Form 3160-3
(June 2015)

OCD – HOBBS
07/20/2020
RECEIVED

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.
NMNM108503

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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.
WLC MID FEDERAL SWD [328899]
2

2. Name of Operator
TROVE ENERGY LLC [372488]

9. API Well No.
30-025-47453

3a. Address
1919 N. TURNER ST., HOBBS, NM 88240

3b. Phone No. *(include area code)*
(512) 293-5493

10. Field and Pool, or Exploratory [97869]
CABALLO/SWD; DEVONIAN-SILURIAN

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESE / 2595 FNL / 195 FEL / LAT 32.116158 / LONG -103.535229
At proposed prod. zone NESE / 2595 FNL / 195 FEL / LAT 32.116158 / LONG -103.535229

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 23/T25S/R33E/NMP

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

12. County or Parish
LEA

13. State
NM

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

16. No of acres in lease
1480

17. Spacing Unit dedicated to this well
40.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
2450 feet

19. Proposed Depth
19250 feet / 19250 feet

20. BLM/BIA Bond No. in file
FED: NMB001501

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3337 feet

22. Approximate date work will start*
05/31/2020

23. Estimated duration
45 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
(Electronic Submission)

Name *(Printed/Typed)*
BEN STONE / Ph: (512) 293-5493

Date
02/03/2020

Title
Agent

Approved by *(Signature)*
(Electronic Submission)

Name *(Printed/Typed)*
Cody Layton / Ph: (575) 234-5959

Date
07/02/2020

Title
Assistant Field Manager Lands & Minerals

Office
Carlsbad Field Office

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

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.

KZ
07/23/2020

SWD-2021

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 07/02/2020

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: NESE / 2595 FNL / 195 FEL / TWSP: 25S / RANGE: 33E / SECTION: 23 / LAT: 32.116158 / LONG: -103.535229 (TVD: 0 feet, MD: 0 feet)

PPP: 0 / 0 / SECTION: / LAT: 0.0 / LONG: 0.0 (TVD: 0 feet, MD: 0 feet)

BHL: NESE / 2595 FNL / 195 FEL / TWSP: 25S / RANGE: 33E / SECTION: 23 / LAT: 32.116158 / LONG: -103.535229 (TVD: 19250 feet, MD: 19250 feet)

BLM Point of Contact

Name: Tyler Hill
Title: LIE
Phone: (575) 234-5972
Email: tjhill@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:	TROVE ENERGY LLC
WELL NAME & NO.:	WLC MID FEDERAL SWD
SURFACE HOLE FOOTAGE:	2595'/N & 195'/E
BOTTOM HOLE FOOTAGE	2595'/N & 195'/E
LOCATION:	Section 23, T.25 S., R.33 E., NMP
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

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

☐ **General Provisions**
☐ **Permit Expiration**
☐ **Archaeology, Paleontology, and Historical Sites**
☐ **Noxious Weeds**
☐ **Special Requirements**
- Lesser Prairie-Chicken Timing Stipulations
- Ground-level Abandoned Well Marker

☐ **Construction**
- Notification
- Topsoil
- Closed Loop System
- Federal Mineral Material Pits
- Well Pads
- Roads

☐ **Road Section Diagram**
☐ **Production (Post Drilling)**
- Well Structures & Facilities

☐ **Interim Reclamation**
☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

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

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

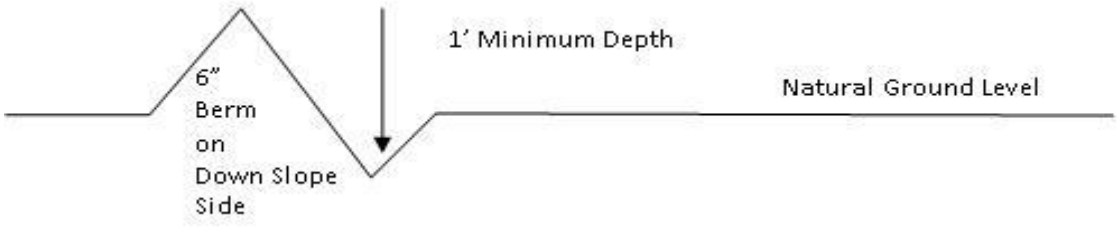
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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.

Public Access

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

Construction Steps

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

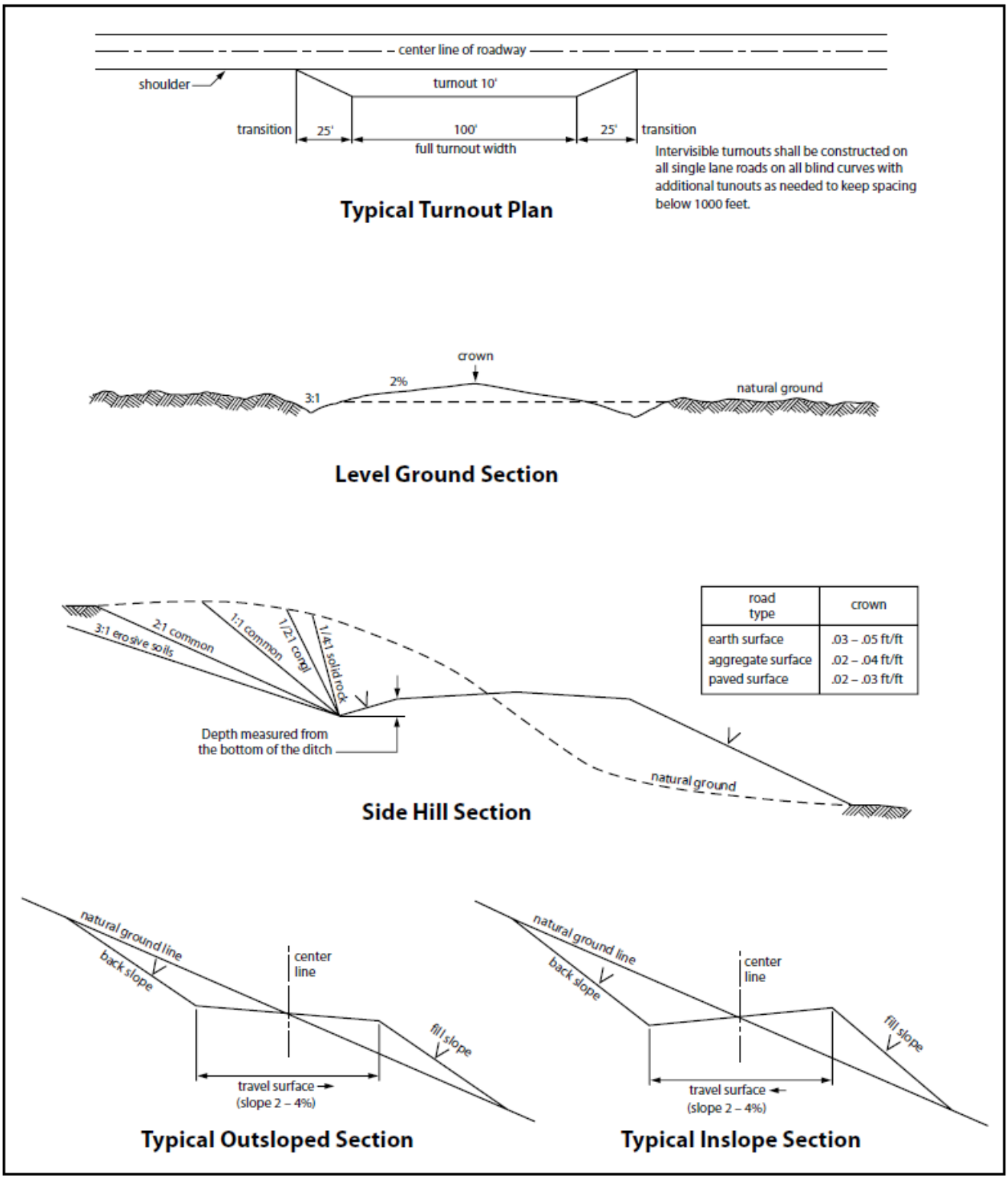


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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. 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:

Wildlife:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from permanent engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Hydrology:

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.

Range:

Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) enough 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.

VIII. 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).

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 2 for Sandy Sites

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

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

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

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:	Trove Energy LLC
LEASE NO.:	NMNM108503
WELL NAME & NO.:	WLC Mid Federal SWD 2
SURFACE HOLE FOOTAGE:	2595'/N & 195'/E
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 23, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

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 **Wolfcamp** 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.

B. CASING

Surface casing must be kept fluid filled to meet BLM minimum collapse requirement.

1. The **20** inch surface casing shall be set at approximately **1065 feet** (a minimum of **25 feet (Lea 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing shall be set at approximately **5000 feet** is:

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

3. The minimum required fill of cement behind the **9-5/8** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage. The DV tool shall be set at **5200 feet**, a minimum of **200 feet** below the previous casing shoe.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Liner casing must be kept fluid filled to meet BLM minimum collapse requirement.

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

    - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

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

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the production casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

D. SPECIAL REQUIREMENT (S)

WELL COMPLETION

The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.

The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of Devonian

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

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**
3. **If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval**

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

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.

TROVE
ENERGY and WATER

DESIGNATION OF AGENT

September 15, 2019

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E. GREENE STREET
CARLSBAD, NM 88220

Re: Agent Authorization

Gentlemen:

Please be informed that Ben Stone is an Agent employed by SOS Consulting, LLC. He is authorized to prepare and submit APDs, Sundry Notices, Completion Forms, Right of Way applications, and other BLM-required forms on behalf of, and as directed by our company.

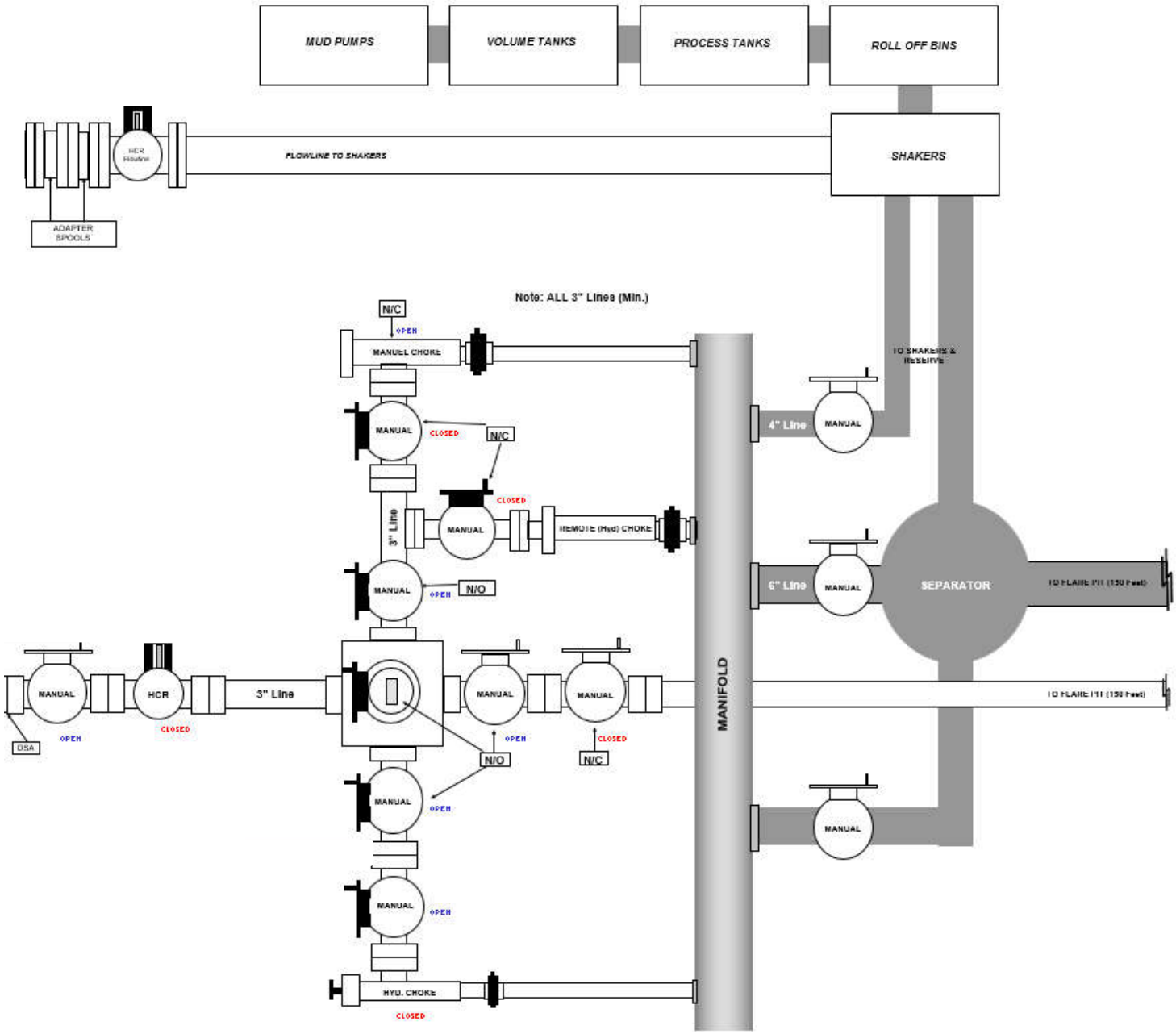
Ben Stone, Partner
SOS Consulting, LLC
P.O. Box 300
Como, TX 75431
903-488-9850

Sincerely,

Roy Barton III
Trove Energy and Water, LLC

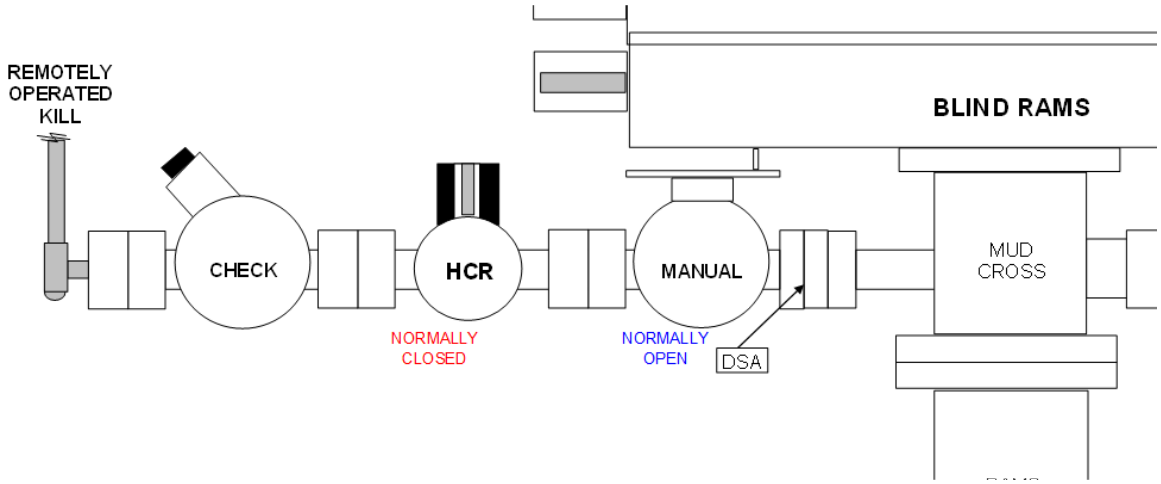
McVay Rig #2
3 Line Choke Remotely Operated + Annular Flow
Trove WLC-M Fed SWD #2

All choke & kill line equipment and hose certifications and tests will be submitted via sundry when rig is assigned.

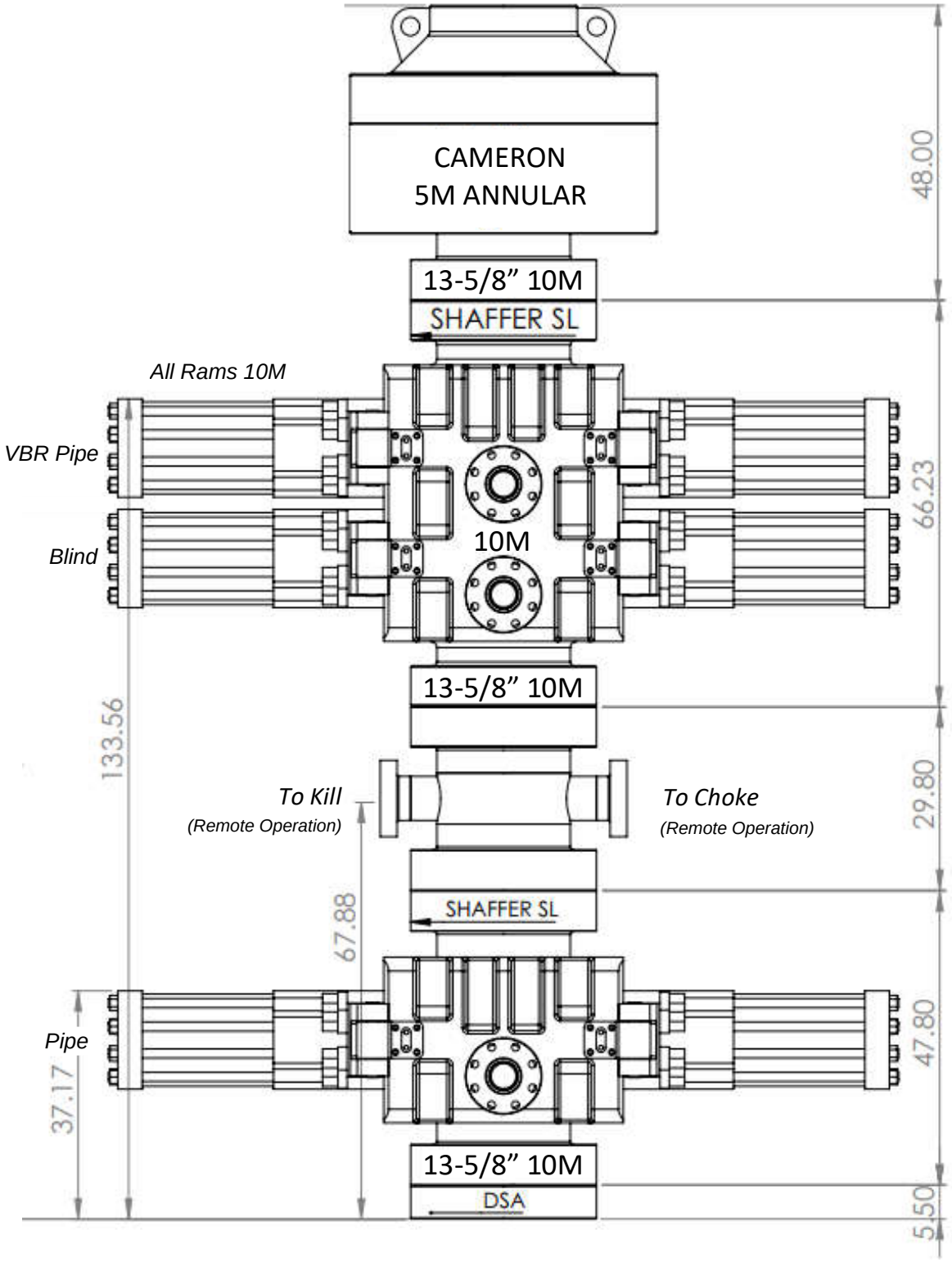


McVay Rig #2
Remote Kill Line Side/ Closed Loop
Trove WLC-M Fed SWD #2

All kill line equipment and hose certifications and tests will be submitted via sundry when rig is assigned.



McVay Rig #2
Full Stack 10M
Trove WLC-M Fed SWD #2



Trove Energy and Water, LLC

WLC Mid Federal SWD Well No.2
2595' FNL & 195' FEL
Section 23, Twp 25-S, Rng 33-E
Lea County, New Mexico

Addendum – Response to 10-Day Letter (May 20, 2020)

Additional and/or revised **BOP diagrams** are included.

Mud for Liner appears to be correct from 13,100' to 17,150'. BLM letter states casing depths do not reflect mud depth requested. Trove would point out that the liner casing length is from 12,900' to 17,150' however; the hole has already been drilled to 13,100' for the 2nd intermediate. Therefore, the correct liner mud depth should be from 13,100' to 17,150' as was originally indicated in the AFMSS submission – ***please advise if BLM staff is looking at something different***.

The BLM letter states that a **casing data sheet** needs to be attached for the liner. Trove insists it was attached and in fact, is the same data sheet as was attached for ALL casing strings. *(Note: We recently received an update from AFMSS staff (see next page) that this was actually a correction/ revision made to the online software – multiple (redundant) attachments need not be made for the various casing strings if all data in on the same data sheet – Trove only has one casing data calculation sheet per well.)* ***The WLC Mid Federal SWD #2 Casing Data Calculation Sheet is included herein.***

BOP and BOPE shall be installed, used, maintained, and tested according to Onshore Order #2 and in a manner necessary to assure well control and shall be in place and operational prior to drilling the surface casing shoe, unless otherwise stated by APD. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked each trip out of the hole and noted on the daily report. The remotely operated hydraulic choke will be installed prior to drilling out the intermediate casing shoe. The annular BOP shall be functionally operated at least weekly, and, pipe and blind rams shall be activated each trip.

- The Surface (20") BOP/BOPE pressure test will be made to hold 250 psi low, and 2000 psi high,
- First Intermediate (13 3/8") BOP/BOPE pressure tests will be made to hold 250 psi low, and 5000 psi high, before drilling out the 1st intermediate shoe.
- Second Intermediate (9 5/8" and below) BOP/BOPE pressure tests will be made to hole 250 psi low, and **10,000 psi** high (on rams) and 250 low and 5000 psi high on annular, before drilling out the 2nd intermediate shoe.

Trove understands over pressured formations may be encountered and all equipment and mud programs are designed for the possibility. Trove revised the **anticipated bottomhole pressure up slightly to 8962 psi**. We believe this is an accurate estimate but acknowledge it *may* reach 9200 psi. This would not make a significant difference in well control operations and would be prepared for any eventuality.

Trove Energy and Water, LLC

WLC Mid Federal SWD Well No.2
2595' FNL & 195' FEL
Section 23, Twp 25-S, Rng 33-E
Lea County, New Mexico

McVay Rig #2
Well Control Plan

Well Control Procedures

Component and Preventer Compatibility Table

Component	*OD*	*Preventer*	*WP*
Drill Pipe	5"	Upper VBR: 4"-7" Lower: 5" fixed	10M
Heavyweight Drill Pipe	5"	Upper VBR: 4"-7" Lower: 5" fixed	10M
Drill Collars & MWD Tools		Upper VBR: 4"-7"	10M
Mud Motor	6 1/2"	Upper VBR: 4"-7"	10M
Production Casing	5 1/2"	Upper VBR: 4"-7"	10M
All	0-13 5/8"	Annular	5M
Open Hole		Blind Rams	10M

1. ***General Procedures While Drilling:***

a. Sound alarm - alert crew
b. Space out drill string
c. Shut down pumps and stop rotary
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and Trove company representative
i. Call Trove engineer
j. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
k. Regroup, identify forward plan

2. ***General Procedures While Tripping:***

a. Sound alarm - alert crew
b. Stab full opening safety valve and close
c. Space out drill string
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and Trove company representative

i. Call Trove engineer
j. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
k. Regroup, identify forward plan

3. *General Procedures While Running Casing:*

a. Sound alarm - alert crew
b. Stab full opening safety valve and close
c. Space out drill string
d. Open HCR
e. Shut well in, utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and Trove company representative
i. Call Trove engineer
j. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
k. Regroup, identify forward plan

4. *General Procedures With No Pipe in Hole (Open Hole):*

a. Sound alarm - alert crew
b. Open HCR
c. Shut well in with blind rams
d. Close choke
e. Confirm shut in
f. Notify rig manager and Trove company representative
g. Call Trove engineer
h. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
i. Regroup, identify forward plan

5. ***General Procedures While Pulling BHL Through BOP Stack:***

l. Prior to pulling last joint of drill pipe through stack, perform flow check and if flowing:
a. Sound alarm - alert crew
b. Stab full opening safety valve and close
c. Space out drill string with tool joint just beneath upper pipe ram
d. Open HCR
e. Shut well in utilizing upper VBRs
f. Close choke
g. Confirm shut in
h. Notify rig manager and Trove company representative

i. Call Trove engineer
j. Read and record:
    i. Shut in drill pressure and shut in casing pressure
    ii. Pit gain
    iii. Time
k. Regroup, identify forward plan

2. With BHL in the BOP stack and compatible ram preventer and pipe combo immediately available.
    a. Sound alarm - alert crew
    b. Stab full opening safety valve and close
    c. Space out drill string with tool joint just beneath upper pipe ram
    d. Open HCR
    e. Shut well in utilizing upper VBRs
    f. Close choke
    g. Confirm shut in
    h. Notify rig manager and Trove company representative
    i. Call Trove engineer
    j. Read and record:
        i. Shut in drill pressure and shut in casing pressure
        ii. Pit gain
        iii. Time
    k. Regroup, identify forward plan

3. With BHA in the BOP stack and no compatible ram preventer and pipe combo immediately available
    a. Sound alarm - alert crew
    b. If possible to pick up high enough, pull string clear of the stack and follow ***Open Hole*** scenario
    c. If impossible to pick up high enough to pull the string clear of the stack:
        i. Stab crossover, make up one joint/stand of drill pipe and full opening safety valve and close
        ii. Space out drill string with tool joint just beneath the upper pipe ram
        iii. Open HCR
        iv. Shut in utilizing upper VBRs
        v. Close choke
        vi. Confirm shut in
        vii. Notify rig manager and Trove company representative
        viii. Read and record:
            1. Shut in drill pipe pressure and shut in casing pressure
            2. Pit gain
            3. Time
            d. Regroup and identify forward plan

If annular is used to shut in well and pressure build to or is expected to get to 50% of Rated Working Pressure (RWP), confirm space-out and swap to upper VBRs for shut in.

WLC FED FEDERAL SWD #2
2595' FNL & 195' FEL, UL 'H'
Sec 23, T25S, R33E, Lea County, NM
CASING DETAIL

Size	Weight (lbs/ft)	Grade	Connection	OD (in)	Drift Diameter (in)	TVD / Length (ft)	Interval	Max.Mud Wgt Set in (ppg)	Weight (in Air) Section (lbs)	Weight (in Air) Cumulative (lbs)	Weight (Bouyed) Section (lbs)	Weight (Bouyed) Cumulative (lbs)
CONDUCTOR												
30		2/B LP	Welded	30	29	100	0 - 100	NA	NA	NA	NA	NA
SURFACE												
20	94	J-55	BTC	20.000	18.936	1,050	0 - 1,050	9.2	98700	98700	84622	84622
INTERMEDIATE												
13 3/8	68	HCL-80	BTC	14.375	12.25	5,000 / 5,000	0 - 5,000	10.2	340000	340000	286233	286233
INTERMEDIATE 2												
9 5/8	53.5	HCP-110	LTC	10.625	8.5	13,100 / 13,100	0 - 13,100	9.4	700850	700850	598711	598711
LINER												
7 5/8	39	Q-125	FJ	7.625	7.656	17,150 / 4,250	12,900 - 17,150	12.5	165750	165750	133628	133628
TBG												
7	26	P-110	BTC	7.000	6.151	12,840 / 12,840	0 - 12,840	8.6	333840	333840	289328	289328
5 1/2	17	HCP-110	FJ	5.000	4.767	17,050 / 4,210	12,840 - 17,050	8.6	71570	71570	62027	62027

Size	Weight (lbs/ft)	Grade	Connection	Collapse (psi)		Burst (psi)		Jnt. Tension (M lbs)		Body Yield (M lbs)	
CONDUCTOR											
30	0.0	2/B LP	Welded	NA	/ NA	800	/ NA	NA	/ NA	NA	/ NA
SURFACE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
20	94.0	J-55	BTC	520	/ 1.55	2110	/ 2.11	1402	/ 14.20	1479	/ 14.98
INTERMEDIATE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
13 3/8	68.0	HCL-80	BTC	2910	/ 1.64	5020	/ 1.67	1732	/ 5.09	2079	/ 7.26
INTERMEDIATE 2				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
9 5/8	53.5	HCP-110	LTC	8850	/ 1.38	10900	/ 1.09	1264	/ 2.11	1710	/ 2.86
LINER				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7 5/8	39.0	Q-125	FJ	12060	/ 1.08	14340	/ 1.43	1379	/ 10.32	1399	/ 10.47
TBG				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7	26.0	P-110	BTC	6230	/ 1.08	9950	/ 1.99	830	/ 2.49	853	/ 2.56
5 1/2	17.0	HCP-110	FJ	8580	/ 1.13	10640	/ 2.13	568	/ 7.94	892	/ 12.46

ENTERED VALUES

CALCULATED VALUES

All pipe data verified
by B. Stone, 1/28/2020

SOS Consulting, LLC

ASSUMPTIONS:

SURF	1. COLLAPSE - 2/3 EVACUATED 2. BURST - 1,000 psi TEST PRESSURE 3. TENSION IN AIR
INTERMEDIATE	1. COLLAPSE -2/3 EVACUATED 2. BURST - >3000 psi 3. TENSION IN AIR
INT 2	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
LINER	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
TBG	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 5,000 psi MASP 3. TENSION IN AIR

WLC FED FEDERAL SWD #2
2595' FNL & 195' FEL, UL 'H'
Sec 23, T25S, R33E, Lea County, NM
CASING DETAIL

Size	Weight (lbs/ft)	Grade	Connection	OD (in)	Drift Diameter (in)	TVD / Length (ft)	Interval	Max.Mud Wgt Set in (ppg)	Weight (in Air) Section (lbs)	Weight (in Air) Cumulative (lbs)	Weight (Bouyed) Section (lbs)	Weight (Bouyed) Cumulative (lbs)
CONDUCTOR												
30		2/B LP	Welded	30	29	100	0 - 100	NA	NA	NA	NA	NA
SURFACE												
20	94	J-55	BTC	20.000	18.936	1,050	0 - 1,050	9.2	98700	98700	84622	84622
INTERMEDIATE												
13 3/8	68	HCL-80	BTC	14.375	12.25	5,000 / 5,000	0 - 5,000	10.2	340000	340000	286233	286233
INTERMEDIATE 2												
9 5/8	53.5	HCP-110	LTC	10.625	8.5	13,100 / 13,100	0 - 13,100	9.4	700850	700850	598711	598711
LINER												
7 5/8	39	Q-125	FJ	7.625	7.656	17,150 / 4,250	12,900 - 17,150	12.5	165750	165750	133628	133628
TBG												
7	26	P-110	BTC	7.000	6.151	12,840 / 12,840	0 - 12,840	8.6	333840	333840	289328	289328
5 1/2	17	HCP-110	FJ	5.000	4.767	17,050 / 4,210	12,840 - 17,050	8.6	71570	71570	62027	62027

Size	Weight (lbs/ft)	Grade	Connection	Collapse (psi)		Burst (psi)		Jnt. Tension (M lbs)		Body Yield (M lbs)	
CONDUCTOR											
30	0.0	2/B LP	Welded	NA	/ NA	800	/ NA	NA	/ NA	NA	/ NA
SURFACE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
20	94.0	J-55	BTC	520	/ 1.55	2110	/ 2.11	1402	/ 14.20	1479	/ 14.98
INTERMEDIATE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
13 3/8	68.0	HCL-80	BTC	2910	/ 1.64	5020	/ 1.67	1732	/ 5.09	2079	/ 7.26
INTERMEDIATE 2				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
9 5/8	53.5	HCP-110	LTC	8850	/ 1.38	10900	/ 1.09	1264	/ 2.11	1710	/ 2.86
LINER				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7 5/8	39.0	Q-125	FJ	12060	/ 1.08	14340	/ 1.43	1379	/ 10.32	1399	/ 10.47
TBG				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7	26.0	P-110	BTC	6230	/ 1.08	9950	/ 1.99	830	/ 2.49	853	/ 2.56
5 1/2	17.0	HCP-110	FJ	8580	/ 1.13	10640	/ 2.13	568	/ 7.94	892	/ 12.46

ENTERED VALUES

CALCULATED VALUES

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by B. Stone, 1/28/2020

SOS Consulting, LLC

ASSUMPTIONS:

SURF	1. COLLAPSE - 2/3 EVACUATED 2. BURST - 1,000 psi TEST PRESSURE 3. TENSION IN AIR
INTERMEDIATE	1. COLLAPSE -2/3 EVACUATED 2. BURST - >3000 psi 3. TENSION IN AIR
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LINER	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
TBG	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 5,000 psi MASP 3. TENSION IN AIR

WLC FED FEDERAL SWD #2
2595' FNL & 195' FEL, UL 'H'
Sec 23, T25S, R33E, Lea County, NM
CASING DETAIL

Size	Weight (lbs/ft)	Grade	Connection	OD (in)	Drift Diameter (in)	TVD / Length (ft)	Interval	Max.Mud Wgt Set in (ppg)	Weight (in Air) Section (lbs)	Weight (in Air) Cumulative (lbs)	Weight (Bouyed) Section (lbs)	Weight (Bouyed) Cumulative (lbs)
CONDUCTOR												
30		2/B LP	Welded	30	29	100	0 - 100	NA	NA	NA	NA	NA
SURFACE												
20	94	J-55	BTC	20.000	18.936	1,050	0 - 1,050	9.2	98700	98700	84622	84622
INTERMEDIATE												
13 3/8	68	HCL-80	BTC	14.375	12.25	5,000 / 5,000	0 - 5,000	10.2	340000	340000	286233	286233
INTERMEDIATE 2												
9 5/8	53.5	HCP-110	LTC	10.625	8.5	13,100 / 13,100	0 - 13,100	9.4	700850	700850	598711	598711
LINER												
7 5/8	39	Q-125	FJ	7.625	7.656	17,150 / 4,250	12,900 - 17,150	12.5	165750	165750	133628	133628
TBG												
7	26	P-110	BTC	7.000	6.151	12,840 / 12,840	0 - 12,840	8.6	333840	333840	289328	289328
5 1/2	17	HCP-110	FJ	5.000	4.767	17,050 / 4,210	12,840 - 17,050	8.6	71570	71570	62027	62027

Size	Weight (lbs/ft)	Grade	Connection	Collapse (psi)		Burst (psi)		Jnt. Tension (M lbs)		Body Yield (M lbs)	
CONDUCTOR											
30	0.0	2/B LP	Welded	NA	/ NA	800	/ NA	NA	/ NA	NA	/ NA
SURFACE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
20	94.0	J-55	BTC	520	/ 1.55	2110	/ 2.11	1402	/ 14.20	1479	/ 14.98
INTERMEDIATE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
13 3/8	68.0	HCL-80	BTC	2910	/ 1.64	5020	/ 1.67	1732	/ 5.09	2079	/ 7.26
INTERMEDIATE 2				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
9 5/8	53.5	HCP-110	LTC	8850	/ 1.38	10900	/ 1.09	1264	/ 2.11	1710	/ 2.86
LINER				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7 5/8	39.0	Q-125	FJ	12060	/ 1.08	14340	/ 1.43	1379	/ 10.32	1399	/ 10.47
TBG				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7	26.0	P-110	BTC	6230	/ 1.08	9950	/ 1.99	830	/ 2.49	853	/ 2.56
5 1/2	17.0	HCP-110	FJ	8580	/ 1.13	10640	/ 2.13	568	/ 7.94	892	/ 12.46

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CALCULATED VALUES

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by B. Stone, 1/28/2020

SOS Consulting, LLC

ASSUMPTIONS:

SURF	1. COLLAPSE - 2/3 EVACUATED 2. BURST - 1,000 psi TEST PRESSURE 3. TENSION IN AIR
INTERMEDIATE	1. COLLAPSE -2/3 EVACUATED 2. BURST - >3000 psi 3. TENSION IN AIR
INT 2	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
LINER	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
TBG	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 5,000 psi MASP 3. TENSION IN AIR

WLC FED FEDERAL SWD #2
2595' FNL & 195' FEL, UL 'H'
Sec 23, T25S, R33E, Lea County, NM
CASING DETAIL

Size	Weight (lbs/ft)	Grade	Connection	OD (in)	Drift Diameter (in)	TVD / Length (ft)	Interval	Max.Mud Wgt Set in (ppg)	Weight (in Air) Section (lbs)	Weight (in Air) Cumulative (lbs)	Weight (Bouyed) Section (lbs)	Weight (Bouyed) Cumulative (lbs)
CONDUCTOR												
30		2/B LP	Welded	30	29	100	0 - 100	NA	NA	NA	NA	NA
SURFACE												
20	94	J-55	BTC	20.000	18.936	1,050	0 - 1,050	9.2	98700	98700	84622	84622
INTERMEDIATE												
13 3/8	68	HCL-80	BTC	14.375	12.25	5,000 / 5,000	0 - 5,000	10.2	340000	340000	286233	286233
INTERMEDIATE 2												
9 5/8	53.5	HCP-110	LTC	10.625	8.5	13,100 / 13,100	0 - 13,100	9.4	700850	700850	598711	598711
LINER												
7 5/8	39	Q-125	FJ	7.625	7.656	17,150 / 4,250	12,900 - 17,150	12.5	165750	165750	133628	133628
TBG												
7	26	P-110	BTC	7.000	6.151	12,840 / 12,840	0 - 12,840	8.6	333840	333840	289328	289328
5 1/2	17	HCP-110	FJ	5.000	4.767	17,050 / 4,210	12,840 - 17,050	8.6	71570	71570	62027	62027

Size	Weight (lbs/ft)	Grade	Connection	Collapse (psi)		Burst (psi)		Jnt. Tension (M lbs)		Body Yield (M lbs)	
CONDUCTOR											
30	0.0	2/B LP	Welded	NA	/ NA	800	/ NA	NA	/ NA	NA	/ NA
SURFACE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
20	94.0	J-55	BTC	520	/ 1.55	2110	/ 2.11	1402	/ 14.20	1479	/ 14.98
INTERMEDIATE				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
13 3/8	68.0	HCL-80	BTC	2910	/ 1.64	5020	/ 1.67	1732	/ 5.09	2079	/ 7.26
INTERMEDIATE 2				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
9 5/8	53.5	HCP-110	LTC	8850	/ 1.38	10900	/ 1.09	1264	/ 2.11	1710	/ 2.86
LINER				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7 5/8	39.0	Q-125	FJ	12060	/ 1.08	14340	/ 1.43	1379	/ 10.32	1399	/ 10.47
TBG				***REQ'D***	**1.000**		**1.000**		**1.8**		**1.8**
7	26.0	P-110	BTC	6230	/ 1.08	9950	/ 1.99	830	/ 2.49	853	/ 2.56
5 1/2	17.0	HCP-110	FJ	8580	/ 1.13	10640	/ 2.13	568	/ 7.94	892	/ 12.46

ENTERED VALUES

CALCULATED VALUES

All pipe data verified
by B. Stone, 1/28/2020

SOS Consulting, LLC

ASSUMPTIONS:

SURF	1. COLLAPSE - 2/3 EVACUATED 2. BURST - 1,000 psi TEST PRESSURE 3. TENSION IN AIR
INTERMEDIATE	1. COLLAPSE -2/3 EVACUATED 2. BURST - >3000 psi 3. TENSION IN AIR
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LINER	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
TBG	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 5,000 psi MASP 3. TENSION IN AIR

Trove WLC-M Fed SWD #2
Liner Specs -7.625" Q-125
McVay Rig #2

Trove has selected the Q-125 grade for the liner due to its substantially higher strengths - it also spec'd better for joint tension. If it is not available, Trove may substitute P-110 and submit a sundry report with appropriate data but currently, we believe the supply of Q-125 is adequate.

With the highest yield strengths among all API 5CT casing grades, P110 and Q125 are ideally suited for high pressure formations in deep wells.

Trove is proposing 7.625" Flush Joint inside [special order] 9.625" 53.5# casing with **special drift of 8.535"**. As required by BLM Onshore Order #2, the clearance would be greater than 0.422" at **0.455"**.

Q125

- **Yield strength**: 862-1,034 MPa (125-150 ksi)
- **Minimum tensile strength**: 931 MPa (135 ksi)
- **API color code: 1 orange band**

ISO 9001 U. S. Steel Tubular Products

7 5/8	39.00	38.08	0.500	6.625	6.500	--	R95	10,000
7 5/8	39.00	38.08	0.500	6.625	6.500	--	T95	10,000
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS C95	10,000
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS C100	10,370
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS RYS100	10,370
7 5/8	39.00	38.08	0.500	6.625	6.500	--	C110	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS C110	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS RYH110	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS RYS110	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	P110 SR16	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	P110	11,080
7 5/8	39.00	38.08	0.500	6.625	6.500	--	P110 HC	12,180
~~7 5/8~~	~~39.00~~	~~38.08~~	~~0.500~~	~~6.625~~	~~6.500~~	~~--~~	~~P110 HP~~	~~13,130~~
7 5/8	39.00	38.08	0.500	6.625	6.500	--	Q125	12,060
~~7 5/8~~	~~39.00~~	~~38.08~~	~~0.500~~	~~6.625~~	~~6.500~~	~~--~~	~~Q125 HC~~	~~12,810~~
7 5/8	39.00	38.08	0.500	6.625	6.500	--	Q125 HP	13,790
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS 140	12,930
7 5/8	39.00	38.08	0.500	6.625	6.500	--	USS V150	13,440
7 5/8	42.80	42.43	0.562	6.501	6.376	--	USS GT80S	10,810
7 5/8	42.80	42.43	0.562	6.501	6.376	--	L80	10,810
7 5/8	42.80	42.43	0.562	6.501	6.376	--	L80 HC	11,170
7 5/8	42.80	42.43	0.562	6.501	6.376	--	L80 HP	11,740

Trove WLC-M Fed SWD #2
Liner Specs -7.625” Q-125 *(Pg.2)*
McVay Rig #2

WLC FED FEDERAL SWD #2
2595’ FNL & 195’ FEL, UL 'H'
Sec 23, T25S, R33E, Lea County, NM
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SURFACE												
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13 3/8	68	HCL-80	BTC	14.375	12.25	5,000 / 5,000	0 - 5,000	10.2	340000	340000	286233	286233
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TBG												
7	26	P-110	BTC	7.000	6.151	12,840 / 12,840	0 - 12,840	8.6	333840	333840	289328	289328
5 1/2	17	HCP-110	FJ	5.000	4.767	17,050 / 4,210	12,840 - 17,050	8.6	71570	71570	62027	62027

Size	Weight (lbs/ft)	Grade	Connection	Collapse (psi)	Burst (psi)	Jnt. Tension (M lbs)	Body Yield (M lbs)
CONDUCTOR							
30	0.0	2/B LP	Welded	NA / NA	800 / NA	NA / NA	NA / NA
SURFACE				REQ'D 1.000	1.000	1.8	1.8
20	94.0	J-55	BTC	520 / 1.55	2110 / 2.11	1402 / 14.20	1479 / 14.98
INTERMEDIATE				REQ'D 1.000	1.000	1.8	1.8
13 3/8	68.0	HCL-80	BTC	2910 / 1.64	5020 / 1.67	1732 / 5.09	2079 / 7.26
INTERMEDIATE 2				REQ'D 1.000	1.000	1.8	1.8
9 5/8	53.5	HCP-110	LTC	8850 / 1.38	10900 / 1.09	1264 / 2.11	1710 / 2.86
LINER				REQ'D 1.000	1.000	1.8	1.8
7 5/8	39.0	Q-125	FJ	12060 / 1.08	14340 / 1.43	1379 / 10.32	1399 / 10.47
TBG				REQ'D 1.000	1.000	1.8	1.8
7	26.0	P-110	BTC	6230 / 1.08	9950 / 1.99	830 / 2.49	853 / 2.56
5 1/2	17.0	HCP-110	FJ	8580 / 1.13	10640 / 2.13	568 / 7.94	892 / 12.46

ENTERED VALUES
CALCULATED VALUES

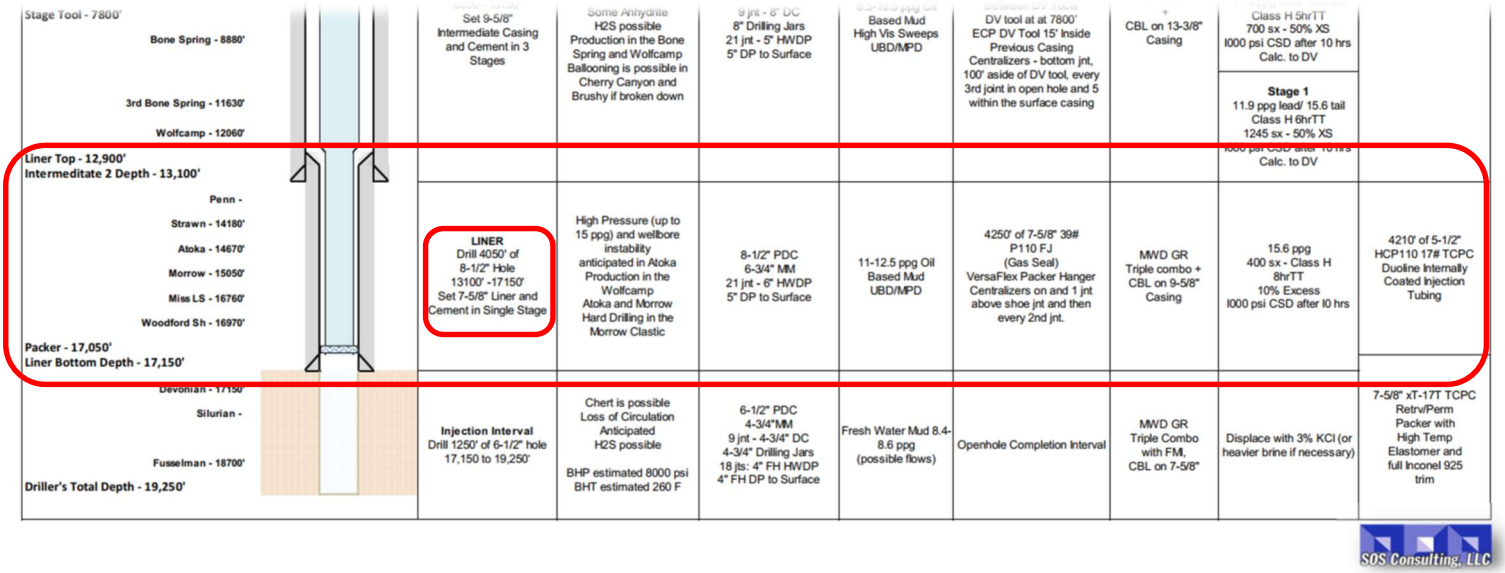
All pipe data verified
by B. Stone, 1/28/2020

SOS Consulting, LLC

ASSUMPTIONS:

SURF	1. COLLAPSE - 2/3 EVACUATED 2. BURST - 1,000 psi TEST PRESSURE 3. TENSION IN AIR
INTERMEDIATE	1. COLLAPSE -2/3 EVACUATED 2. BURST - >3000 psi 3. TENSION IN AIR
INT 2	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
LINER	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 10,000 psi MASP 3. TENSION IN MUD
TBG	1. COLLAPSE FULLY EVACUATED 2. BURST - 1.0 - 5,000 psi MASP 3. TENSION IN AIR

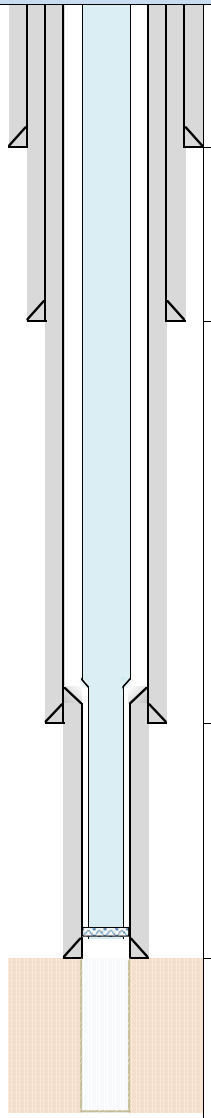
Liner is set from 12,900’ to 17,150’. MUDDED HOLE INTERVAL IS 13,100’ TO 17,150.
(12,900’ to 13,100’ has already been drilled at this point.)



WLC Mid Federal SWD #2
Lea County, NM
2595' FNL & 195' FEL
SEC. 23-T25S-R33E

AFE # - TBD
Drilling Contractor: McVay Drilling
Safety:
Trucking:

Directions / Vicinity
Site - Lat: 32.116158, Long: -103.535229
20.1 miles W of Jal, NM
Battle Axe Road

Geologic Tops (MD)	Wellbore	Section	Issues	Bit & BHA	Mud	Casing	Logging	Cement	Injection String
Triassic - 450' Rustler - 1000' **Surface CSG Depth - 1050'**		**SURFACE CSG** Drill 24" 0' - 1050' Set and Cement 20" Casing	Loss Circulation Hole Cleaning Wellbore stability in the Red Beds Anhydrite in Rustler	24" Tricone 9-5/8" x 8" MM 9 jnt - 8" DC 21 jnt - 5" HWDP 5 " DP to surface	Spud Mud MW 8.5-9.2 ppg	1050' of 20" 94.0# J55 BTC (JS 1479#/1K) Centralizers bottom 2 joints and then every 3rd jt Cement basket 5th jt from surface	No Logs	Thixotropic Cement 13.7 ppg 1600 sx Class C 3hr TT 25% Excess l000 psi CSD after l0 hrs Circ. to Surface	12840' of 7.0" P110 26# TCPC Duoline Internally Coated Injection Tubing
Top Salt - 1150' Base of Silicates - Castile - Base Salt - 4580' **Intermediate Depth - 5000'** **Stage Tool - 5000'+/-**		**INTERMEDIATE CSG** Drill 3950' of 17-1/2" Hole 1050' - 5000' Set and Cement 13-3/8" Casing	Some leakage Possible H2S Anhydrite Salt Sections	17-1/2" PDC 9-5/8" x 8" MM 9 jnt - 8" DC 21 jnt - 5" HWDP 5 " DP to surface	9.8 - 10.2 ppg Brine Water/ Mud	5000' 13-3/8" 68# HCL80 BTC (JS 2079#/1K) Centralizers - bottom jnt, every 3rd jnt in open hole and 2 jnt inside the surface casing	Mudlogger on site by 1200'	13.2 ppg lead/ 14.8 tail 3200 sx Class C 4hr TT 50% Excess l000 psi CSD after 10 hrs Circ. to Surface	
Delaware Mtn Group - 4900' Lamar LS - 4950' Bell Canyon - 4980' Cherry Canyon - 6010' Brushy Canyon - Bone Spring - 8880' 3rd Bone Spring - 11630' Wolfcamp - 12060' **Liner Top - 12,900'** **Intermeditate 2 Depth - 13,100'**		**INTERMEDIATE 2 CSG** Drill 8100' of 12-1/4" Hole 5000' -13100' Set 9-5/8" Intermediate Casing and Cement in 3 Stages	Hard Drilling thru Brushy Canyon Some leakage to complete loss Water flows Some Anhydrite H2S possible Production in the Bone Spring and Wolfcamp Ballooning is possible in Cherry Canyon and Brushy if broken down	12-1/4" PDC 8" MM 9 jnt - 8" DC 8" Drilling Jars 21 jnt - 5" HWDP 5" DP to Surface	9.0-9.4 ppg Cut Brine High Vis Sweeps UBD/MPD	10M Section 13100' of 9-5/8" 53.5# HCP110 BTC Special Drift to 8.535" Externally Coat 2820' Between DV Tools DV tool at at 7800' ECP DV Tool 15' Inside Previous Casing Centralizers - bottom jnt, 100' aside of DV tool, every 3rd joint in open hole and 5 within the surface casing	MWD GR + CBL on 13-3/8" Casing	**Stage 2** 11.9 ppg lead/ 15.6 tail Class H 5hrTT 870 sx - 20% XS 1000 psi CSD after 10 hrs Calc. to DV **Stage 1** 11.9 ppg lead/ 15.6 tail Class H 6hrTT 1800 sx - 50% XS l000 psi CSD after 10 hrs Calc. to DV	
Penn - Strawn - 14180' Atoka - 14670' Morrow - 15050' Miss LS - 16760' Woodford Sh - 16970' **Packer - 17,050'** **Liner Bottom Depth - 17,150'**		**LINER** Drill 4050' of 8-1/2" Hole 13100' -17150' Set 7-5/8" Liner and Cement in Single Stage	High Pressure (up to 15 ppg) and wellbore instability anticipated in Atoka Production in the Wolfcamp Atoka and Morrow Hard Drilling in the Morrow Clastic	8-1/2" PDC 6-3/4" MM 21 jnt - 6" HWDP 5" DP to Surface	11-12.5 ppg Oil Based Mud UBD/MPD	4250' of 7-5/8" 39# P110 FJ (Gas Seal) VersaFlex Packer Hanger Centralizers on and 1 jnt above shoe jnt and then every 2nd jnt.	MWD GR Triple combo + CBL on 9-5/8" Casing	15.6 ppg 400 sx - Class H 8hrTT 10% Excess l000 psi CSD after l0 hrs	4210' of 5-1/2" HCP110 17# TCPC Duoline Internally Coated Injection Tubing
Devonian - 17150' Silurian - Fusselman - 18700' **Driller's Total Depth - 19,250'**		**Injection Interval** Drill 1250' of 6-1/2" hole 17,150 to 19,250'	Chert is possible Loss of Circulation Anticipated H2S possible BHP estimated 8000 psi BHT estimated 260 F	6-1/2" PDC 4-3/4"MM 9 jnt - 4-3/4" DC 4-3/4" Drilling Jars 18 jts: 4" FH HWDP 4" FH DP to Surface	Fresh Water Mud 8.4-8.6 ppg (possible flows)	Openhole Completion Interval	MWD GR Triple Combo with FMI, CBL on 7-5/8"	Displace with 3% KCl (or heavier brine if necessary)	7-5/8" xT-17T TCPC Retrv/Perm Packer with High Temp Elastomer and full Inconel 925 trim

HYDROGEN SULFIDE CONTINGENCY PLAN

POLICY OF

TROVE ENERGY and WATER, LLC

FOR OPERATIONS IN SOUTHEAST NEW MEXICO

MUST BE REVIEWED BY ALL PERSONNEL PRIOR TO COMMENCEMENT OF OPERATIONS

SCOPE

THIS CONTINGENCY PLAN ESTABLISHES GUIDELINES FOR ALL COMPANY AND CONTRACTOR PERSONNEL WHO'S WORK ACTIVITIES MAY INVOLVE EXPOSURE TO HYDROGEN SULFIDE (H2S) GAS. GUIDELINES ADDRESSING PUBLIC SAFETY ARE INCLUDED.

OBJECTIVE

1. PREVENT ANY ACCIDENTS AND PREVENT THE UNCONTROLLED RELEASE OF HYDROGEN SULFIDE INTO THE ATMOSPHERE.

2. PROVIDE PROPER PROCEDURES TO HANDLE EMERGENCIES AND POSSIBLE EVACUATION.

3. PROVIDE IMMEDIATE AND ADEQUATE MEDICAL ATTENTION SHOULD AN INJURY OCCUR.

IMPLEMENTATION

THIS PLAN WITH ALL DETAILS IS TO BE FULLY IMPLEMENTED BEFORE OPERATIONS COMMENCE PURSUANT TO THE CONDITION BEING:

NORMAL / LOW CONDITIONS: KNOWN H2S ***IS AT OR LESS THAN 10 PPM.***

HIGH RISK CONDITIONS: KNOWN H2S ***MAY APPROACH OR BE MORE THAN 100 PPM.***

OVERVIEW OF PLAN

1. PERSONNEL RESPONSIBILITY **(PAGES 2-3)**	THIS SECTION SHOWS SPECIFIC RESPONSIBILITIES FOR ALL PERSONNEL PRESENT - BY TITLE OR JOB DUTIES.
2. NORMAL / LOW H2S CONDITIONS **(PAGES 3-4)**	THIS SECTION OUTLINES PROCEDURES DURING NORMAL OPERATIONS WHEN EXPECTATIONS OF AN H2S ENVIRONMENT ARE REASONABLY LOW.

3. EMERGENCY RESPONSE PROCEDURES **(PAGES 4-6)**	THIS SECTION OUTLINES THE CONDITIONS PROCEDURE AND DENOTES STEPS TO BE TAKEN IN THE EVENT OF AN EMERGENCY OR HIGH RISK LEVELS OF H2S ARE IMMINENT.
4. HIGH RISK / EMERGENCY EQUIPMENT **(PAGES 6-7)**	THIS SECTION OUTLINES THE USE OF EMERGENCY EQUIPMENT THAT WILL BE REQUIRED FOR THE DRILLING OR WORKOVER OF THIS WELL.
5. EMERGENCY TELEPHONE NUMBERS **(PAGES 8-9)**	ALL PARTIES TO BE CONTACTED SHOULD AN EMERGENCY EXIST.
6. SAFETY BRIEFING **(PAGE 9)**	THIS SECTION DEALS WITH THE BRIEFING OF ALL PEOPLE INVOLVED IN THE DRILLING OPERATION.
7. EVACUATION / PUBLIC SAFETY **(PAGES 9-10)**	THIS SECTION DEALS WITH THE EVACUATION OF PERSONNEL AND PUBLIC SAFETY IN THE EVENT OF AN EMERGENCY.

APPENDICES

A. TRAINING REQUIREMENTS AND FIRST AIDE **(PAGE 11-12)**	ALL COMPANIES WILL INSURE THAT ALL PERSONNEL AT THE WELL SITE WILL HAVE HAD ADEQUATE TRAINING IN H2S SAFETY PROCEDURES. FIRST AIDE FOR H2S.
B. CHECK LISTS **(PAGES 13-15)**	A STATUS CHECK LIST, PROCEDURAL CHECK LIST AND SITE SPECIFIC PLAN CHECK LIST HAVE BEEN INCLUDED TO INSURE ADHERENCE TO THE PLAN.
C. EFFECTS, LEVELS, RADIUS OF EXPOSURE, THRESHOLDS **(PAGES 16-19)**	A GENERAL INFORMATION SECTION HAS BEEN INCLUDED TO SUPPLY SUPPORT INFORMATION INCLUDING EFFECTS OF H2S, LEVELS AND RADIUS OF EXPOSURE & REGULATORY THRESHOLDS.
D. INCIDENT RESPONSE PROTOCOL **(PAGE 20)**	**IN THE EVENT OF AN ACTUAL EMERGENCY INCIDENT, THIS STEP-BY-STEP PROCEDURE CAN BE TURNED TO QUICKLY AT THE BACK OF THE DOCUMENT.**

1. PERSONNEL RESPONSIBILITY

COMPANY FOREMAN /	SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THIS PLAN.

DESIGNATED PERSONNEL	SHALL BE IN COMPLETE COMMAND DURING ANY EMERGENCY. **(INCIDENT COMMANDER)** SHALL DESIGNATE A BACK-UP.
ALL PERSONNEL	**1.** ON ALARM, DON ESCAPE UNIT AND REPORT IN UP WIND BRIEFING AREA. **2.** CHECK STATUS OF PERSONNEL (BUDDY SYSTEM). **3.** SECURE BREATHING EQUIPMENT. **4.** AWAIT ORDERS FROM SUPERVISOR.
DRILLING FOREMAN / RIG OPERATOR	**1.** REPORT TO UP WIND BRIEFING AREA. **2.** DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH TOOL PUSHER OR DRILLER (BUDDY SYSTEM). **3.** DETERMINE H2S CONCENTRATIONS. **4.** ASSESS SITUATION AND TAKE CONTROL MEASURES.
TOOL PUSHER	**1.** REPORT TO UP WIND SAFETY BRIEFING AREA. **2.** DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH DRILLING FOREMAN OR DRILLER (BUDDY SYSTEM). **3.** DETERMINE H2S CONCENTRATION. **4.** ASSESS SITUATION AND TAKE CONTROL MEASURES.
DRILLER	**1.** DON ESCAPE UNIT. **2.** CHECK MONITOR FOR POINT OF RELEASE. **3.** REPORT TO BRIEFING AREA. **4.** CHECK STATUS OF PERSONNEL (IN AN ATTEMPT TO RESCUE, USE THE BUDDY SYSTEM). **5.** ASSIGNS LEAST ESSENTIAL PERSON TO NOTIFY DRILLING FOREMAN AND TOOL PUSHER BY QUICKEST MEANS IN CASE OF THEIR ABSENCE. **6.** ASSUMES THE RESPONSIBILITIES OF THE DRILLING FORMAN AND TOOL PUSHER UNTIL THEY ARRIVE SHOULD THEY BE ABSENT.
DERRICK MAN FLOOR MAN #1 FLOOR MAN #2 VISITORS	REPORT TO AND REMAIN IN SAFETY BRIEFING AREA UNTIL INSTRUCTED BY SUPERVISOR.
MUD ENGINEER	**1.** REPORT TO BRIEFING AREA. **2.** WHEN INSTRUCTED, BEGIN CHECK OF MUD FOR PH AND H2S LEVEL.
SAFETY PERSONNEL	MASK UP AND CHECK STATUS OF ALL PERSONNEL AND SECURE OPERATIONS AS INSTRUCTED BY DRILLING FOREMAN AND REPORT TO BRIEFING AREA.

2. NORMAL / LOW H2S CONDITION

CONDITIONS ARE CONSIDERED NORMAL WHEN THERE ARE REASONABLE EXPECTATIONS THAT NONE OR LOW CONCENTRATIONS OF H2S WILL BE ENCOUNTERED DURING ALL PHASES OF THE CURRENT OPERATIONS. (SEE APPENDIX 'C', THRESHOLDS, PRGPH.3)

1. LOW H2S - LEVELS ARE KNOWN TO CONSISTENTLY BE AT OR **BELOW 10 PPM**.

2. NORMAL CONDIDTION EXPECTATIONS ARE BASED ON HISTORICAL EVIDENCE OF THE AREA, GEOLOGIC FORMATIONS AND TYPE OF OPERATIONS WITH REGARD TO FLUIDS BEING UTILIZED FOR DRILLIING AND/OR WORKOVER TASKS.

3. OPERATING IN A NORMAL CONDITION DOES NOT RELIEVE ANY PERSONNEL OF THEIR RESPONSIBILITY, NOR SHOULD IT LESSEN THEIR ATTENTION TO KNOWING THE SAFETY PROCEDURES THAT WILL IMMEDIATELY BE IMPLEMENTED UPON ANY EVIDENCE OF CHANGING H2S LEVELS.

4. ALL PERSONNEL WORKING ON SITE WILL DON PERSONAL H2S DETECTORS.

5. A WINDSOCK OR OTHER WIND DIRECTION INDICATOR WILL BE ON LOCATION AND EASILY VISIBLE FROM ALL AREAS.

6. ALL PERSONNEL WILL HAVE A CURRENT H2S TRAINING CARD.

7. ALL PERSONNEL WILL HAVE VIEWED THIS H2S CONTINGENCY PLAN.

3. EMERGENCY RESPONSE PROCEDURES (SEE ALSO APPENDIX 'D')

NOTICE: FOR ALL SITES AND OPERATIONS WHERE REASONABLE EXPECTATIONS ARE THAT H2S LEVELS MAY BE **ABOVE 100 PPM**, ALL SERVICE COMPANY PERSONNEL HAVE READ THIS H2S CONTINGENCY PLAN AND WILL VERBALLY INDICATE STRICT ADHERENCE TO WITH ALL PROCEDURES ESPECIALLY WITH REGARD TO THEIR JOB TITLE AND DUTIES ON THIS LOCATION.

IMMEDIATE PROCEDURES

A. IN THE EVENT OF ANY EVIDENCE OF H2S LEVEL **ABOVE 100 PPM**, (OR IS APPROACHING 100 PPM) TAKE THE FOLLOWING STEPS:

1. SECURE BREATHING EQUIPMENT.

2. ORDER NON-ESSENTIAL PERSONNEL OUT OF DANGER ZONE.

3. TAKE STEPS TO DETERMINE IF THE H2S LEVEL CAN BE CORRECTED OR SUPPRESSED AND, IF SO, PROCEED IN NORMAL OPERATION.

B. IF UNCONTROLLABLE CONDITIONS OCCUR: (SEE ALSO APPENDIX 'D')

1. TAKE STEPS TO PROTECT AND/OR REMOVE ANY PUBLIC IN THE DOWN-WIND AREA FROM THE RIG - PARTIAL EVACUATION AND ISOLATION. NOTIFY NECESSARY

PUBLIC SAFETY PERSONNEL EMERGENCY RESPONDERS OF THE SITUATION, E.G. STATE POLICE, COUNTY EMERGENCY MANAGEMENT, SHERRIF, MEDICAL IF REQUIRED.

2. REMOVE ALL PERSONNEL TO SAFE BREATHING AREA.

3. NOTIFY PUBLIC SAFETY PERSONNEL TO SAFE BREATHING AREA.

4. PROCEED WITH BEST PLAN (AT THE TIME) TO REGAIN CONTROL OF THE WELL. MAINTAIN TIGHT SECURITY AND SAFETY PROCEDURES.

EMERGENCY ACTIONS

WELL BLOWOUT - IF EMERGENCY

1. EVACUATE ALL PERSONNEL IF POSSIBLE.
2. IF SOUR GAS - EVACUATE RIG PERSONNEL.
3. IF SOUR GAS - EVACUATE PUBLIC WITHIN 3000 FT RADIUS OF EXPOSURE.
4. DON SCBA AND RESCUE.
5. CALL 911 FOR EMERGENCY HELP (FIRE DEPT AND AMBULANCE) AND NOTIFY COMPANY FOREMAN / DESIGNATED PERSONNEL.
6. GIVE FIRST AID.

PERSON DOWN LOCATION / FACILITY

1. IF IMMEDIATELY POSSIBLE, CONTACT 911. GIVE LOCATION AND WAIT FOR CONFIRMATION.
2. DON SCBA AND RESCUE – BUDDY SYSTEM ONLY.

AS APPLICABLE FOR TODAY'S CURRENT OPERATIONS / EVENTS

TAKING A KICK

WHEN TAKING A KICK DURING AN H2S EMERGENCY, ALL PERSONNEL WILL FOLLOW STANDARD BOP PROCEDURES AFTER REPORTING TO ·BRIEFING AREA AND MASKING UP.

OPEN-HOLE LOGGING

ALL UNNECESSARY PERSONNEL OFF FLOOR. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD MONITOR CONDITION, ADVISE STATUS AND DETERMINE NEED FOR USE OF AID EQUIPMENT.

RUNNING CASING OR PLUGGING

FOLLOWING THE SAME "TRIPPING" PROCEDURE AS ABOVE. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD DETERMINE IF ALL PERSONNEL HAVE ACCESS TO PROTECTIVE EQUIPMENT.

WELL OUT OF CONTROL

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF COMPANY FOREMAN. IN THE EVENT HE IS INCAPACITATED, IT BECOMES THE RESPONSIBILITY OF THE CONTRACT RIG TOOL PUSHER. THE 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 AT THE WELL.

NOTIFY EMERGENCY AUTHORITIES IF TIME PERMITS,
BUT DO NOT DELAY IF HUMAN LIFE IS IN DANGER.

INITIATE EVACUATION PLAN.

IGNITION PROCEDURES

INSTRUCTIONS FOR IGNITING THE WELL

1. TWO PEOPLE ARE REQUIRED FOR THE ACTUAL IGNITING OPERATION. THEY MUST WEAR SELF-CONTAINED BREATHING APPARATUS (SCBA) UNITS AND HAVE SAFETY ROPE ATTACHED. ONE MAN (TOOL PUSHER OR SAFETY ENGINEER) WILL CHECK THE ATMOSPHERE FOR EXPLOSIVE GASES WITH THE EXPLOSIMETER. THE OTHER MAN (DRILLING FOREMAN) IS RESPONSIBLE FOR IGNITING THE WELL.

2. PRIMARY METHOD TO IGNITE: 25 MM FLARE GUN WITH RANGE OF APPROXIMATELY 500 FEET.

3. IGNITE UP WIND AND DO NOT APPROACH ANY CLOSER THAN IS WARRANTED.

4. SELECT THE IGNITION SITE BEST FOR PROTECTION, AND WHICH OFFERS AN EASY ESCAPE ROUTE.

5. BEFORE FIRING, CHECK FOR PRESENCE OF COMBUSTIBLE GAS.

6. AFTER LIGHTING, CONTINUE EMERGENCY ACTION AND PROCEDURE AS BEFORE.

7. ALL UNASSIGNED PERSONNEL WILL LIMIT THEIR ACTIONS TO THOSE DIRECTED BY THE DRILLING FOREMAN.

REMEMBER: AFTER WELL IS IGNITED, BURNING HYDROGEN SULFIDE WILL CONVERT TO SULFUR DIOXIDE, WHICH IS ALSO HIGHLY TOXIC. DO NOT ASSUME THE AREA IS SAFE AFTER THE WELL IS IGNITED.

4. HIGH RISK / EMERGENCY EQUIPMENT REQUIREMENTS

A. SIGNS (ANSI STANDARD Z535.1-2002; SAFETY COLOR CODE)

1. ONE SIGN LOCATED AT LOCATION ENTRANCE WITH THE FOLLOWING LANGUAGE:

(LEASE) CAUTION - POTENTIAL POISON GAS HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

B. WINDSOCK- WIND STREAMERS

1. ONE 36" (IN LENGTH) WINDSOCK LOCATED AT PROTECTION CENTER, AT HEIGHT VISIBLE FROM RIG FLOOR.

2. ONE 36" (IN LENGTH) WINDSOCK LOCATED AT HEIGHT VISIBLE FROM PIT AREAS.

C. HYDROGEN SULFIDE DETECTOR AND ALARMS

1. H2S MONITORS WITH ALARMS WILL BE LOCATED ON THE RIG FLOOR, AT THE BELL NIPPLE, AND AT THE FLOW LINE. ***THESE MONITORS WILL BE SET TO ALARM AT 15 PPM WITH RED LIGHT, AND TO ALARM AT 20 PPM WITH RED LIGHT AND AUDIBLE ALARM.***

2. HAND OPERATED DETECTORS WITH TUBES.

3. H2S MONITOR TESTER.

D. CONDITION FLAGS

1. ONE EACH OF ORANGE, YELLOW, AND RED CONDITION FLAGS TO BE DISPLAYED TO DENOTE CONDITIONS:

GREEN - NORMAL CONDITIONS (POTENTIAL)
YELLOW - POTENTIAL DANGER (MODERATE)
RED - DANGER, H2S PRESENT (EXTREME)

2. CONDITION FLAG SHALL BE POSTED AT LOCATION SIGN ENTRANCE.

E. AUXILIARY RESCUE EQUIPMENT

1. STRETCHER

2. 100' LENGTH OF 5/8" NYLON ROPE.

F. MUD INSPECTION DEVICES - GARRETT GAS TRAIN OR HACH TESTER FOR INSPECTION OF SULFIDE CONCENTRATION IN MUD SYSTEM.

G. FIRE EXTINGUISHER - ADEQUATE FIRE EXTINGUISHERS SHALL BE LOCATED AT STRATEGIC LOCATIONS.

H. BLOW OUT PREVENTION EQUIPMENT - THE WELL SHALL HAVE HYDRAULIC BOP EQUIPMENT FOR THE ANTICIPATED BOTTOM HOLE PRESSURE. EQUIPMENT IS TO BE TESTED ON INSTALLATION.

I. COMBUSTIBLE GAS DETECTOR - THERE SHALL BE ONE COMBUSTIBLE GAS DETECTOR ON LOCATION AT ALL TIMES.

J. BOP TESTING - BOP AND CHOKE LINE AND KILL LINE WILL BE TESTED.

K. AUDIO SYSTEM - RADIO COMMUNICATION WILL BE AVAILABLE AT THE ***RIG, RIG FLOOR*** OR ***TRAILER*** AND ***VEHICLES***.

L. SPECIAL CONTROL EQUIPMENT - MAKE SURE OF HYDRAULIC BOP EQUIPMENT WITH REMOTE CONTROL ON GROUND AND ROTATING HEAD.

5. EMERGENCY TELEPHONE NUMBERS

CONTACT PARTY	OFFICE
TROVE ENERGY AND WATER EMERGENCY	
1) ROY G. BARTON CEO and Manager	**CELL: 512-293-5493**
2) BEN STONE Operations Coordinator	**CELL: 903-335-3368**
3) TBD Field Operations	**CELL: 575-xxx-xxxx**
STATE POLICE	
EDDY COUNTY	**575-748-9718**
LEA COUNTY	**575-392-5588**
SHERIFF	
EDDY COUNTY	**575-887-1888**
Substation – ARTESIA: 575-748-2323	
LEA COUNTY	**575-396-3611**
Substations - EUNICE: 575-394-2020; HOBBS: 575-393-2515; JAL: 575-394-2121	
EMERGENCY MEDICAL	
EDDY COUNTY	**911 OR 575-746-2701**
LEA COUNTY	**911 OR 575-394-3258**
AIRLIFT – AeroCare (Lubbock): 800-823-1991; AirMed (El Paso): 800-527-2767	
EMERGENCY RESPONSE	
EDDY COUNTY	**575-616-7155**
LEA COUNTY	**575-391-2961**

CONTACT PARTY	OFFICE
FIRE DEPARTMENTS	
ARTESIA	575-746-5051
CARLSBAD	575-885-3125
HOBBS	575-397-9308
EUNICE	575-394-3258
JAL	575-395-2221
POLICE DEPARTMENTS	
ARTESIA	575-746-5000
CARLSBAD	575-885-2111
HOBBS	575-397-9265
EUNICE	575-394-2112
JAL	575-395-2501
TOTAL SAFETY EDDY & LEA COUNTIES	575-392-2973
AMERICAN SAFETY SERVICES EDDY & LEA COUNTIES	575-746-1096
WILD WELL CONTROL MIDLAND, TX	281-784-4700
NM OIL CONSERVATION DIVISION	
ARTESIA DIST.2 (EDDY) 575-748-1283	HOBBS DIST.1 (LEA) 575-393-6161

6. SAFETY BRIEFING

SERVICE COMPANY AND VISITING PERSONNEL

A. EACH SERVICE COMPANY THAT WILL BE ON THIS WELL WILL BE NOTIFIED IF THE ZONE CONTAINS H2S.

B. EACH SERVICE COMPANY MUST PROVIDE FOR THE TRAINING AND EQUIPMENT OF THEIR EMPLOYEES BEFORE THEY ARRIVE AT THE WELL SITE.

C. EACH SERVICE COMPANY WILL BE EXPECTED TO ATTEND A SAFETY BRIEFING.

7. EVACUATION PLAN

GENERAL REQUIREMENTS

EVACUATION ROUTES SHOULD BE ESTABLISHED PRIOR TO SPUDDING EACH WELL AND DISCUSSED WITH ALL RIG PERSONNEL.

1. DESIGNATED AREA

A. PARKING AND VISITOR AREA: ALL VEHICLES ARE TO BE PARKED AT A PRE-DETERMINED AND SAFE DISTANCE FROM THE WELLHEAD. THIS WILL BE THE DESIGNATED SMOKING AREA.

B. TWO BRIEFING AREAS ON EITHER SIDE OF THE LOCATION AT THE MAXIMUM ALLOWABLE DISTANCE FROM THE WELL BORE SO THEY OFFSET PREVAILING WINDS PERPENDICULARLY, OR AT A 45-DEGREE ANGLE IF WIND DIRECTION TENDS TO SHIFT IN THE AREA.

C. IF A MOVABLE H2S SAFETY TRAILER IS USED, IT SHOULD BE KEPT UPWIND OF EXISTING OR PREVAILING WIND DIRECTION. WHEN WIND IS FROM THE PREVAILING DIRECTION, BOTH PROTECTION CENTERS SHOULD BE ACCESSIBLE.

2. EVACUATION IMPLEMENTATION AND PUBLIC SAFETY

TO PROTECT THE PUBLIC FROM HAZARDOUS GAS SITUATIONS ARE AS FOLLOWS:
(NOTE: REFER ALSO TO APPENDIX 'C', POTENTIALLY HAZARDOUS VOLUMES.)

1. WHEN THE COMPANY APPROVED SUPERVISOR (DESIGNATED PERSONNEL, I.E., DRILLING FOREMAN, CONSULTANT, RIG PUSHER, OR DRILLER) DETERMINES THE H2S 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 AREA MAP.

2. COMPANY FOREMAN OR DESIGNATED PERSONNEL WILL NOTIFY LOCAL GOVERNMENT AGENCIES AND STATE POLICE THAT A HAZARDOUS CONDITION EXISTS AND EVACUATION NEEDS TO BE IMPLEMENTED.

3. COMPANY SAFETY PERSONNEL THAT HAVE BEEN TRAINED IN THE USE OF H2S DETECTION EQUIPMENT AND SELF-CONTAINED BREATHING EQUIPMENT WILL MONITOR H2S CONCENTRATIONS, WIND DIRECTIONS, AND AREA OF EXPOSURE. THEY WILL DELINEATE THE OUTER PERIMETER OF THE HAZARDOUS GAS AREA. EXTENSION TO THE EVACUATION AREA WILL BE DETERMINED FROM INFORMATION GATHERED.

4. LAW ENFORCEMENT PERSONNEL (STATE POLICE, LOCAL POLICE , FIRE DEPARTMENT AND SHERIFF) WILL BE CALLED TO AID IN SETTING UP AND MAINTAINING ROAD BLOCKS. ALSO, THEY WILL AID IN EVACUATION OF THE PUBLIC IF NECESSARY.

IMPORTANT: 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 SAFETY PERSONNEL WILL DETERMINE WHEN THE AREA IS SAFE FOR RE-ENTRY.

IT IS THE RESPONSIBILITY OF EVERY CONTRACTOR EMPLOYED BY TROVE ENERGY AND WATER, LLC TO HAVE ALL THIER EMPLOYEES CERTIFIED IN H2S SAFETY.

ALL PERSONNEL ON A TROVE ENERGY AND WATER, LLC SITE WILL BE REQUIRED TO HAVE ON THEIR PERSON (OR ON SITE) AN H2S TRAINING CERTIFICATE CARD THAT IS VALID FOR THE CURRENT DATE.

APPENDIX 'A'

TRAINING REQUIREMENTS

WHEN WORKING IN AN AREA WHERE ***ANY LEVEL*** OF HYDROGEN SULFIDE GAS (H2S) MIGHT BE ENCOUNTERED, DEFINITE TRAINING REQUIREMENTS MUST BE CARRIED OUT. ALL COMPANIES WILL ENSURE THAT ALL PERSONNEL AT THE WELL SITE WILL HAVE HAD ADEQUATE TRAINING IN THE FOLLOWING:

1. HAZARDS AND CHARACTERISTICS OF H2S.
2. PHYSICAL EFFECTS OF HYDROGEN SULFIDE ON THE HUMAN BODY.
3. TOXICITY OF HYDROGEN SULFIDE AND SULFUR DIOXIDE.
4. H2S DETECTION.
5. EMERGENCY RESCUE.
6. RESUSCITATORS.
7. FIRST AID AND ARTIFICIAL RESPIRATION.
8. EFFECTS OF H2S ON METALS.
9. LOCATION SAFETY.

IT IS THE RESPONSIBILITY OF EVERY CONTRACTOR EMPLOYED BY TROVE ENERGY AND WATER OPERATING, LLC TO HAVE ALL THIER EMPLOYEES CERTIFIED IN H2S SAFETY.

ALL PERSONNEL ON A TROVE ENERGY AND WATER, LLC SITE WILL BE REQUIRED TO HAVE ON THEIR PERSON AN H2S TRAINING CERTIFICATE CARD THAT IS VALID FOR THE CURRENT DATE.

APPENDIX 'A' (continued)

FIRST AID FOR H2S POISONING

DO NOT PANIC - REMAIN CALM - THINK !

1. HOLD YOUR BREATH. (DO NOT INHALE FIRST - JUST STOP BREATHING.)

2. PUT ON BREATHING APPARATUS.

3. REMOVE VICTIM(S) TO FRESH AIR AS QUICKLY AS POSSIBLE. (GO UP-WIND FROM SOURCE OR AT RIGHT ANGLE TO THE WIND - NOT DOWNWIND.)

4. YELL (!) ***"SOMEONE CALL 911". YELL!!***

5. BRIEFLY APPLY CHEST PRESSURE - ARM LIFT METHOD OF ARTIFICIAL RESPIRATION TO CLEAN THE VICTIM'S LUNGS AND TO AVOID INHALING ANY TOXIC GAS DIRECTLY FROM THE VICTIM'S LUNGS.

6. PROVIDE FOR PROMPT TRANSPORTATION TO THE HOSPITAL, AND CONTINUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.

7. HOSPITAL(S) OR MEDICAL FACILITIES NEED TO BE INFORMED, BEFORE-HAND, OF THE POSSIBILITY OF H2S GAS POISONING - NO MATTER HOW REMOTE THE POSSIBILITY IS.

8. NOTIFY EMERGENCY ROOM PERSONNEL THAT THE VICTIM(S) HAS BEEN EXPOSED TO H2S GAS.

BESIDES BASIC FIRST AID, EVERYONE ON LOCATION SHOULD HAVE A GOOD WORKING KNOWLEDGE OF ARTIFICIAL RESPIRATION, AS WELL AS FIRST AID FOR EYES AND SKIN CONTACT WITH H2S AND S20 GAS OR SULFURIC ACID.

EVERYONE NEEDS TO MASTER THESE NECESSARY SKILLS.

APPENDIX 'B'

STATUS CHECK LIST

APPLICABLE TO ALL OPERATIONS WHEN LEVELS ARE EXPECTED THAT APPROACH OR ARE ABOVE 100 PPM H2S.

NOTE: ALL ITEMS ON THIS LIST MUST BE COMPLETED BEFORE DRILLING TO PRODUCTION CASING POINT.

1. SIGN AT LOCATION ENTRANCE.

2. TWO (2) WINDSOCKS LOCATED AS REQUIRED.

3. TWO (2) 30-MINUTE PRESSURE DEMAND AIR PACKS ON LOCATION FOR ALL RIG PERSONNEL AND MUD LOGGERS.

4. AIR PACK INSPECTED FOR READY USE.

5. CASCADE SYSTEM AND HOSE LINE HOOK-UP.

6. CASCADE SYSTEM FOR REFILLING AIR BOTTLES.

7. SAFE BREATHING AREAS SETUP.

8. CONDITION FLAG ON LOCATION AND READY FOR USE.

9. H2S DETECTION SYSTEM HOOKED UP.

10. H2S ALARM SYSTEM HOOKED UP AND READY.

11. OXYGEN RESUSCITATOR ON LOCATION AND TESTED FOR USE.

12. STRETCHER ON LOCATION AT SAFETY TRAILER.

13. 1 - 100' LENGTH OF 5/8" NYLON ROPE ON LOCATION.

14. ALL RIG CREW AND SUPERVISORS TRAINED AS REQUIRED.

15. ALL OUTSIDE SERVICE CONTRACTORS ADVISED OF POTENTIAL H2S HAZARD ON WELL.

16. NO SMOKING SIGN POSTED.

17. HAND OPERATED H2S DETECTOR WITH TUBES ON LOCATION AND CHECKED BY DATE IS WITHIN CURRENT TIME FRAME.

APPENDIX 'B' (continued)

PROCEDURAL CHECK LIST

PERFORM DURING EACH TOUR:

1. CHECK FIRE EXTINGUISHERS TO SEE THAT THEY HAVE THE PROPER CHARGE.

2. CHECK BREATHING EQUIPMENT TO ENSURE THAT IT HAS NOT BEEN TAMPERED WITH.

3. MAKE SURE ALL THE H2S DETECTION SYSTEM IS OPERATIVE. PERFORM EACH WEEK:

4. CHECK EACH PIECE OF BREATHING EQUIPMENT TO MAKE SURE THAT DEMAND REGULATOR IS WORKING. THIS REQUIRES THAT THE BOTTLE BE OPENED AND THE MASK ASSEMBLY BE PUT ON TIGHT ENOUGH SO THAT WHEN YOU INHALE, YOU RECEIVE AIR.

5. BLOW OUT PREVENTER SKILLS ARE APPROPRIATELY COVERED BY CREW.

6. CHECK SUPPLY PRESSURE ON BOP ACCUMULATOR STAND BY SOURCE.

7. CHECK ALL SCBA UNITS FOR OPERATION:

DEMAND REGULATOR

ESCAPE BOTTLE AIR VOLUMES

SUPPLY BOTTLE OF AIR VOLUME

8. CHECK BREATHING EQUIPMENT MASK ASSEMBLY TO SEE THAT STRAPS ARE LOOSENED AND TURNED BACK, READY TO PUT ON.

9. CHECK PRESSURE ON BREATHING EQUIPMENT AIR BOTTLES TO MAKE SURE THEY ARE CHARGED TO FULL VOLUME.

10. CONFIRM PRESSURE ON ALL SUPPLY AIR BOTTLES.

11. PERFORM BREATHING EQUIPMENT DRILLS WITH ON-SITE PERSONNEL.

12. CHECK THE FOLLOWING FOR AVAILABILITY:

EMERGENCY TELEPHONE LIST (PAGES 8 & 9)

HAND OPERATED H2S DETECTORS AND TUBES

APPENDIX 'B' (continued)

SITE SPECIFIC PLAN CHECK LIST (NEW PLAN)

IF A WELL, FACILITY OR OPERATION IS REASONABLY EXPECTED TO INVOLVE A POTENTIALLY HAZARDOUS VOLUME OF H2S WITH CONCENTRATIONS APPROACHING 100 PPM, THE PERSON SHALL DEVELOP A H2S CONTINGENCY PLAN THAT THE PERSON WILL USE TO ALERT AND PROTECT THE PUBLIC IN ACCORDANCE WITH THE SUBSECTIONS B THROUGH I OF 19.15.11.9 NMAC.

1. A SITE-SPECIFIC PLAN WILL BE DEVELOPED AND SUBMITTED TO THE NMOCD OR OTHER APPLICABLE AGENCIES AND TO THE APPLICABLE COUNTY EMERGENCY COORDINATOR.

2. THIS PLAN AND ALL PARTS INCLUDING APPENDICES SHALL BE THE BASIS OF SUCH SITE-SPECIFIC PLAN AND BEYOND THAT, ADDITIONAL REQUIREMENTS INCLUDE:

A. **SITE IDENTIFICATION** INCLUDING API NUMBER IF APPLICABLE AND LOCATION INCLUDING LAT / LONG COORDINATES.

B. **MAPS AND DRAWINGS** TO DEPICT THE AREA OF EXPOSURE AND PUBLIC AREAS AND PUBLIC ROADS WITHIN AREA OF EXPOSURE. MAPS SHALL INCLUDE POTENTIAL LEVEL 2 (500 PPM) AND LEVEL 3 (100 PPM) AREA OF EXPOSURE RADII BY CALCULATION. (APPENDIX 'C', PG.19.) IF ROADS ARE INVOLVED, ROAD BLOCKS SHOULD BE DESIGNATED ON MAPS. (COORDINATE WITH LAW ENFORCEMENT AGENCIES.)

C. **TRAINING AND DRILLS** INCLUDING TRAINING IN THE RESPONSIBILITIES AND DUTIES OF ESSENTIAL PERSONNEL AND PERIODIC ON-SITE OR CLASSROOM DRILLS OR EXERCISES THAT SIMULATE A RELEASE, AND SHALL DESCRIBE HOW THE PERSON WILL DOCUMENT THE TRAINING, DRILLS AND ATTENDANCE.

D. **RESIDENT TRAINING.** WHEN APPLICABLE, THE H2S CONTINGENCY PLAN SHALL ALSO PROVIDE FOR TRAINING OF RESIDENTS AS APPROPRIATE ON THE PROPER PROTECTIVE MEASURES TO BE TAKEN IN THE EVENT OF A RELEASE, AND SHALL PROVIDE FOR BRIEFING OF PUBLIC OFFICIALS ON ISSUES SUCH AS EVACUATION OR SHELTER-IN-PLACE PLANS.

E. **COORDINATION WITH STATE EMERGENCY PLANS**. THE H2S CONTINGENCY PLAN SHALL DESCRIBE HOW THE PERSON WILL COORDINATE EMERGENCY RESPONSE ACTIONS UNDER THE PLAN WITH THE DIVISION AND THE NEW MEXICO STATE POLICE CONSISTENT WITH THE NEW MEXICO HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN.

F. **PLAN ACTIVATION.** THE PERSON SHALL ACTIVATE THE H2S CONTINGENCY PLAN CONTINGENCY PLAN WHEN A RELEASE CREATES A H2S CONCENTRATION GREATER THAN THE ACTIVATION LEVEL SET FORTH IN THE H2S CONTINGENCY PLAN. AT A MINIMUM, THE PERSON SHALL ACTIVATE THE PLAN WHENEVER A RELEASE MAY CREATE A H2S CONCENTRATION OF MORE THAN 100 PPM IN A PUBLIC AREA, 500 PPM AT A PUBLIC ROAD OR 100 PPM 3000 FEET FROM THE SITE OF RELEASE.

APPENDIX 'C'

GENERAL INFORMATION

TOXIC EFFECTS OF HYDROGEN SULFIDE

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 COLORLESS. IT FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN 4.3 AND 46.0 PERCENT BY VOLUME.

HYDROGEN SULFIDE IS ALMOST AS TOXIC AS HYDROGEN CYANIDE AND IS BETWEEN FIVE AND SIX TIMES MORE TOXIC THAN CARBON MONOXIDE.

TOXICITY DATA FOR HYDROGEN SULFIDE AND VARIOUS OTHER GASES ARE COMPARED IN TABLE I.

PHYSICAL EFFECTS AT VARIOUS HYDROGEN SULFIDE EXPOSURE LEVELS ARE SHOWN IN TABLE II.

TABLE I

TOXICITY OF VARIOUS GASES

COMMON NAME	*CHEMICAL FORMULA*	*SPECIFIC GRAVITY*	*THRESHOLD LIMIT (1)*	*HAZARDOUS LIMIT (2)*	*LETHAL CONCENTRATION (3)*
HYDROGEN SULFIDE	**H2S**	**1.19**	**10 PPM**	**100 PPM/HR**	**600 PPM**
HYDROGEN CYANIDE	**HCN**	**0.94**	**10 PPM**	**150 PPM/HR**	**300 PPM**
SULFUR DIOXIDE	**SO2**	**2.21**	**2 PPM**	**N/A**	**1000 PPM**
CHLORINE	**CL2**	**2.45**	**1 PPM**	**150 PPM/HR**	**1000 PPM**
CARBON MONOXIDE	**CO**	**0.97**	**50 PPM**	**150 PPM/HR**	**1000 PPM**
CARBON DIOXIDE	**CO2**	**1.52**	**5000 PPM**	**5%**	**10%**
METHANE	**CH4**	**0.55**	**90,000 PPM**	**COMBUSTIBLE @ 5% IN AIR**	**N/A**

(1) THRESHOLD LIMIT - CONCENTRATION AT WHICH IT IS BELIEVED THAT ALL WORKERS MAY BE REPEATEDLY EXPOSED DAY AFTER DAY WITHOUT ADVERSE EFFECTS.

(2) HAZARDOUS LIMIT - CONCENTRATION THAT MAY CAUSE DEATH WITH PROLONGED EXPOSURE.

(3) LETHAL CONCENTRATION - CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.

APPENDIX 'C' (continued)

TABLE II

PHYSICAL EFFECTS OF HYDROGEN SULFIDE

CONCENTRATION	*PHYSICAL EFFECTS*
0.001 or 10 PPM	**OBVIOUS AND UNPLEASANT ODOR. SAFE FOR 8 HOURS OF EXPOSURE.**
0.002 or 20 PPM	**MAY STING EYES AND THROAT. MAY CAUSE FLU-LIKE SYMPTOMS.**
0.010 or 100 PPM	**KILLS SMELL IN 3 - 15 MINUTES. STINGS EYES AND THROAT. MAY HAVE SOME DIZZINESS AFTER PROLONGED EXPOSURE.**
0.050 or 500 PPM	**DIZZINESS; BREATHING CEASES IN A FEW MINUTES; NEEDS PROMPT RESUSCITATION. MAY CAUSE LUNG DAMAGE OR DEATH AFTER 4 HOURS EXPOSURE.**
0.070 or 700 PPM	**UNCONSCIOUS QUICKLY; DEATH WILL RESULT IF NOT RESCUED PROMPTLY.**
0.100 or 1000 ppm	**UNCONSCIOUS AT ONCE; FOLLOWED BY DEATH WITHIN MINUTES.**

SCBA'S SHOULD BE WORN WHEN...

1. ANY EMPLOYEE WORKS NEAR THE TOP OR ON TOP OF ANY TANK UNLESS TESTS REVEAL LESS THAN 10 PPM OF H2S.

2. WHEN BREAKING OUT ANY LINE WHERE H2S CAN REASONABLY BE EXPECTED.

3. WHEN SAMPLING AIR IN AREAS TO DETERMINE IF TOXIC CONCENTRATIONS OF H2S EXISTS.

4. WHEN WORKING IN AREAS WHERE OVER 100 PPM H2S HAS BEEN DETECTED.

5. AT ANY TIME THERE IS A DOUBT AS TO THE H2S LEVEL IN THE AREA TO BE ENTERED.

APPENDIX 'C' (continued)

POTENTIALLY HAZARDOUS VOLUMES

THIS IS THE VOLUME OF H2S GAS OF SUCH CONCENTRATION THAT:

1. THE 100-PPM (LEVEL 3) RADIUS OF EXPOSURE INCLUDES A PUBLIC AREA;
2. THE 500-PPM (LEVEL 2) RADIUS OF EXPOSURE INCLUDES A PUBLIC ROAD;
3. THE 100-PPM RADIUS OF EXPOSURE EXCEEDS 3000 FEET.

(1) RADIUS OF EXPOSURE MEANS THE RADIUS CONSTRUCTED WITH THE POINT OF ESCAPE AS ITS STARTING POINT AND ITS LENGTH.

(2) PUBLIC AREA IS A BUILDING OR STRUCTURE THAT IS NOT ASSOCIATED WITH THE WELL, FACILITY OR OPERATION FOR WHICH THE RADIUS OF EXPOSURE IS BEING CALCULATED AND THAT IS USED AS A DWELLING, OFFICE, PLACE OF BUSINESS, CHURCH, SCHOOL, HOSPITAL OR GOVERNMENT BUILDING, OR A PORTION OF A PARK, CITY, TOWN, VILLAGE OR DESIGNATED SCHOOL BUS STOP OR OTHER SIMILAR AREA WHERE MEMBERS OF THE PUBLIC MAY REASONABLY BE EXPECTED TO BE PRESENT.

(3) PUBLIC ROAD MEANS A FEDERAL, STATE, MUNICIPAL OR COUNTY ROAD OR HIGHWAY.

RADIUS OF EXPOSURE

THE RADIUS OF EXPOSURE IS CALCULATED USING THE FOLLOWING PASQUILL-GIFFORD DERIVED EQUATION (OR BY OTHER SUCH METHOD) AS FOLLOWS:

A. FOR DETERMINING THE 100-PPM (LEVEL 3) RADIUS OF EXPOSURE:

$$X = [(1.589)(H2S\ CONCENTRATION)(Q)]^{(0.6258)}$$

WHERE *"X" IS THE RADIUS OF EXPOSURE IN FEET, THE H2S CONCENTRATION IS THE DECIMAL EQUIVALENT OF THE MOLE OR VOLUME FRACTION OF H2S IN THE GASEOUS MIXTURE;*

AND *"Q" IS THE ESCAPE RATE EXPRESSED IN CUBIC FEET PER DAY (CORRECTED FOR STANDARD CONDITIONS OF 14.73 PSI ABSOLUTE AND 60 DEGREES FAHRENHEIT)*

B. FOR DETERMINING THE 500-PPM (LEVEL 2) RADIUS OF EXPOSURE:

$$X = [(0.4546)(H2S\ CONCENTRATION)(Q)]^{(0.6258)}$$

WHERE *"X" IS THE RADIUS OF EXPOSURE IN FEET, THE H2S CONCENTRATION IS THE DECIMAL EQUIVALENT OF THE MOLE OR VOLUME FRACTION OF H2S IN THE GASEOUS MIXTURE;*

AND *"Q" IS THE ESCAPE RATE EXPRESSED IN CUBIC FEET PER DAY (CORRECTED FOR STANDARD CONDITIONS OF 14.73 PSI ABSOLUTE AND 60 DEGREES FAHRENHEIT)*

C. FOR A WELL BEING DRILLED, COMPLETED, RECOMPLETED, WORKED OVER OR SERVICED IN AN AREA WHERE INSUFFICIENT DATA EXISTS TO CALCULATE A RADIUS OF EXPOSURE BUT WHERE H2S COULD REASONABLY BE EXPECTED TO BE PRESENT IN CONCENTRATIONS IN EXCESS OF 100 PPM IN THE GASEOUS MIXTURE, A 100 PPM RADIUS OF EXPOSURE EQUAL TO 3000 FEET IS ASSUMED.

APPENDIX 'C' (continued)

REGULATORY THRESHOLD

A. DETERMINATION OF H2S CONCENTRATION

1. THE H2S CONCENTRATION IN THE GASEOUS MIXTURE WITHIN WELLS, FACILITIES OR OPERATIONS SHALL BE DETERMINED EITHER BY TESTING, TESTING A REPRESENTATIVE SAMPLE OR USING PROCESS KNOWLEDGE IN LIEU OF TESTING. IF THE PERSON USES A REPRESENTATIVE SAMPLE OR PROCESS KNOWLEDGE, THE CONCENTRATION DERIVED FROM THE REPRESENTATIVE SAMPLE OR PROCESS KNOWLEDGE SHALL BE REASONABLY REPRESENTATIVE OF THE H2S CONCENTRATION WITHIN THE WELL OR FACILITY.

2. THE TESTS USED TO MAKE THE DETERMINATION SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE ASTM OR GPA STANDARDS OR BY STANDARDLY ACCEPTED METHOD.

3. IF A CHANGE OR ALTERATION MAY MATERIALLY INCREASE THE H2S CONCENTRATION IN A WELL, FACILITY OR OPERATION, TESTING SHALL BE CONDUCTED TO MAKE A NEW DETERMINATION.

B. CONCENTRATIONS DETERMINED TO BE BELOW 100 PPM - IF THE H2S CONCENTRATION IN A GIVEN WELL, FACILITY OR OPERATION IS LESS THAN 100 PPM, NO FURTHER ACTIONS SHALL BE REQUIRED ***EXCEPT AS PROVIDED IN THIS H2S CONTINGENCY PLAN CONCERNING "NORMAL / LOW H2S CONDITIONS".***

C. CONCENTRATIONS DETERMINED TO BE ABOVE 100 PPM

1. IF THE H2S CONCENTRATION IN A GIVEN WELL, FACILITY OR OPERATION IS DETERMINED TO BE 100 PPM OR GREATER, THEN THE RADIUS OF EXPOSURE SHALL BE CALCULATED TO COMPLY WITH APPLICABLE REQUIREMENTS OF STATE AND FEDERAL LAW.

2. IF CALCULATION OF THE RADIUS OF EXPOSURE REVEALS THAT A POTENTIALLY HAZARDOUS VOLUME IS PRESENT, THE RESULTS OFTHE H2S CONCENTRATION DETERMINATION AND THE CALCULATION OF THE RADIUS OF EXPOSURE SHALL BE PROVIDED TO NMOCD AND BLM. FOR A WELL, FACILITY OR OPERATION, THE ACCOMPLISH THE DETERMINATIONS, CALCULATIONS AND SUBMISSIONS WILL BE MADE BEFORE OPERATIONS BEGIN.

D. RECALCULATION - OF THE RADIUS OF EXPOSURE SHALL BE PERFORMED IF:

1. THE H2S CONCENTRATION IN A WELL, FACILITY OR OPERATION INCREASES TO 100 PPM OR GREATER.

2. THE CONCENTRATION OF H2S INCREASES BY A FACTOR OF 25% IN AN AREA THAT PREVIOUSLY HAD A H2S CONCENTRATION OF 100 PPM OR GREATER.

IF A POTENTIALLY HAZARDOUS VOLUME IS PRESENT, THE RESULTS SHALL BE PROVIDED TO THE NMOCD AND BLM (IF APPLICABLE) WITHIN 60 DAYS.

APPENDIX 'D'

INCIDENT RESPONSE PROTOCOL

FOLLOW THE PLAN

! ! ! AN EMERGENCY HAS OCCURRED ! ! !

1. **IMPLEMENT PLAN** – COMPANY FOREMAN OR DESIGNATED PERSON IS IMMEDIATE INCIDENT COMMANDER. (SAFETY CONSULTANT IF ON SITE.)

2. **ASSESS SITUATION** – DIRECT ALL PERSONNEL TO REPORT TO SAFETY BREIFING AREA. NOTIFY TO EVACUATE PUBLIC IF APPLICABLE.

3. **CONTROL SITUATION IF POSSIBLE** – DON BREATHING AND SAFETY APPARTUS; SHUT DOWN OPERATIONS AND WELL.

   BACK-UP DESIGNEE SHOULD: ***(EMERGENCY NUMBERS PAGES 8 & 9)***

   A. REPORT INCIDENT TO COUNTY EMERGENCY RESPONSE & STATE POLICE.
   B. CALL 911 OR MEDICAL IF NECESSARY. ***(GIVE FIRST AID, PAGE 12)***
   C. CALL COUNTY SHERIFF, OTHER EMERGENCY AGENCIES.
   D. CALL SAFETY COMPANY, COMPANY REPS IF NOT ALREADY ON SITE.
   E. ESTABLISH RADIO COMMUNICATION WITH EMERGENCY RESPONDERS.

4. **ATTEMPT RESCUE IF REQUIRED** – QUALIFIED PERSONNEL MUST BE MASKED UP AND BUDDY SYSTEM ONLY. ***(PER TRAINING AND CERTIFICATION.)***

5. **CONTROL OR PARTIAL CONTROL**

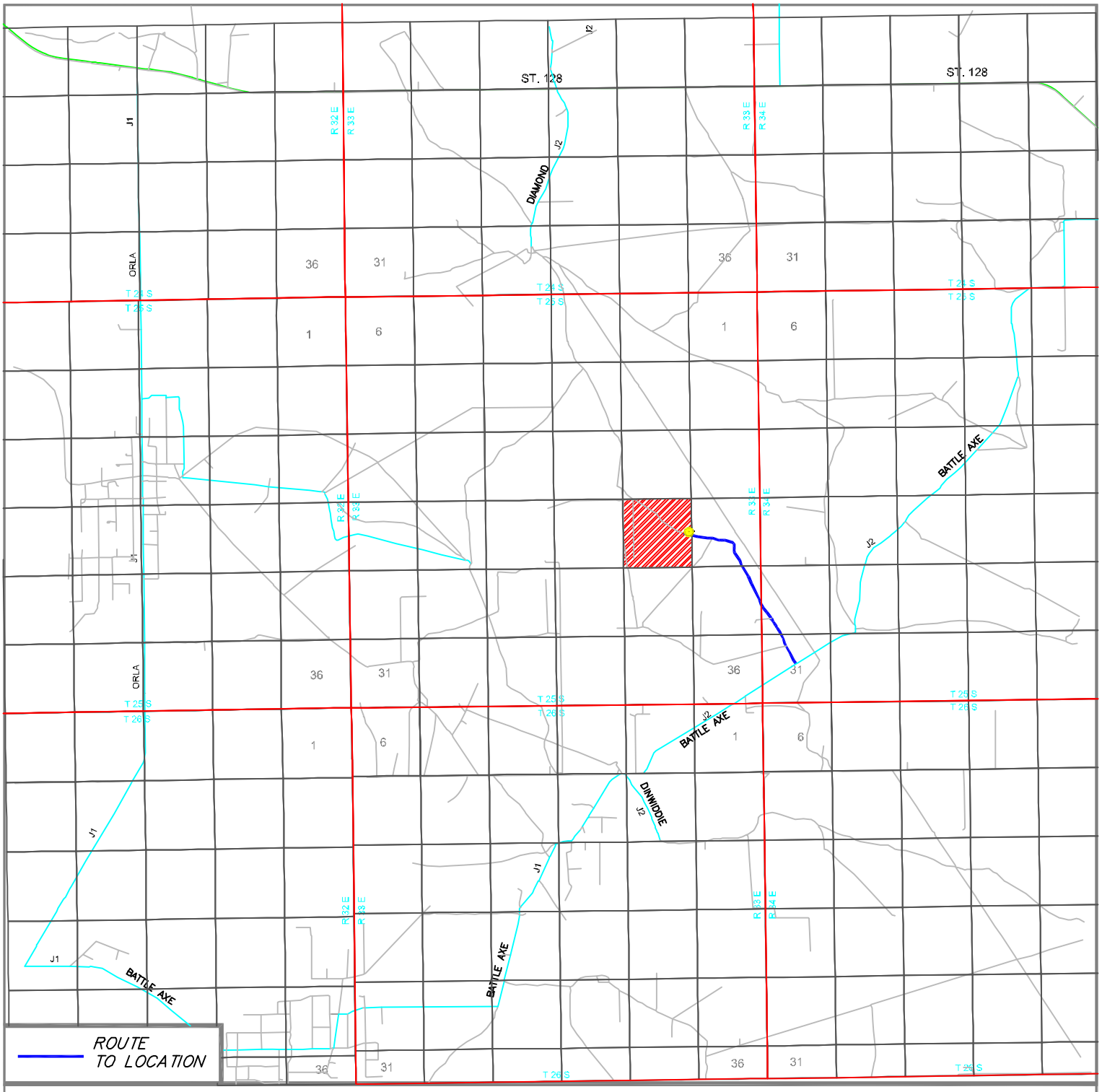
   A. MAKE DECISION TO IGNITE WELL IF REQUIRED. ***(PAGE 6)***
   B. BRIEF PERSONNEL ASSEMBLY IN SAFETY AREA – GIVE INSTRUCTIONS TO EVACUATE NON-ESSENTIAL PERSONNEL.

6. **BRIEF LAW ENFORCEMENT AND COUNTY EMERGENCY RESPONDERS.**

   A. STATE POLICE WILL BE IN CONTROL OF INCIDENT BEYOND LOCATION.
   B. COMPANY PERSONNEL WILL FOLLOW INSTRUCTIONS OF STATE POLICE, LOCAL EMERGENCY PERSONNEL AND COOPERATE WITH ALL PARTIES TO ENSURE SAFE OPERATIONS MOVING FORWARD.
   C. IF WELL IS OUT OF CONTROL (BLOWOUT), A NEW INCIDENT COMMANDER MAY BE DESIGNATED FOR THE DURATION OF THE EVENT.

7. **INCIDENT IS CONTROLLED** AND SHUT DOWN OR, INCIDENT OPERATIONS WILL CONTINUE UNTIL RESOLVED.

8. **REGULATORY REPORTING** & PAPERWORK IS COMPLETED AS APPLICABLE - DETERMINE CAUSE OF FAILURE, VOLUMES, ETC. EVENT IS TERMINATED.



WLC MID FEDERAL SWD 2

Located 2595' FNL and 195' FEL
Section 23, Township 25 South, Range 33 East,
N.M.P.M., Lea County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 – Office
(575) 392-2206 – Fax
basinsurveys.com

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'

W.O. Number: JG 34882

Survey Date: 9-26-2019

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

TROVE ENERGY AND WATER, LLC

Onsite Form

Submitted By: nmacphee@blm.gov_BLM_EGIS Date: 01/09/2020 9:40 AM

Operator Name: Trove **Well Name:** WLC MID FEDERAL SWD 2

SHL: Township - 25 , **Range** - 33 , **Section** - 23

Well Type: Horizontal **Well Use:** SWD **NOS/APD Received:** NOS

Surface Management Agency: BLM **SMA Contacted?** Yes

Operator Representative/Contact: Ben

BLM Representatives: Nik MacPhee

Description & Topography: Relatively Flat

Soils: Sandy (Seed Mix 2), Loamy (Seed Mix 1)

Karst:

Vegetation: Yucca, Grasses, Mesquite

Hydrology: No concerns

Wildlife: No Concerns

Range: No concerns

Well Infrastructure

Pad Size: 300 x 300

Number of Wells: 1

Road Route: S

Top Soil: N

Production Facilities: On pad

Interim Reclamation: 30 feet off north

Electric Lines: Follow entrance

Flow Lines: Follow entrance

Notes:

Additional Concerns:

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 Rd., 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 and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised August 1, 2011

Submit one copy to appropriate District Office

OCD - HOBBS
07/20/2020
RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-47453	97869	SWD; DEVONIAN-SILURIAN

Property Code	Property Name	Well Number
328899	WLC MID FEDERAL SWD	2

OGRID No.	Operator Name	Elevation
372488	TROVE ENERGY AND WATER, LLC	3338'

Surface Location

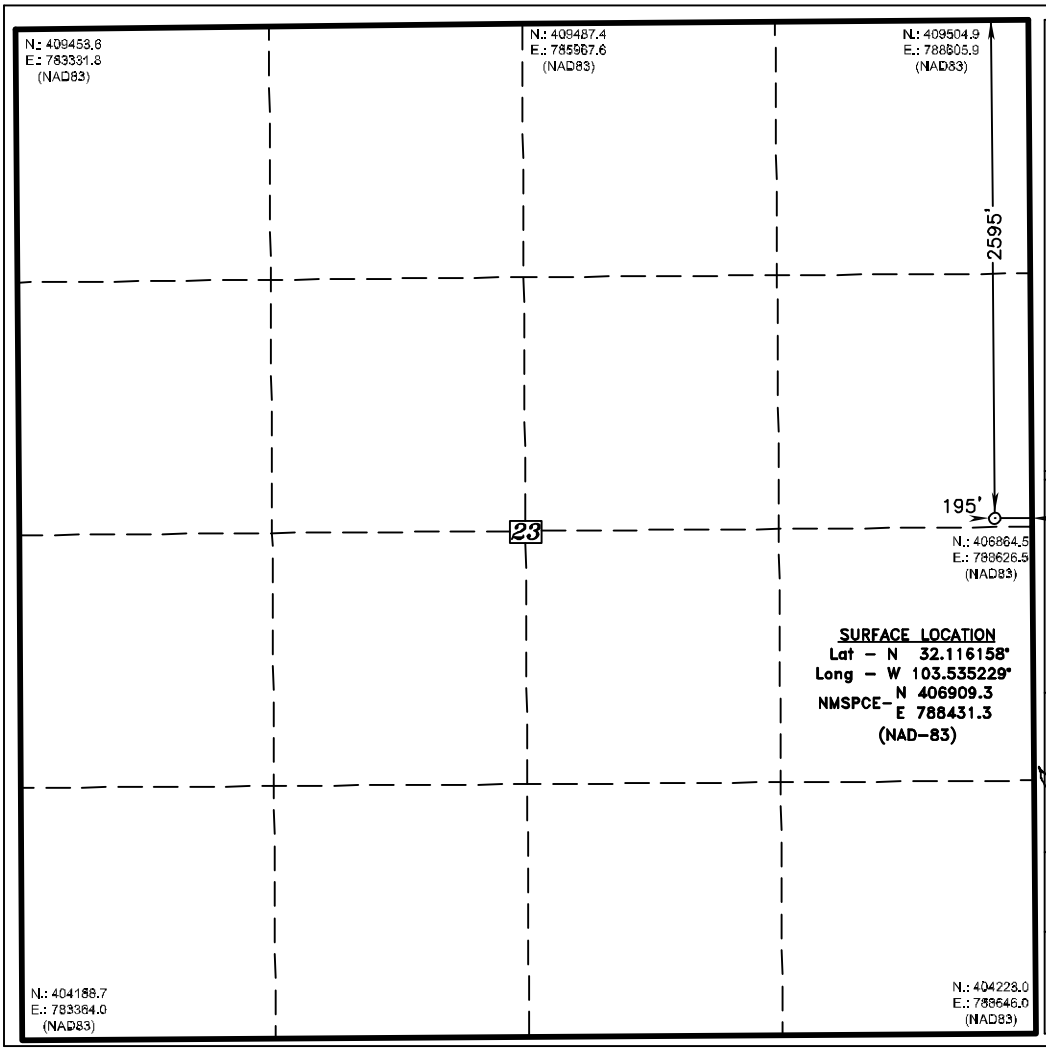
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	23	25 S	33 E		2595	NORTH	195	EAST	LEA

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
			SWD-2021

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



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 — Date: 7/22/2020

Ben Stone
Printed Name

ben@sosconsulting.us
Email Address

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 supervison, and that the same is true and correct to the best of my belief.

SEPTEMBER 26, 2019
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 500' 1000' 1500' 2000'
SCALE: 1" = 1000'
WO Num.: 34882

State of New Mexico
Energy, Minerals and Natural Resources Department

Administrative Order SWD-2021
December 16, 2019

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Pursuant to the provisions of Division Rule 19.15.26.8(B) NMAC, Trove Energy and Water, LLC (the "operator") seeks an administrative order for its WLC-M Federal SWD Well No. 2 (the "proposed well") with a location of 2595 feet from the North line and 195 feet from the East line, Unit letter H of Section 23, Township 25 South, Range 33 East, NMPM, Lea County, New Mexico, for the purpose of commercial disposal of oil field produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division Rule 19.15.26.8(B) NMAC and satisfactory information has been provided that affected parties, have been notified and no objections have been received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in Division Rule 19.15.26.8 NMAC have been met and the operator is in compliance with Division Rule 19.15.5.9 NMAC.

Application for Disposal in Devonian and Silurian Formations: Due to the potential for the projected injection volume of the proposed well to impact an area greater than the one-half mile radius applied in Division Form C-108 and Division rule, the applicant has provided the following supplementary information:

1. Notification following Division Rule 19.15.26.8(B) NMAC for a radius of one mile from the surface location of the proposed well;
2. An expanded Area of Review for wells penetrating the disposal interval for a radius of one mile from the surface location of the proposed well; and
3. A statement by a qualified person assessing the potential of induced-seismic events associated with the disposal activities for the predicted service life of the proposed well.

IT IS THEREFORE ORDERED THAT:

The applicant, Trove Energy and Water LLC (OGRID 372488), is hereby authorized to utilize its WLC-M Federal SWD Well No. 2 (API 30-025-Pending) with a location of 2595 feet from the North line and 195 feet from the East line, Unit letter H of Section 23, Township 25 South, Range 33 East, NMPM, Lea County, New Mexico, for disposal of oil field produced water (UIC Class II only) through open-hole completion into an interval consisting of the Devonian and

Silurian formations from approximately 17,150 feet to approximately 19,250 feet. Injection will occur through internally-coated, 5.5-inch or smaller tubing within the 7.625-inch liner and a packer set within 100 feet of the top of the disposal interval. This permit does not allow disposal into:

1. The Woodford Shale and formations above the lower contact of the Woodford Shale;
2. Formations below the Silurian formations including the Montoya formation and the Ellenburger formation (lower Ordovician); and
3. Any lost circulation intervals directly on top and obviously connected to these formations.

Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information, to the Division's District geologist and Santa Fe Engineering Bureau, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval. If significant hydrocarbon shows occur while drilling, the operator shall notify the Division's District office and the operator shall be required to receive written permission prior to commencing disposal.

The operator shall circulate to surface the cement for the 9.625-inch production casing.

If cement does not circulate on any casing string, the operator shall run a cement bond log (CBL) or other log to determine top of cement and shall notify the Hobbs District with the top of cement on the emergency phone number prior to continuing with any further cement activity with the proposed well. If cement did not tie back into the next higher casing shoe, the operator shall perform remedial cement job to bring cement, at a minimum, 200 feet above the next higher casing shoe.

The operator shall run a CBL (or equivalent) for the 7.625-inch liner to demonstrate the placement of cement and the cement bond with the tie-in with 9.625-inch casing string. The operator shall provide a copy of the CBL to the Division's District office prior to commencing disposal.

Prior to commencing disposal, the operator shall obtain a bottom-hole pressure measurement representative of the open-hole completion. This information shall be provided with the written notice of the date of commencement of disposal.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the disposed water enters only the approved disposal interval and is not permitted to escape to other formations or onto the surface. This includes the completion and construction of the well as described in the application and, if necessary, as modified by the District Supervisor.

After installing tubing, the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge or an approved leak detection device in order to determine leakage in the casing, tubing, or packer. The casing shall be pressure tested from the surface to the packer

setting depth to assure casing integrity.

The well shall pass an initial mechanical integrity test ("MIT") prior to initially commencing disposal and prior to resuming disposal each time the disposal packer is unseated. All MIT procedures and schedules shall follow the requirements in Division Rule 19.15.26.11(A) NMAC. The Division Director retains the right to require at any time wireline verification of completion and packer setting depths in this well.

Without limitation on the duties of the operator as provided in Division Rules 19.15.29 and 19.15.30 NMAC, or otherwise, the operator shall immediately notify the Division's District I office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

If the disposal well fails a MIT or if there is evidence that the mechanical integrity of said well is impacting correlative rights, the public health, any underground sources of fresh water, or the environment, the Division Director shall require the well to be shut-in within 24 hours of discovery and the operator shall redirect all disposal waters to another facility. The operator shall take the necessary actions to address the impacts resulting from the mechanical integrity issues in accordance with Division Rule 19.15.26.10 NMAC, and the well shall be tested pursuant to Rule 19.15.26.11 NMAC prior to returning to injection.

The wellhead injection pressure on the well shall be limited to **no more than 3430 psi.** In addition, the disposal well or system shall be equipped with a pressure limiting device in workable condition which shall, at all times, limit surface tubing pressure to the maximum allowable pressure for this well.

The Director of the Division may authorize an increase in tubing pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the disposed fluid from the target formations. Such proper showing shall be demonstrated by sufficient evidence including but not limited to an acceptable step-rate test.

The operator shall notify the supervisor of the Division's District I office of the date and time of the installation of disposal equipment and of any MIT so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of disposal to the Division's District I office. The operator shall submit monthly reports of the disposal operations that includes number of days of operation, injection volume, and injection pressure on Division Form C-115, in accordance with Division Rules 19.15.26.13 and 19.15.7.24 NMAC.

The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

The Division may revoke this injection order after notice and hearing if the operator is in violation of Rule 19.15.5.9 NMAC.

The disposal authority granted herein shall terminate one (1) year after the effective date of this Order if the operator has not commenced injection operations into the subject well. One year after the last date of reported disposal into this well, the Division shall consider the well abandoned, and the authority to dispose will terminate *ipso facto*. The Division, upon written request mailed by the operator prior to the termination date, may grant an extension thereof for good cause.

Compliance with this Order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing, terminate the disposal authority granted herein.

ANDRIENNE SANDOVAL
Director

AS/dhr

cc: Oil Conservation Division – Hobbs District Office
Admin. Appl. No. pMAM1908648314
Bureau of Land Management – Carlsbad Field Office

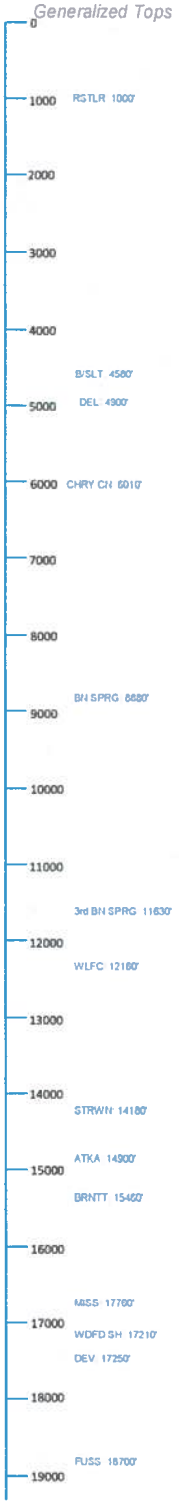
Attachment: C-108 well completion diagram

WELL SCHEMATIC - PROPOSED
WLC Mid Federal SWD Well No.2

TROVE ENERGY and WATER

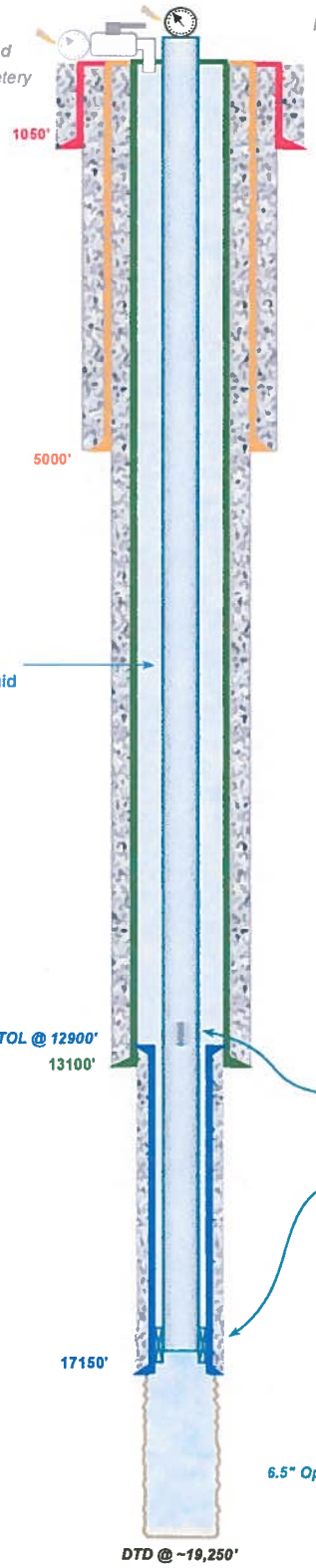
API 30-025-xxxxx
2595' FNL & 195' FEL, SEC. 23-T25S-R33E
LEA COUNTY, NEW MEXICO

SWD; Devonian-Silurian (97869)
Spud Date: 11/01/2019
SWD Config Dt: 12/15/2019



Annulus Monitored via Remote Telemetery

Injection Pressure Regulated and Volumes Reported
3430 psi Max. Surface (0.2 psi per foot)



Surface Casing
20.0", 94.0# J-55 Csg. (26.0" Hole) @ 1050'
1600 sx - Circulated to Surface

Intermediate Casing
13.375", 68.0# Csg. (17.5" Hole) @ 5000'
3200 sx - Circulated to Surface

Trove Energy & Water, LLC

Drill and set casing as designed w/ all strings cemented to surface. Install 7.625" liner @ ~17,150 w/ 450 sx to TOL. Drill 6.5" openhole to approx. 19,250' TD w/ mudlog for interval/ formation verification. Acidize formation; run 5.5" (5.0" FJ inside liner) injection TBG on PKR set at 17,050'.+ Conduct OCD witnessed MIT. Well ready for injection upon completion of surface facilities.

Production Casing
9.625", 53.5# P-110 Csg. (12.25" Hole) @ 13200'
3400 sx - Staged; Circulate to Surface
(DV @ 7800')

Liner Casing
7.625", 39.0# P-110 Csg (8.5" Hole) 12900' to 17,150'
450 sx Cls H - TOC @ Top of LNR

Drawn by: Ben Stone, 3/25/2019

SOS Consulting, LLC