public Roads

Any occupied residences/ businesses that are within a reasonable perimeter of the location (attached map will identify a 3000' radius around location) should be identified as part of this contingency and a reasonable effort will be made to gain contact information for them. As part of the briefing of the contingency plan, the team reviewing should identify where these potential receptors are and plan on who will contact them in case of a release that may impact that area.

J. Drilling Fluids

Drilling Fluid Monitoring – On Any Hazardous H_2S gas well, the earlier the warning of danger the better chance to control operations. Mud Company will be in daily contact with Colgate Energy Consultant. The Mud Engineer will take samples of the mud, analyze these samples, and make necessary recommendations to prevent H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

pH Control – For normal drilling, pH of 10.5 – 11.5. Would be enough for corrosion protection. If there is an influx of H_2S gas from the formation, the pH will be increased as necessary for corrosion control.

H_2S Scavengers – If necessary H_2S scavengers will be added to the drilling mud.

IV. OPERATING CONDITIONS

A. Posting Well Condition Flags

Post the green, yellow or red well condition flag, as appropriate, on the well condition sign at the location entrance, and take necessary precautions as indicated below:

1. **Green Flag**: Potential Danger- When Drilling in known H_2S zones or when H_2S has been detected in the drilling fluid atmosphere. Protective breathing equipment shall be inspected, and all personnel on duty shall be alerted to be ready to use this equipment.
2. **Yellow Flag**: Potential Danger- When the threshold limit value of H_2S (10 PPM) or of SO_2 (5 PPM) is reached. If the concentration of H_2S or SO_2 reaches 10 PPM, protective breathing equipment shall be worn by all working personnel, and non-working personnel shall go to the upwind Safe Briefing Area.
3. **Red Flag**: Extreme danger*- When the ambient concentration of H_2S or SO_2 is reasonably believed or determined to have exceeded the potentially hazardous level. All non-essential personnel shall leave the drilling location taking the route most likely to exposure to escaping gas.

B. Requiring Air Masks Conditions

1. Whenever air masks are used, the person must be clean shaven as shown in the APC Guidelines
2. When breaking out any line where H_2S can reasonably be expected.
3. When sampling air in areas to determine if toxic concentrations of H_2S exist.
4. When working in areas where 10 PPM or more of H_2S has been detected.
5. At any time, there is doubt as to the H_2S level in the area to be entered.

C. Kick Procedure

1. It is very important that the driller be continuously alert, especially when approaching a gas formation.
2. Should gas come into the well bore, it is very important to be aware of a kick at the earliest time.
3. If a kick is identified, follow appropriate diverter or shut in procedures according to the situation that is presented utilizing appropriate kick procedures.

V. EMERGENCY PROCEDURES

I. In the event of any evidence of H_2S level above 10ppm, take the following steps immediately:
   a. Secure breathing apparatus.
   b. Order non-essential personnel out of the danger zone.
   c. Take steps to determine if the H_2S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:
   a. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel.
   b. Remove all personnel to the Safe Briefing Area.
   c. Notify public safety personnel for help with maintaining roadblocks, thus limiting traffic and implementing evacuation.
   d. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. Responsibility
   a. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
   b. The Company Approved Supervisor shall be in complete command during any emergency.
   c. The Company Approved Supervisor shall designate a backup Supervisor if he/she is not available.

IV. Actions to be taken

   a. Assign specific tasks to drilling location personnel
   b. Evacuate the general public from the exposure area
   c. Cordon off the exposure area to prevent entry by unauthorized persons
   d. Request assistance if and as needed and initiate emergency notifications
   e. Stop the dispersion of H_2S
   f. Complete emergency notifications as required
   g. Return the situation to normal

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

a. *All Personnel*

i. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
ii. Check status of other personnel (buddy system).
iii. Secure breathing apparatus.
iv. Wait for orders from supervisor.

b. *Drilling Consultant*

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

c. *Tool Pusher*

i. Report to the upwind Safe Briefing Area.
ii. Don Breathing Apparatus and return to the point of release with the Drilling Consultant or the Driller (buddy system).
iii. Determine the concentration of H_2S.
iv. Assess the situation and take appropriate control measures.

d. *Driller*

i. Check the status of other personnel (in a rescue attempt, always use the buddy system).
ii. Assign the least essential person to notify the Drilling Consultant and Tool Pusher, in the event of their absence.
iii. Assume the responsibility of the Drilling Consultant and the Tool Pusher until they arrive, in the event of their absence.

e. *Derrick Man and Floor Hands*

i. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

f. *Mud Engineer*

i. Report to the upwind Safe Briefing Area.
ii. When instructed, begin check of mud for pH level and H_2S level.

g. *Safety Personnel*

i. Don Breathing Apparatus.
ii. Check status of personnel.
iii. Wait for instructions from Drilling Consultant or Tool Pusher.

II. Taking a Kick

a. All Personnel report to the upwind Safe Briefing Area.
b. Follow standard BOP/ diverter procedures.

III. Open Hole Logging

a. All unnecessary personnel should leave the rig floor.

b. Drilling Consultant and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

a. Follow “Drilling or Tripping” procedures.

b. Assure that all personnel have access to protective equipment.

VI. POST EMERGENCY ACTIONS

In the event this plan is activated, the following post emergency actions shall be taken in an effort to reduce the possibility of a reoccurrence of the type of problem that required its activation, and/or assure that any future activation of a similar plan will be as effective as possible.

A. Review the factors that caused or permitted the emergency occur, and if the need is indicated, modify operating, maintance and/or surveillance procedures.
B. If the need is indicated, retrain employees in blowout prevention, H_2S emergency procedures and etc.
C. Clean up, recharge, restock, reapair, and/ or repalce H_2S emergency equipment as necessary , and return it to its proper place. (For whatever rental equipment is used, this will be the resposibility of Rental Company).
D. See that future H_2S drilling contingency plans are modified accordingly, if the need is indicated.

VII. IGNITION PROCEDURES

Responsibilities:

The decision to ignite the well is the responsibility of the DRILLING CONSULTANT in concurrence with the STATE POLICE. In the event the Drilling Consultant is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.

2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Consultant is responsible for igniting the well.

2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.

3. Ignite from upwind and do not approach any closer than is warranted.

4. Select the ignition site best suited for protection and which offers an easy escape route.

5. Before igniting, check for the presence of combustible gases.

6. After igniting, continue emergency actions and procedures as before.

7. All unassigned personnel will limit their actions to those directed by the Drilling Consultant.

Note: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Also, both are heavier than air. Do not assume the area is safe even after the well is ignited.

VIII. TRAINING PROGRAM

When working in an area where Hydrogen Sulfide (H_2S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of Hydrogen Sulfide (H_2S).

2. Physicals effects of Hydrogen Sulfide on the human body.

3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.

4. H_2S detection, Emergency alarm and sensor location.

5. Don and Doff of SCBA and be clean shaven.

6. Emergency rescue.

7. Resuscitators.

8. First aid and artificial resuscitation.

9. The effects of Hydrogen Sulfide on metals.

10. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H_2S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

IX. EMERGENCY EQUIPMENT

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION – POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:

- Two SCBA's at each briefing area.

- Enough airline units to operate safely, anytime the H_2S concentration reaches the IDLH level (100 ppm).

- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Windsocks or Wind Streamers:

- A minimum of two 10" windsocks located at strategic locations so that they may be seen from any point on location.

- Wind streamers (if preferred) should always be placed at various locations on the well site to ensure wind consciousness. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H_2S monitor with alarms.

- Three (3) sensors located as follows: #1 – Rig Floor, #2 – Shale Shaker, #3 – Cellar.

- Gastec or Draeger pump with tubes.

- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150' before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H_2S Gas Present

Auxiliary Rescue Equipment:

- Stretcher

- 2 – 100' Rescue lines.

- First Aid kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated bottom hole pressure (BHP).
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O_2, LEL H_2S), preferably 4 (O_2, LEL, H_2S, CO). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2-way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.
- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:

Parking and Visitor area:

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds, or they are at a 180-degree angle if wind directions tend to shift in the area.

- Personal protective equipment should be stored at both briefing areas and if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

Note:

- Additional equipment will be available at the H_2S Provider Safety office.

- Additional personal H_2S monitors are available for all employees on location.

- Automatic Flare Igniters are recommended for installation on the rig.

X. CHECKLISTS

Rig-up & Equipment Status Check List

Note: Initial & Date each item as they are implemented. Multiple wells require additional Columns to be Dated/ Initialed

	Date & Initial 1st Well	Date & Initial 2nd Well	Date & Initial 3rd Well	Date & Initial 4th Well
Sign at location entrance.				
Two (2) windsocks (in required locations).				
Wind Streamers (if required).				
SCBA's on location (Minimum of 2 @ each Muster Area)				
Air packs (working packs and escape packs), inspected and ready for use.				
Spare bottles for each air pack (if required).				
Cascade system and hose line hook up.				
Choke manifold hooked-up and tested. (before drilling out surface casing.)				
Remote Hydraulic BOP control tested (before drilling out surface casing).				
BOP tested (before drilling out surface casing).				
Safe Briefing Areas set-up				
Well Condition sign and flags on location and ready.				
Hydrogen Sulfide detection/ alarm system hooked-up & tested.				
Stretcher on location				
2 – 100' Lifelines on location.				
1 – 20# Fire Extinguisher in safety trailer.				
Confined Space monitor on location and tested.				
All rig crews and supervisor trained (as required).				
All rig crews and supervision medically qualified and fit tested on proper respirators				
Access restricted for unauthorized personnel.				
Pre-spud meeting held reviewing Contingencies				
Drills on H_2S and well control procedures.				
All outside service contractors advised of potential H_2S on the well.				
25mm Flare Gun on location w/flares.				

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to ensure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all the Hydrogen Sulfide detection systems are operative.
5. Ensure that all BOP/ Surface Annular/ Diverter systems are functioning and operational.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened, and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready for use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability (may be with H_2S Techs On-call):
    - Stretcher
    - Safety Belts and Ropes
    - Spare air Bottles
    - Spare Oxygen Bottles (if resuscitator required)
    - Gas Detector Pump and Tubes
    - Emergency telephone lists
    - Test the Confined Space Monitor to verify the batteries are good.

XI. BRIEFING PROCEDURES

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance:
- Drilling Supervisor
- Drilling Engineer
- Drilling Consultant
- Rig Tool Pushers
- Rig Drillers
- Mud Engineer
- All Safety Personnel
- Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

XII. EVACUATION PLAN

General Plan

The direct lines of action prepared by Colgate Energy to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Consultant, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the area map.

2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists, and evacuation needs to be implemented.

3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.

4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining roadblocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" personnel will determine when the area is safe for re-entry.

6. If a major release is secured, all exposed housing, vehicles, rig buildings, and low-lying areas and other structures downwind must be tested and clear with SCBAs donned to ensure that all residual H_2S is cleared. Fans, or opening of doors is recommended to ensure that areas are cleared out as part of this process.

XIII. APPENDICES AND GENERAL INFORMATION

Radius of Exposure
Affected Notification List

(within a 65' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are known to contain hazardous quantities of H_2S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:
Residents:

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

The Operating Company will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

Toxic Effects of H_2S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gases are compared below in Table 1. Toxicity table for H_2S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	4.7 ppm	50 ppm
Hydrogen Sulfide	H_2S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO_2	2.21	2 ppm	5 ppm	100 ppm
Chlorine	CL	2.45	.5 ppm	1 ppm	10 ppm
Carbon Monoxide	CO	.97	25 ppm	200 ppm	1200 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	30,000 ppm	40,000 ppm
Methane	CH_4	.55	5% LEL	15% UEL	

Definitions

A. TLV – Threshold Limit Value is the concentration employees may be exposed based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists) and regulated by OSHA.

B. STEL – Short Term Exposure Limit is the 15-minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H_2S is 20 PPM.

C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H_2S is 100 PPM.

D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed based on a TWA.

Toxicity Table of H_2S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins **in a few minutes.**
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H_2S

The properties of all gases are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless, so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. In fact, that makes this gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, like "rotten eggs". For this reason, it earned its common name "sour gas". However, H_2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air, so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H_2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.0% TO 44%

Mixed with the right proportion of air or oxygen, H_2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-77° Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulate the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete an OSHA mandated medical evaluation questionnaire. The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gases.

Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone who may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

Respirators shall be worn during the following conditions:

A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H_2S.

B. When breaking out any line where H_2S can reasonably be expected.

C. When sampling air in areas where H_2S may be present.

D. When working in areas where the concentration of H_2S exceeds the Threshold Limit Value for H_2S (10 ppm).

E. At any time where there is a doubt as to the H_2S level in the area to be entered.

EMERGENCY RESCUE PROCEDURES

DO NOT PANIC!!!

Remain Calm – Think

1. Before attempting any rescue, you must first get out of the hazardous area yourself. Go to a safe briefing area.

2. Sound alarm and activate the 911 system.

3. Put on breathing apparatus. At least two persons should do this, when available use the buddy system.

4. Rescue the victim and return them to a safe briefing area.

5. Perform an initial assessment and begin proper First Aid/CPR procedures.

6. Keep victim lying down with a blanket or coat, etc.., under the shoulders to keep airway open. Conserve body heat and do not leave unattended.

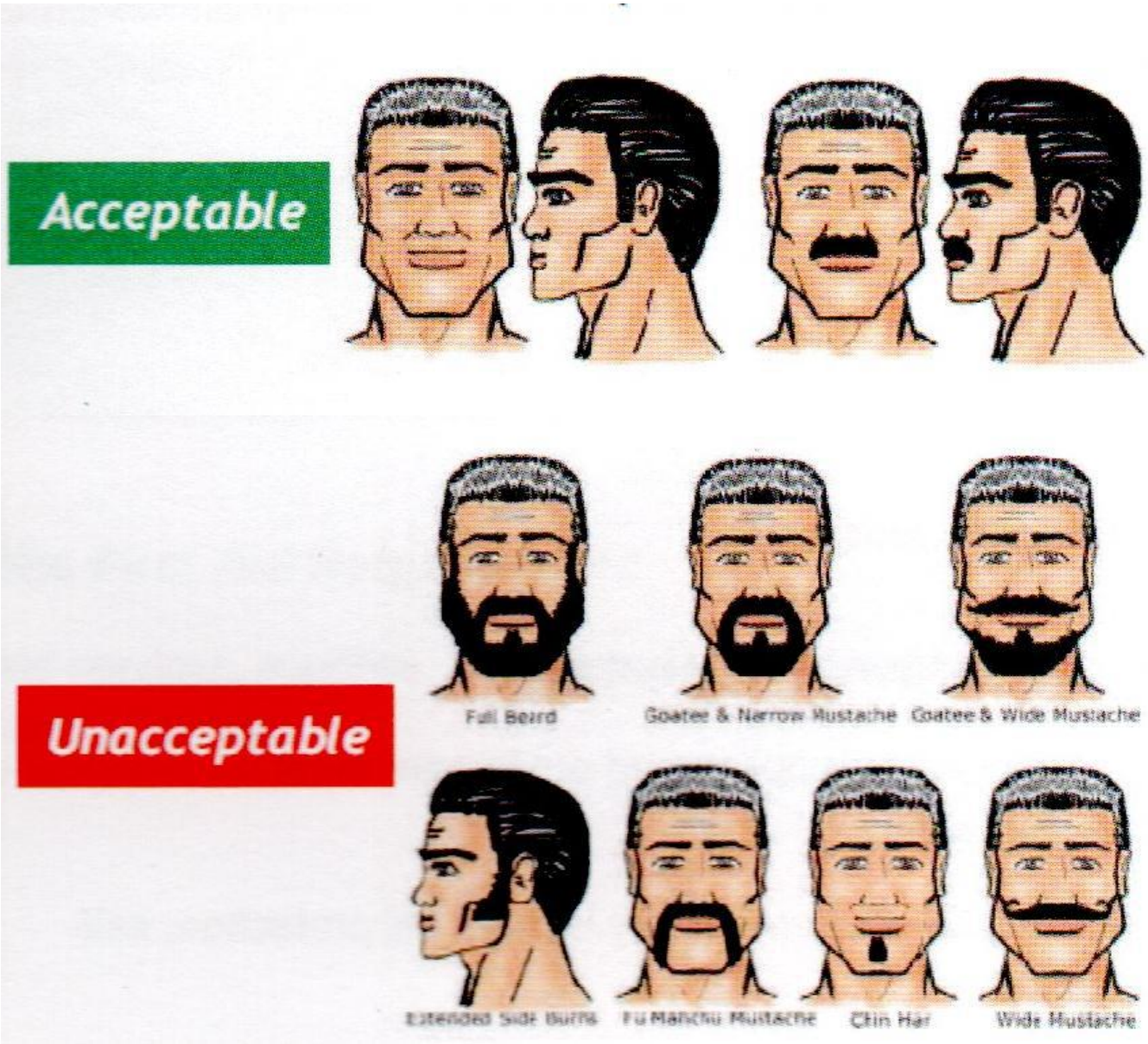
7. If the eyes are affected by H_2S, wash them thoroughly with potable water. For slight irritation, cold compresses are helpful.

8. In case a person has only minor exposure and does not lose consciousness totally, it's best if he doesn't return to work until the following day.

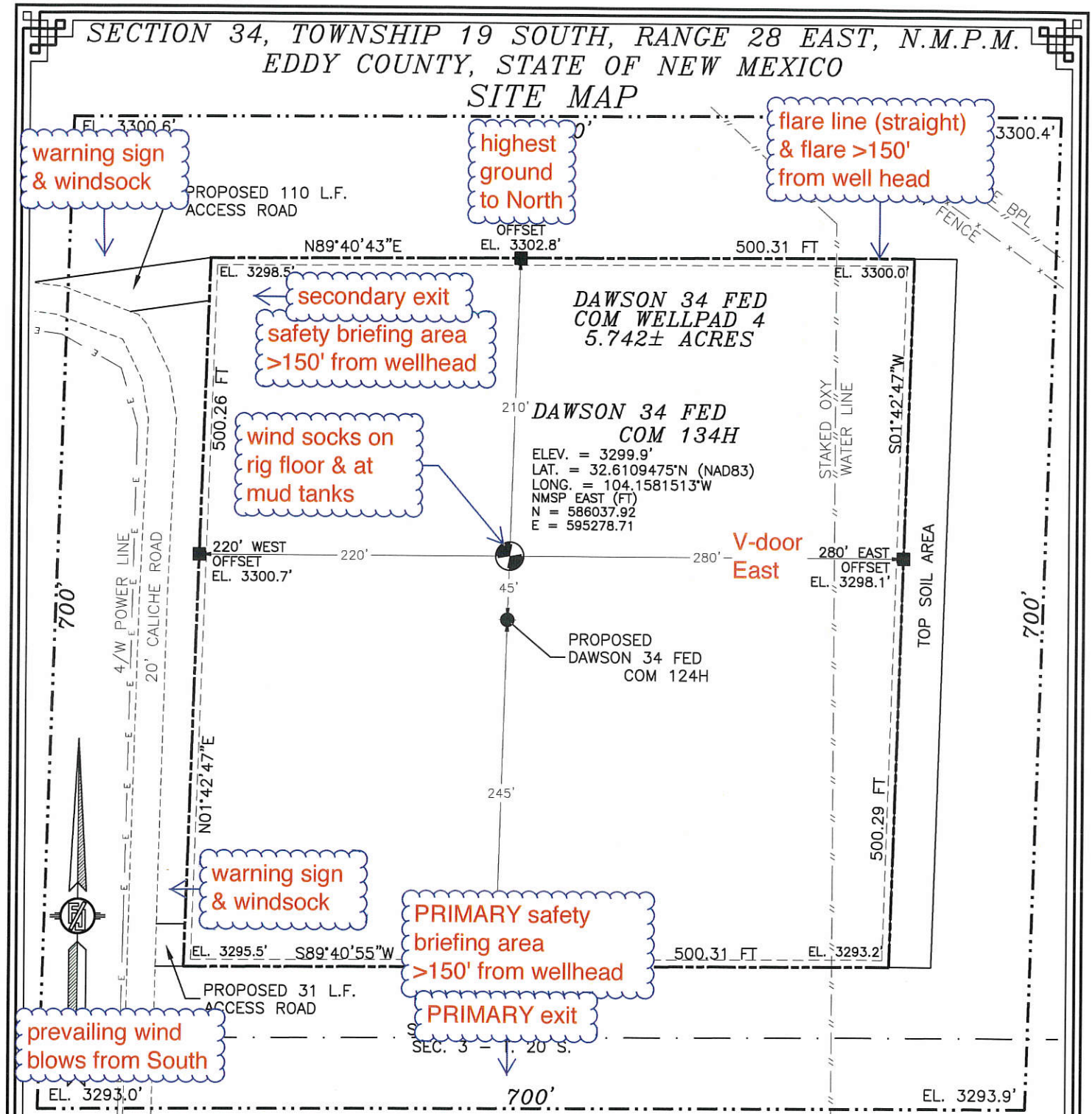
9. Any personnel overcome by H_2S should always be examined by medical personnel. They should always be transported to a hospital or doctor.

Facial Hair – Clean Shaven Examples

Purpose: To define clean shaven expectations in the field for: 1) Respirator Use, if applicable and 2) First Aid Administration, if situation occurs related to H_2S exposure, having no facial hair can greatly benefit response time and treatment ability.



SECTION 34, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR. 206 AND CR. 237 GO NORTH ON CR. 206 3.9 MILES, TURN RIGHT AND GO SOUTHEAST 2.15 MILES, TURN RIGHT AND GO SOUTH 0.38 MILES, TURN LEFT AND GO EAST 0.35 MILES, TURN RIGHT AND GO SOUTH AND EAST 0.8 MILES, TURN LEFT AND GO NORTHEAST 0.6 MILES, TURN RIGHT AND GO SOUTHEAST 0.41 MILES, BEND LEFT AND GO SOUTH 0.25 MILES, TURN LEFT AND GO EAST–SOUTHEAST 0.2 MILES TO ROAD, SURVEY AND FOLLOW FLAGS EAST 110' TO THE NORTHWEST PAD CORNER FOR THIS LOCATION.

I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DID DIRECT AND ARE RESPONSIBLE FOR THIS SURVEY, THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THIS SURVEY WAS MADE THAT THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO, PLS 7977

NEW MEXICO FILIMON F. JARAMILLO 7977 REGISTERED PROFESSIONAL SURVEYOR

COLGATE OPERATING, LLC

DAWSON 34 FED COM 134H

LOCATED 340 FT. FROM THE SOUTH LINE AND 560 FT. FROM THE EAST LINE OF SECTION 34, TOWNSHIP 19 SOUTH, RANGE 28 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

FEBRUARY 14, 2020

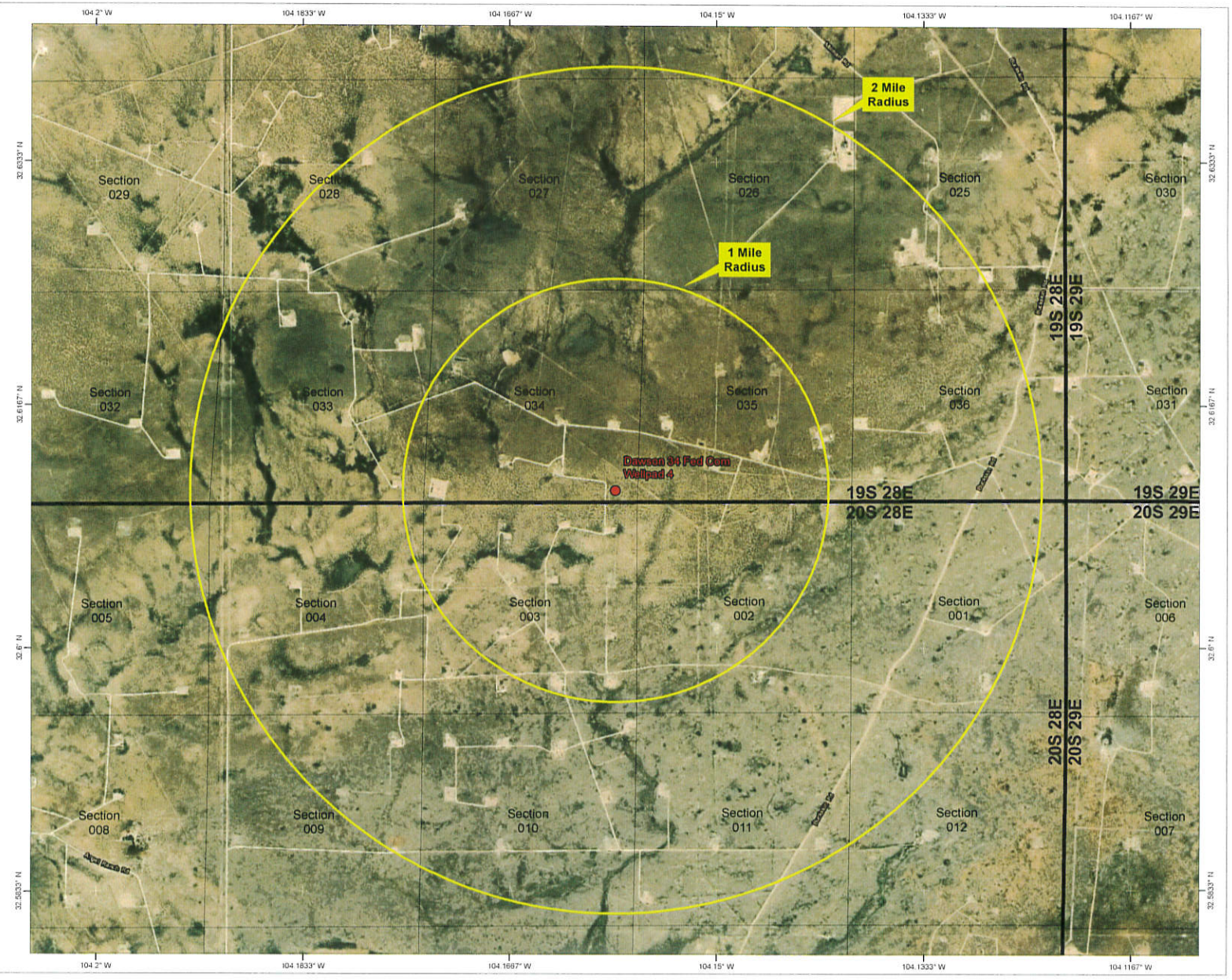
SURVEY NO. 7982

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

Colgate Energy, LLC

Dawson 34 Fed Com
124H & 134H
H2S Contingency Plan:
Radius Map

Section 34, Township 19S, Range 29E
Eddy County, New Mexico



Pad Center

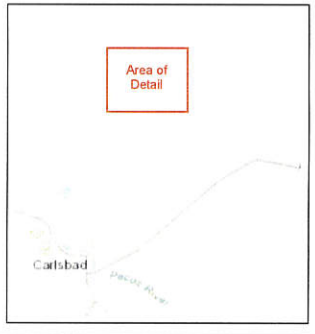
1:27,000
0 0.25 0.5 1
Miles

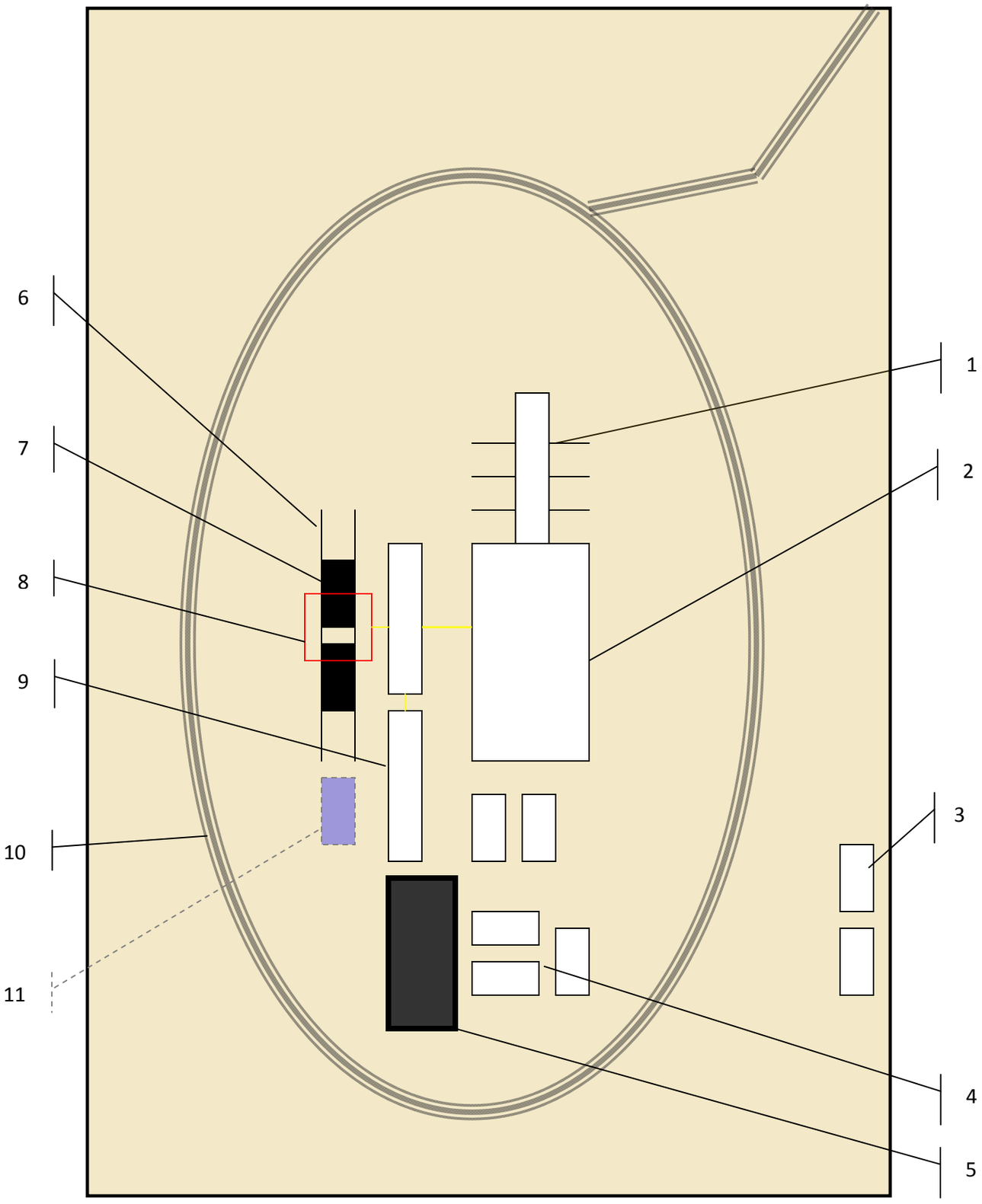
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

Prepared by Permits West, Inc., June 12, 2020
for Colgate Energy, LLC





Schematic Closed Loop Drilling Rig*

1. **Pipe Rack**
2. **Drill Rig**
3. **House Trailers/ Offices**
4. **Generator/Fuel/Storage**
5. **Overflow-Frac Tank**
6. **Skids**
7. **Roll Offs**
8. **Hopper or Centrifuge**
9. **Mud Tanks**
10. **Loop Drive**
11. **Generator (only for use with centrifuge)**

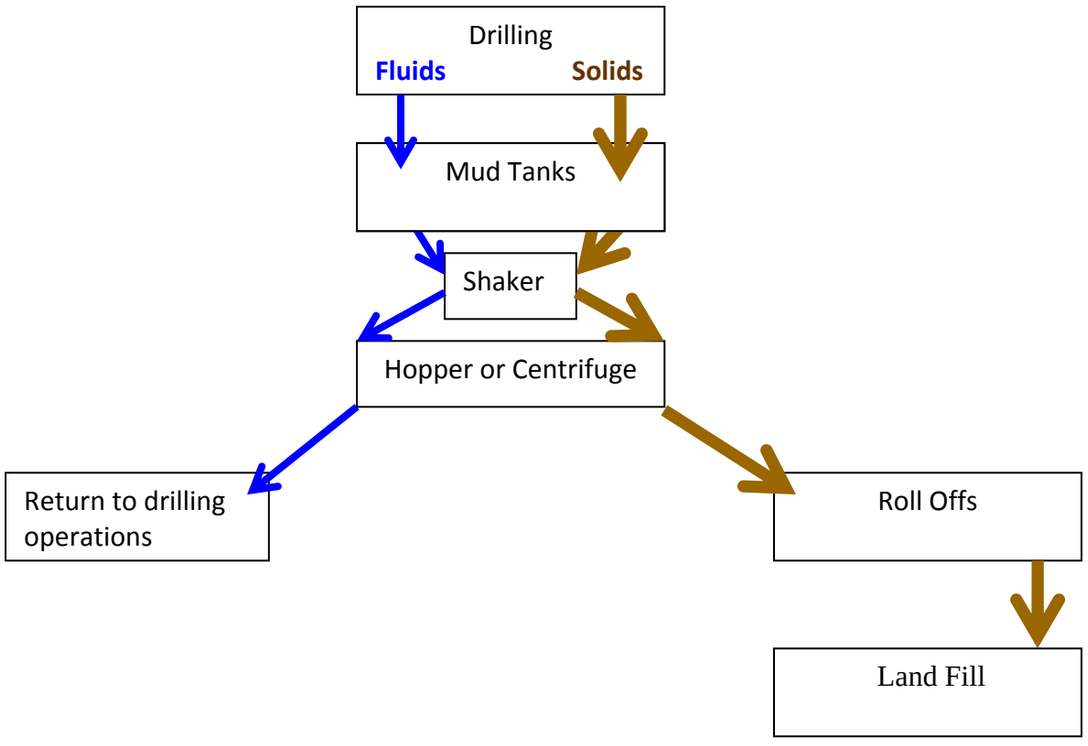
***Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available**

Above: Centrifugal Closed Loop System

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Closed Loop Drilling System: Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service