Form 3160-3
(June 2015)

OCD – HOBBS
10/05/2020
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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.
NMLC0068281A

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

SWD-2098

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

8. Lease Name and Well No.
DEEP HOLE FEDERAL SWD [329747]
1

2. Name of Operator
PERMIAN OILFIELD PARTNERS LLC [328259]

9. API Well No. 30-025-47934

3a. Address
726 East Michigan Drive, Suite 206, Hobbs , NM 88241

3b. Phone No. *(include area code)*
(817) 600-8772

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

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESE / 1339 FSL / 250 FEL / LAT 32.0245011 / LONG -103.7065713
At proposed prod. zone NESE / 1339 FSL / 250 FEL / LAT 32.0245011 / LONG -103.7065713

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 19/T26S/R32E/NMP

14. Distance in miles and direction from nearest town or post office*
31 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)
250 feet

16. No of acres in lease
321.15

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.
504 feet

19. Proposed Depth
18777 feet / 18777 feet

20. BLM/BIA Bond No. in file
FED: NMB001780

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3175 feet

22. Approximate date work will start*
08/15/2020

23. Estimated duration
75 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	GARY FISHER / Ph: (817) 600-8772	06/19/2020

Title
President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	09/24/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

GCP NA for SWD

KZ
10/29/2020

SL

APPROVED WITH CONDITIONS

See SWD-2098 for additional ~~COA's~~

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 09/24/2020

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.

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Additional Operator Remarks

Location of Well

0. SHL: NESE / 1339 FSL / 250 FEL / TWSP: 26S / RANGE: 32E / SECTION: 19 / LAT: 32.0245011 / LONG: -103.7065713 (TVD: 0 feet, MD: 0 feet)

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

BHL: NESE / 1339 FSL / 250 FEL / TWSP: 26S / RANGE: 32E / SECTION: 19 / LAT: 32.0245011 / LONG: -103.7065713 (TVD: 18777 feet, MD: 18777 feet)

BLM Point of Contact

Name: Jordan Navarrette

Title: LIE

Phone: (575) 234-5972

Email: jnavarrette@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:	Permian Oilfield Partners
LEASE NO.:	NMLC 006828A NMLC 006828B
COUNTY:	Lea County, NM

Wells:

Deep Hole SWD #1
Surface Hole Location: 1339' FSL & 250' FEL, Section 19, T. 26 S., R. 32 E.

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

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

OR

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

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

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

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

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

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.

SPECIAL REQUIREMENT(S)

Watershed:

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

Cave/Karst:

Construction Mitigation

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

General Construction:

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

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.

- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Road Construction:

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

Buried Pipeline/Cable Construction:

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

Powerline Construction:

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

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Drilling Mitigation

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

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

- Closed loop system using steel tanks - all fluids and cuttings will be hauled off-site and disposed of properly at an authorized site
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.

- Directional drilling is only allowed at depths greater than 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost circulation zones will be logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See drilling COAs.

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

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

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

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

Range:

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.

Lesser Prairie Chicken:
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, 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. 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 ft. from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are

Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

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.

VRM IV:

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

V. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

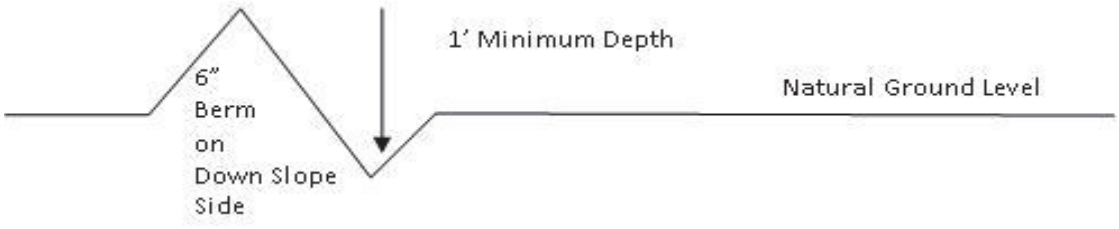
Ditching
Ditching shall be required on both sides of the road.

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

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

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

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

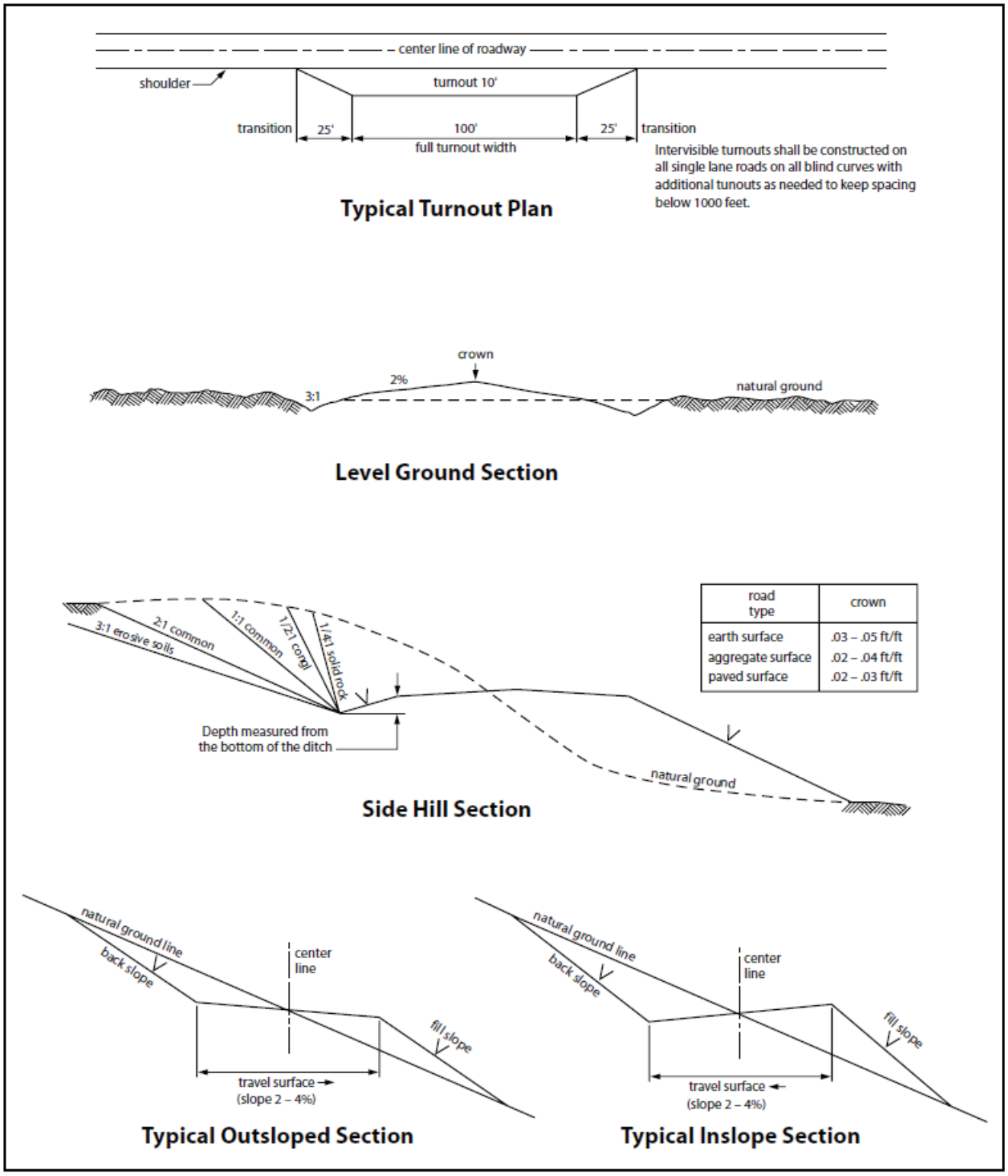


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VI. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

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

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

VII. INTERIM RECLAMATION

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

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

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

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

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

VIII. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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 1 for Loamy Sites

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 shall 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 shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

Seed Mixture 3, for Shallow 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
Plains Bristlegrass (*Setaria macrostachya*)	1.0
Green Sprangletop (*Leptochloa dubia*)	2.0
Sideoats Grama (*Bouteloua curtipendula)*	5.0

*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:	**PERMIAN OILFIELD PARTNERS, LLC.**
WELL NAME & NO.:	**DEEP HOLE FEDERAL SWD 1**
SURFACE HOLE FOOTAGE:	**1339'/S & 250'/E**
BOTTOM HOLE FOOTAGE:	**1339'/S & 250'/E**
LOCATION:	**Section 19, T.26 S., R.32 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	[x] Fluid Filled	[ ] Cement Squeeze	[ ] Pilot Hole
Special Requirements	[x] Water Disposal	[ ] COM	[ ] Unit

A. HYDROGEN SULFIDE

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

1. The **20** inch surface casing shall be set at approximately **1,170** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface. **Surface Casing must be kept fluid filled to meet Collapse Requirement.**

    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

Approval Date: 09/24/2020

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.

Salt casing string 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 which shall be set at approximately **4,270** feet is:

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

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

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

    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.

    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 to surface. If cement does not circulate see B.1.a, c-d above. Operator shall provide method of verification.

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

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

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface 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.

JJP09112020

Please See Attached Intermediate Casing Upgrades per Operator

[EXTERNAL] POP - Deep Hole Federal SWD #1

gfisher@popmidstream.com <gfisher@popmidstream.com>
Fri 9/11/2020 1:46 PM

To: Porter, Jeromy J <jjporter@blm.gov>
Cc: 'Tyler Ledlow (POP)' <tledlow@popmidstream.com>; spuryear@popmidstream.com <spuryear@popmidstream.com>

Jeromy,
As per your discussion with Tyler Ledlow, we intend to modify the submitted casing design to the following. We will review the final COA's & ensure the casing design matches what is spec'd.

- 13.375" 61# J55 casing will be upgraded to 13.375" 68# J55 BTC casing.

Please let me know if anything else needs attention and I will get it corrected immediately.

Thank you for your help resolving these issues and I look forward to working with you on future projects.

Gary Fisher

Permian Oilfield Partners, LLC
PO Box 3329
Hobbs, NM 88241
Mobile (817)606-7630
gfisher@popmidstream.com

PERMIAN OILFIELD PARTNERS

Approval Date: 09/24/2020

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

09/25/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Gary Fisher **Signed on:** 08/20/2019

Title: President

Street Address: PO Box 3329

City: Hobbs **State:** NM **Zip:** 88241

Phone: (817)606-7630

Email address: gfisher@popmidstream.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

APD ID: 10400057795 **Submission Date:** 06/19/2020

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Well Type: INJECTION - DISPOSAL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - General

APD ID: 10400057795 **Tie to previous NOS?** Y **Submission Date:** 06/19/2020

BLM Office: CARLSBAD **User:** Gary Fisher **Title:** President

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMLC0068281A **Lease Acres:** 321.15

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO **APD Operator:** PERMIAN OILFIELD PARTNERS LLC

Operator letter of designation:

Operator Info

Operator Organization Name: PERMIAN OILFIELD PARTNERS LLC

Operator Address: 726 East Michigan Drive, Suite 206 **Zip:** 88241

Operator PO Box:

Operator City: Hobbs **State:** NM

Operator Phone: (817)600-8772

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1 **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** SWD **Pool Name:** SWD; DEVONIAN-SILURIAN

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: SINGLE WELL **Multiple Well Pad Name:** **Number:**

Well Class: VERTICAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: INJECTION - DISPOSAL

Describe Well Type:

Well sub-Type: INJECTION - DISPOSAL

Describe sub-type:

Distance to town: 31 Miles **Distance to nearest well:** 504 FT **Distance to lease line:** 250 FT

Reservoir well spacing assigned acres Measurement: 40 Acres

Well plat: Deep_Hole_Federal_SWD_1_C102_20200609175102.pdf

Well work start Date: 08/15/2020 **Duration:** 75 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	1339	FSL	250	FEL	26S	32E	19	Aliquot NESE	32.0245011	-103.7065713	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068281A	3175	0	0	N
BHL Leg #1	1339	FSL	250	FEL	26S	32E	19	Aliquot NESE	32.0245011	-103.7065713	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068281A	-15602	18777	18777	N

APD ID: 10400057795 **Submission Date:** 06/19/2020

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Well Type: INJECTION - DISPOSAL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
754274	QUATERNARY	3361	30	30	MUDSTONE, SANDSTONE	USEABLE WATER	N
754275	RUSTLER	2338	1023	1023	ANHYDRITE	NONE	N
754276	SALADO	2016	1345	1345	ANHYDRITE, SALT	NONE	N
754277	LAMAR	-950	4311	4311	LIMESTONE	NONE	N
754278	BELL CANYON	-1005	4366	4366	SANDSTONE	OIL	N
754279	CHERRY CANYON	-1875	5236	5236	SANDSTONE	OIL	N
754280	BRUSHY CANYON	-3330	6691	6691	SANDSTONE	OIL	N
754281	BONE SPRING LIME	-4809	8170	8170	LIMESTONE	NONE	N
754282	BONE SPRING 1ST	-5970	9331	9331	SANDSTONE	NATURAL GAS, OIL	Y
754283	BONE SPRING 2ND	-6594	9955	9955	SANDSTONE	NATURAL GAS, OIL	Y
754284	BONE SPRING 3RD	-7803	11164	11164	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	Y
754285	WOLFCAMP	-8176	11537	11537	LIMESTONE, SHALE	NATURAL GAS, OIL	Y
754286	CANYON	-10479	13840	13840	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS	N
754287	STRAWN	-10746	14107	14107	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
754289	ATOKA	-11011	14372	14372	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
754288	MORROW	-11834	15195	15195	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
754290	MISSISSIPPIAN	-13564	16925	16925	LIMESTONE	NONE	N
754291	WOODFORD	-13829	17190	17190	SHALE	NONE	N

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
754292	DEVONIAN	-14007	17368	17368	DOLOMITE, LIMESTONE	NONE	Y
754293	FUSSELMAN	-14843	18204	18204	DOLOMITE	NONE	Y
757873	ORDOVICIAN	-15441	18802	18802	CHERT, LIMESTONE	NONE	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 18922

Equipment: Annular, Pipe Ram, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a diverter while drilling the 17.5" hole. A variance is requested for the use of a 5000 psi annular BOP with the 10,000 psi BOP stack. A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. Anchors are not required by the manufacturer. See attached schematics
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The 5M Annular BOP will be tested to 100% working pressure (5000 psi). The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded, all of the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Choke Diagram Attachment:

Flex_Line_Specs_20190822110051.pdf

10M_BOPE___Closed_Loop_Equipment_Schematic_20190821154038.pdf

BOP Diagram Attachment:

20in_Diverter___Closed_Loop_Equipment_Schematic_20190822110953.pdf

10M_Annular_BOP_Variance_Request_Detail_20200202091705.pdf

20_in_Diverter_Variance_Request_20191219154921_20200619174250.pdf

10M_BOP_Diagram_with_Valve_Sizes_20191125175300_20200728204554.pdf

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	26	20.0	NEW	API	N	0	1022	0	1022	3175	2153	1022	H-40	94	BUTT	1.125	2.82	DRY	10.532	DRY	10.89
2	OTHER	26	20.0	NEW	API	N	1022	1048	1022	1048	2153	2127	26	J-55	106.5	BUTT	1.624	4.33	DRY	99.99	DRY	99.99
3	INTERMEDIATE	17.5	13.375	NEW	API	N	0	4336	0	4336	3175	-1161	4336	J-55	61	BUTT	1.366	1.37	DRY	3.875	DRY	3.637
4	INTERMEDIATE	12.25	9.625	NEW	NON API	N	0	11587	0	11587	0	-8412	11587	HCP-110	40	BUTT	1.404	1.095	DRY	2.73	DRY	2.719
5	LINER	8.75	7.625	NEW	NON API	N	11387	17403	11387	17403	-8212	-14228	6016	HCL-80	39	FJ	1.802	1.127	DRY	2.272	DRY	3.81
6	OPEN HOLE	6.5	9.625				17403	18777					1374	HCL-80		BUTT						

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Deep_Hole_Federal_SWD_1___Casing_Design_for_Permit__06.19.20__20200728205607.pdf

Deep_Hole_Federal_SWD_1___Surface_Casing_Assumptions__06.19.20__20200728210548.pdf

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Casing Attachments

Casing ID: 2 **String Type:** OTHER - Surface 2

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Deep_Hole_Federal_SWD_1___Surface_Casing_Assumptions__06.19.20__20200728210643.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Deep_Hole_Federal_SWD_1___Intermediate_1_Casing_Assumptions__06.19.20__20200728210720.pdf

Casing ID: 4 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

9.625_40_HCP110_20200619181759.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Deep_Hole_Federal_SWD_1___Intermediate_2_Casing_Assumptions__06.19.20__20200728210736.pdf

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Casing Attachments

Casing ID: 5 **String Type:** LINER

Inspection Document:

Spec Document:

Proprietary_Connections_Performance_Data_7.6250_39.0000_0.5000__L80_HC_20200619180830.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Deep_Hole_Federal_SWD_1___Intermediate_3_Casing_Assumptions__06.19.20__20200728210751.pdf

Casing ID: 6 **String Type:** OPEN HOLE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	748	1301	1.73	13.5	2252	100	Class C	Celloflake, KolSeal, Defoamer, SMS, Gypsum
SURFACE	Tail		748	1048	739	1.34	14.8	993	100	Class C	Defoamer, Accelerator
OTHER	Lead		0	748	1301	1.73	13.5	2252	100	Class C	Celloflake, KolSeal, Defoamer, SMS, Gypsum
OTHER	Tail		748	1048	739	1.34	14.8	993	100	Class C	Defoamer, Accelerator

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	3336	1689	2.04	12.9	3452	50	Class C	Celloflake, KolSeal, Fluid Loss, Retarder, Exteneder, Bonding Agent
INTERMEDIATE	Tail		3336	4336	815	1.33	14.8	1081	50	Class C	Retarder
INTERMEDIATE	Lead	4436	0	3436	528	2.36	12.3	1247	50	Class C	Bonding Agent, Defoamer, Anti Settling, Fluid Loss
INTERMEDIATE	Tail		3436	4436	282	1.33	14.8	374	50	Class C	Retarder
INTERMEDIATE	Lead	4436	4436	10587	1549	2.36	12.3	3661	50	Class C	Defoamer, Bonding Agent, Retarder, Anti-Settling, Fluid Loss
INTERMEDIATE	Tail		10587	11587	282	1.18	15.6	333	50	Class H	Retarder, Fluid Loss
LINER	Lead		11387	17403	560	1.65	15.3	920	50	Class H	Defoamer, Anti Static, Anti Settling, Fluid Loss, Retarder, Sand

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Equipment for the circulating system will be in compliance with Onshore Order #2

Describe the mud monitoring system utilized: Visual Mud Monitoring Equipment, Pit Volume Totalizer, Stroke Counter, Flow Sensor in compliance with Onshore Order #2

Circulating Medium Table

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1048	SPUD MUD	8.3	8.7							
4336	11587	OTHER : Cut Brine	9	10							
11587	17403	OTHER : Weighted Brine	11	12							
17403	18777	OTHER : Cut Brine	8.3	9							
1048	4336	OTHER : Saturated Brine	9.8	10							

Section 6 - Test, Logging, Coring

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

Will Run GR/CBL From TD (18777') to Surface

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

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,GAMMA RAY LOG,MUD LOG/GEOLOGIC LITHOLOGY LOG,

Coring operation description for the well:

none

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8787 **Anticipated Surface Pressure:** 4656

Anticipated Bottom Hole Temperature(F): 290

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

DEEP_HOLE_FEDERAL_SWD_1_H2S_OPERATION_PLAN_20200619185110.pdf

Operator Name: PERMIAN OILFIELD PARTNERS LLC

Well Name: DEEP HOLE FEDERAL SWD **Well Number:** 1

DEEP_HOLE_FEDERAL_SWD_1_H2S_PLAN_LOCATION_DIAGRAM_20200619190441.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Other proposed operations facets description:

Other proposed operations facets attachment:

Deep_Hole_Federal_SWD_1___Cement_Design_20200619190535.pdf

Other Variance attachment:

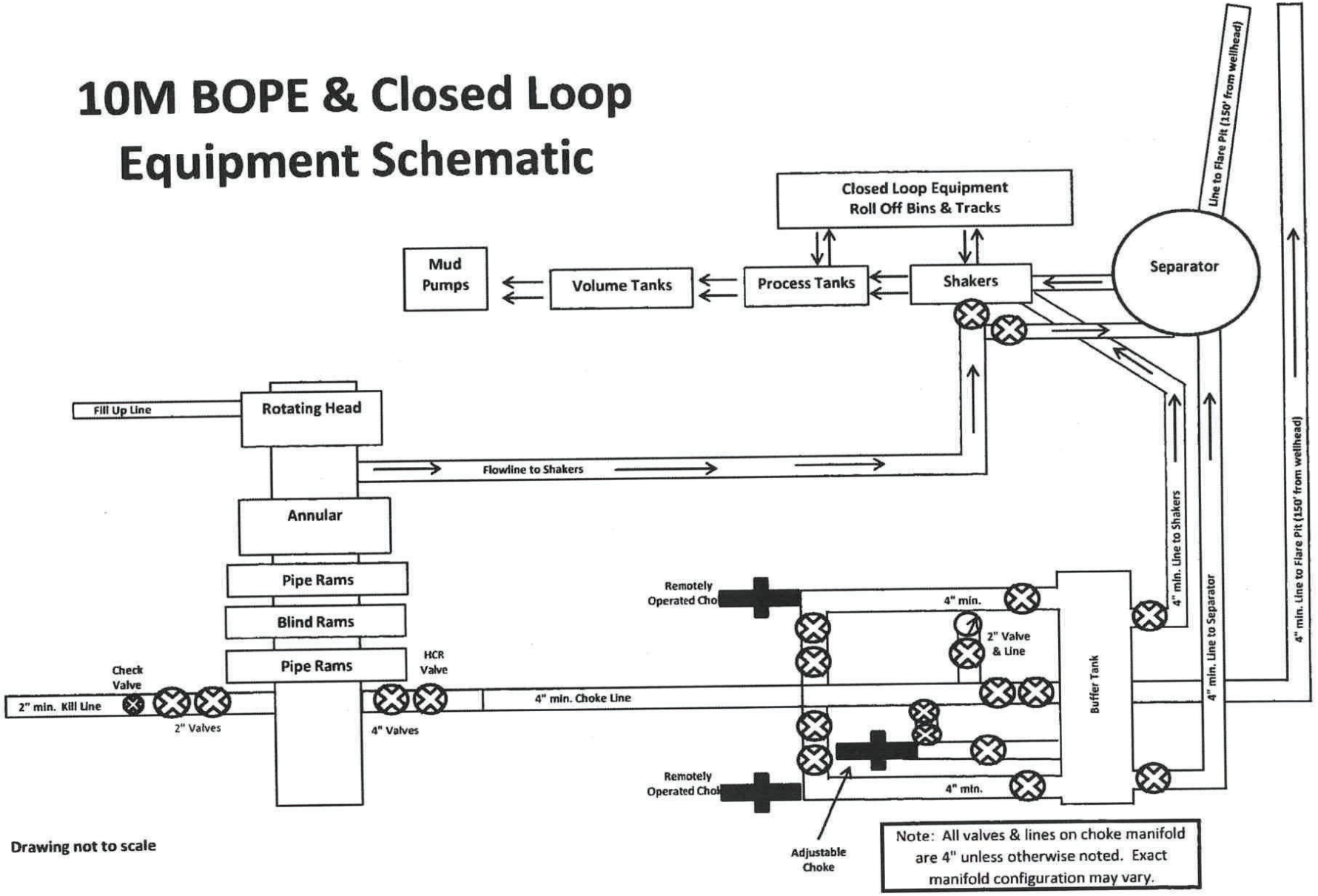
Continental

ContiTech

Hose Data Sheet

CRI Order No.	538332
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500412631 CBC544771, CBC544769, CBC544767, CBC544763, CBC544768, CBC544745, CBC544744, CBC544746
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	45 ft
Type of coupling one end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE SOURC/W BX155 ST/ST INLAID R.GR.
Type of coupling other end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE SOUR C/W BX155 ST/ST INLAID R.GR.
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	Yes
Lifting collar	Yes
Element C	Yes
Safety chain	Yes
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

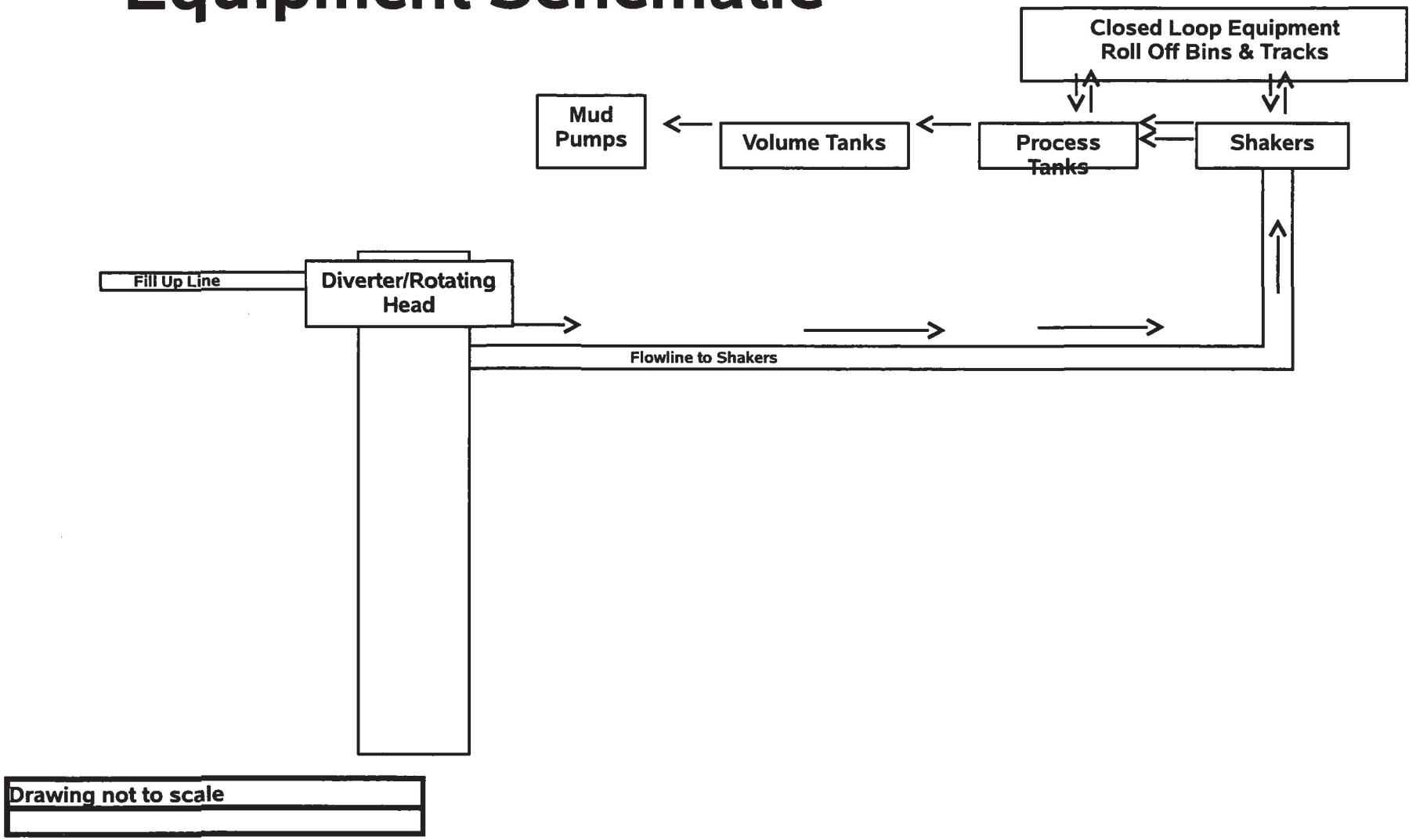
10M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

20" Diverter & Closed Loop Equipment Schematic



Drawing not to scale

10M Annular BOP Variance Request Detail

Permian Oilfield Partners request a variance to use a 5M annular BOP with a 10M BOP triple ram stack. The below listed compatibility tables paired with the general well control plans show how the 5M annular BOP will be isolated from pressure that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5M annular BOP).

The below listed Component & BOPE Compatibility Tables describe the tubulars, components & compatible preventers to be used. **This table, combined with the use of drilling fluid illustrates that at least two barriers to flow will be maintained at all times.**

12 ¼" INTERMEDIATE #2 HOLE SECTION 10M PSI REQUIREMENT					
COMPONENT	**OD (in)**	**PRIMARY PREVENTER**	**RWP**	**ALTERNATE PREVENTER(S)**	**RWP**
Drillpipe	3.500" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
HWDP	3.500" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Jars	6.500" - 8.000"	Annular	5M	-	-
DC's	6.500" - 8.000"	Annular	5M	-	-
Drilling Motor	6.500" - 9.625"	Annular	5M	-	-
Casing	9.625"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

*VBR - Variable Bore Ram

8 ¾" INTERMEDIATE #3 HOLE SECTION 10M PSI REQUIREMENT					
COMPONENT	**OD (in)**	**PRIMARY PREVENTER**	**RWP**	**ALTERNATE PREVENTER(S)**	**RWP**
Drillpipe	3.500" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
HWDP	3.500" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Jars	4.750" - 6.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
DC's	4.750" - 6.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Drilling Motor	4.750" - 6.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Casing	7.625"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

*VBR - Variable Bore Ram

6 ½" INTERMEDIATE #4 HOLE SECTION (Production) 10M PSI REQUIREMENT					
COMPONENT	**OD (in)**	**PRIMARY PREVENTER**	**RWP**	**ALTERNATE PREVENTER(S)**	**RWP**
Drillpipe	3.500" - 4.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
HWDP	3.500" - 4.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Jars	4.750" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
DC's	4.750" - 5.500"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Drilling Motor	4.750"	Annular	5M	Upper or Lower VBR (3.5" - 5.5")	10M
Open-Hole	-	Blind Rams	10M	-	-
Casing	NONE	-	-	-	-

*VBR - Variable Bore Ram

Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, while pipe is not in the hole and moving the BHA through the BOP's. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the Permian Oilfield Partners drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per Onshore Oil & Gas Order No. 2 with the exception of the **5M annular which will be tested to 100% of its RWP.** *Note: HCR valve and choke manifold will remain closed during all normal operations. Manipulation of such equipment will occur as part of the general well control proceedures.

General Well Control Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP&SICP
    b. Pit gain
    c. Time

8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:

a. SIDPP&SICP
b. Pit gain
c. Time

8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)
2. Stab crossover and full-opening safety valve and close
3. Space out string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP&SICP
    b. Pit gain
    c. Time

8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time

6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:

    a. Perform flow check. If flowing, continue to (b).

b. Sound alarm (alert crew)
c. Stab full-opening safety valve and close
d. Space out drill string with tool joint just beneath the upper variable bore rams
e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
f. Confirm shut-in
g. Notify toolpusher/company representative
h. Read and record the following:
    i. SIDPP & SICP
    ii. Pit gain
    iii. Time
i. Regroup and identify forward plan

2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:

a. Sound alarm (alert crew)
b. Stab crossover and full-opening safety valve and close
c. Space out drill string with upset just beneath the upper variable bore rams
d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
e. Confirm shut-in
f. Notify toolpusher/company representative
g. Read and record the following:
    i. SIDPP & SICP
    ii. Pit gain
    iii. Time
h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:

a. Sound alarm (alert crew)
b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
c. If impossible to pull string clear of the stack:
d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
e. Space out drill string with tooljoint just beneath the upper variable bore ram
f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
g. Confirm shut-in
h. Notify toolpusher/company representative
i. Read and record the following:
    i. SIDPP & SICP

ii. Pit gain
iii. Time

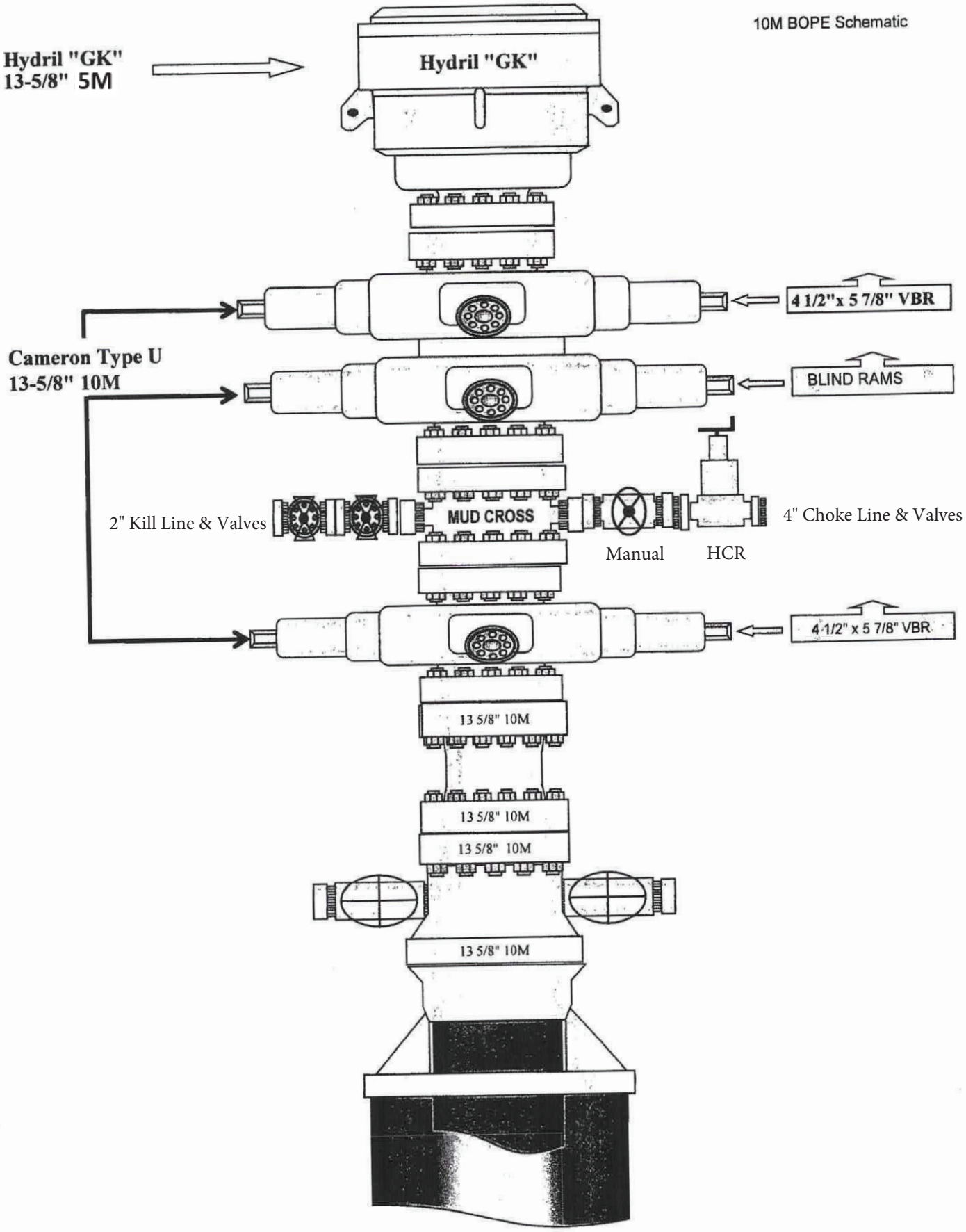
j. Regroup and identify forward plan

Deep Hole Federal SWD #1

20" Diverter Variance Request

Permian Oilfield Partners requests a variance for the use of a 20" weld-on diverter to drill the 17 ½" hole to a depth of **4336'.** In this area, there has not been flammable gas encountered through this interval. Air pockets are common in the salt section and the diverter allows them to blow down safely to the pits without causing damage to the surface casing or cement.

10M BOPE Schematic



9.625" 40# .395" P-110 High Collapse

Dimensions (Nominal)

Outside Diameter	**9.625**	**in.**
Wall	**0.395**	**in.**
Inside Diameter	**8.835**	**in.**
Drift	**8.750**	**in.**
Weight, T&C	**40.000**	**lbs/ft**
Weight, PE	**38.970**	**lbs/ft**

Performance Properties (Minimum)

Collapse, PE	**4230**	**psi**
Internal Yield Pressure		
PE	**7900**	**psi**
LTC	**7900**	**psi**
BTC	**7900**	**psi**
Yield Strength, Pipe Body	**1260**	**1000 lbs**
Joint Strength		
LTC	**988**	**1000 lbs**
BTC	**1266**	**1000 lbs**

U. S. Steel Tubular Products

8/21/2019 4:34:08 PM

7.625" 39.00lbs/ft (0.500" Wall) L80 HC USS-LIBERTY FJM®

MECHANICAL PROPERTIES	Pipe	USS-LIBERTY FJM®	
Minimum Yield Strength	80,000	--	psi
Maximum Yield Strength	95,000	--	psi
Minimum Tensile Strength	95,000	--	psi
DIMENSIONS	**Pipe**	**USS-LIBERTY FJM®**	
Outside Diameter	7.625	7.625	in.
Wall Thickness	0.500	--	in.
Inside Diameter	6.625	6.539	in.
Standard Drift	6.500	6.500	in.
Alternate Drift	--	--	in.
Nominal Linear Weight, T&C	39.00	--	lbs/ft
Plain End Weight	38.08	--	lbs/ft
SECTION AREA	**Pipe**	**USS-LIBERTY FJM®**	
Critical Area	11.192	6.665	sq. in.
Joint Efficiency	--	59.5	%
PERFORMANCE	**Pipe**	**USS-LIBERTY FJM®**	
Minimum Collapse Pressure	9,480	9,480	psi
Minimum Internal Yield Pressure	9,190	9,190	psi
Minimum Pipe Body Yield Strength	895,000	--	lbs
Joint Strength	--	533,000	lbs
Compression Rating	--	533,000	lbs
Reference Length	--	9,339	ft
Maximum Uniaxial Bend Rating	--	28.6	deg/100 ft
MAKE-UP DATA	**Pipe**	**USS-LIBERTY FJM®**	
Make-Up Loss	--	4.75	in.
Minimum Make-Up Torque	--	12,550	ft-lbs
Maximum Make-Up Torque	--	16,850	ft-lbs

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2. Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
3. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
4. USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
5. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
6. Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
7. Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

Intermediate #1 Casing

General Dimensions & Capacities

Bit Size	Verify Size	**Max Bit Size:**	**18 3/4** "	**PASS**	**17 1/2**	"
Casing Size	Verify Size	**Max Casing Size:**	**16** "	**PASS**	**13 3/8**	"
Setting Depth	Casing Design Type	**(Conventional)**			**4900**	'
Mud Weight	From Mud Program Sheet				**10.0**	ppg
Mud Weight	Pressure Applied on Casing				**2548**	psi
Length	Surface Casing 1				**1022**	'
Length	Surface Casing 2				**24**	'
Length	Surface Casing 3					'
Length	Surface Casing 4					'
Surface Casing Setting Depth	Sum of All Surface Casing's				**1046**	'
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 1				**1.019**	ft^3/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 2				**0.993**	ft^3/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 3					ft^3/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 4					ft^3/ft
Annular Capacity	Intermediate 1 Casing to Surface Casing 1				**1041**	ft^3
Annular Capacity	Intermediate 1 Casing to Surface Casing 2				**24**	ft^3
Annular Capacity	Intermediate 1 Casing to Surface Casing 3					ft^3
Annular Capacity	Intermediate 1 Casing to Surface Casing 4					ft^3
Annular Capacity	Intermediate 1 Casing to All Surface Casing				**1065**	ft^3
Int. 1 Csg. length Below Surface Csg. Shoe	Intermediate 1 Casing Shoe to Surface Casing Length (Open Hole)				**3854**	'
Annular Capacity (Per ft)	Intermediate 1 Casing Shoe to Surface Casing Shoe (Open Hole)				**0.69**	ft^3/ft
Annular Capacity	Intermediate 1 Casing Shoe to Surface Casing Shoe (Open Hole)				**2677**	ft^3
Total Annular Capacity	Intermediate 1 Casing to Open Hole & Intermediate 1 Casing to Surface Casing				**3742**	ft^3
ECP/DV Tool Present?	**NO**					

Cement Program

Cement from Shoe to Surface			
Cmt Sks	Lead	**1421**	sks
	Tail	**200**	sks
Cmt Yield	Lead	**2.45**	ft^3/sk
	Tail	**1.30**	ft^3/sk
Cmt ft^3	Lead	**3482**	ft^3
	Tail	**260**	ft^3
Cmt Weight	Lead	**11.8**	ppg
	Tail	**14.2**	ppg
Cmt Height	Lead	**4526**	'
	Tail	**374**	'
Cmt Applied Wt.	Lead (Wet) -	**2777**	psi
	Tail (Wet)	**276**	psi
	Total (Wet)	**3053**	psi
Constant	**0.052**		

Casing Design Safety Factors

Surface Casing	Collapse	**BLM Minimum Safety Factors**			**Partially Evacuated - % Free Gas**	**1.125**
Surface Casing	Burst	**(Applied or Hydrostatic)**		**1.0**		**1.0**
Surface Casing	Tension (Connection)	**Dry:**	**1.6**	**Wet:** **1.8**	**50%**	**1.6**
Surface Casing	Tension (Body)	**Dry:**	**1.6**	**Wet:** **1.8**		**1.6**

First Casing - Select Size & Specs

First Casing	Type	**Casing**	
First Casing	Size	**13.375**	"
First Casing	Weight	**54.5**	#
First Casing	ID	**12.615**	"
First Casing	Drift	**12.459**	"
First Casing	Connection	**STC**	
First Casing	Grade	**J-55**	
First Casing	Collapse	**1130**	psi
First Casing	Joint Yield	**514**	klbs
First Casing	Body Yield	**853**	klbs
First Casing	Joint Burst	**2730**	psi
First Casing	Tube Burst	**2730**	psi
First Casing	**Max Running Depth Collapse**	**1932**	'

Second Casing - Select Size & Specs

Second Casing	Type	**Casing**	
Second Casing	Size	**13.375**	"
Second Casing	Weight	**61**	#
Second Casing	ID	**12.515**	"
Second Casing	Drift	**12.359**	"
Second Casing	Connection	**STC**	
Second Casing	Grade	**J-55**	
Second Casing	Collapse	**1540**	psi
Second Casing	Joint Yield	**595**	klbs
Second Casing	Body Yield	**962**	klbs
Second Casing	Joint Burst	**3090**	psi
Second Casing	Tube Burst	**3090**	psi
Second Casing	**Max Running Depth Collapse**	**4900**	'

Third Casing - (None)

Third Casing	Type	**None**	
Third Casing	Size		"
Third Casing	Weight	**95**	#
Third Casing	ID		"
Third Casing	Drift		"
Third Casing	Connection	**BTC**	
Third Casing	Grade	**N-80**	
Third Casing	Collapse		psi
Third Casing	Joint Yield		klbs
Third Casing	Body Yield		klbs
Third Casing	Joint Burst		psi
Third Casing	Tube Burst		psi
Third Casing	**Max Running Depth Collapse**		'

Fourth Casing - (None)

Fourth Casing	Type	**None**	
Fourth Casing	Size		"
Fourth Casing	Weight	**95**	#
Fourth Casing	ID		"
Fourth Casing	Drift		"
Fourth Casing	Connection	**BTC**	
Fourth Casing	Grade	**HCN-80**	
Fourth Casing	Collapse		psi
Fourth Casing	Joint Yield		klbs
Fourth Casing	Body Yield		klbs
Fourth Casing	Joint Burst		psi
Fourth Casing	Tube Burst		psi
Fourth Casing	**Max Running Depth Collapse**		'

Collapse Design Verification

First Casing	13.375	"	54.5	#	J-55	STC	Casing	=	**1932**	'	**Dp SF:**	**1.125**	**SF:**	**1.125**	**PASS**
Second Casing	13.375	"	61.0	#	J-55	STC	Casing	=	**4900**	'	**Dp SF:**	**1.125**	**SF:**	**1.209**	**PASS**
Collapse Design									**4900**	'					**PASS**

Tension Design Verification

First Casing	1932	'	54.5	#	J-55	STC	Casing	=	**105274**	lbs	**Dp SF:**	**1.6**	**(Conn)**	**SF:**	**1.795**	**PASS**
Second Casing	2968	'	61.0	#	J-55	STC	Casing	=	**181071**	lbs	**Dp SF:**	**1.6**	**(Conn)**	**SF:**	**3.286**	**PASS**
Tension Design									**286344**	lbs			**(AIR)**			**PASS**

Intermediate #1 Casing Design

First Casing	**1932**	'	**54.5**	#	**J-55**	**STC**	**Casing**	**ID: 12.615**	**Drift: 12.459**	**Weight: 89201.21 lbs (Fluid)**
Second Casing	**2968**	'	**61.0**	#	**J-55**	**STC**	**Casing**	**ID: 12.515**	**Drift: 12.359**	**Weight: 153426.5 lbs (Fluid)**

EVRAZ 9-5/8" 40# HC-L80

High Collapse L80; Seamless

Pipe Body Geometry

Outside Diameter	9.625	in
Wall Thickness	0.395	in
Nominal Linear Mass (T&C)	40.00	lb/ft
Plain End	38.97	lb/ft
Inside Diameter	8.835	in
Drift Diameter	8.679	in
Alternate Drift Diameter	8.750	in

Pipe Body Performance

Grade	HC-L80	
Yield Strength Minimum	80,000	psi
Tensile Strength Minimum	95,000	psi
Plain End Pipe Body Yield	916	1,000 lbf
Collapse Resistance [1]	3,920*	psi
Internal Yield [2]	5,750	psi
Ductile Rupture (Burst) [3]	6,110	psi

Connection Geometry

	LC		BC	
Coupling Outside Diameter	10.625	in	10.625	in
Coupling Minimum Length	10.500	in	10.625	in
Connection ID Type	Non-flush		Non-flush	
Make-up Loss	4.750	in	4.813	in
API Compatible	Yes		Yes	

Connection Performance

		LC		BC	
Threaded and Coupled Joint Strength		727	1,000 lbf	947	1,000 lbf
Efficiency		67	%	87	%
Internal Presssure		5,750	psi	5,750	psi
Make-up Torque [4][5]	optimum	7,270	lb·ft	Not available	lb·ft
	minimum	5,450	lb·ft	Not available	lb·ft
	maximum	9,090	lb·ft	Not available	lb·ft

Notes

[1]*Based on 8 x OD collapse testing in accordance with API 5C3 Annex I.

[2]The internal yield is calculated using API 5C3 Equation (10).

[3]This is an absolute limit and not safe work limit. Calculated based on API 5C3 Equation (14).

[4]For LC or SC, The values of optimum make-up torque was calculated as 1 % of the calculated joint pull-out strength as determined from API 5C3 Equation (55).

[5]For BC, data is not availabe from API for this size and grade combination. Torque must be verified by triangle position.

U. S. Steel Tubular Products

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7.625" 39.00lbs/ft (0.500" Wall) L80 HC USS-LIBERTY FJM®

MECHANICAL PROPERTIES	Pipe	USS-LIBERTY FJM®	
Minimum Yield Strength	80,000	--	psi
Maximum Yield Strength	95,000	--	psi
Minimum Tensile Strength	95,000	--	psi
DIMENSIONS	**Pipe**	**USS-LIBERTY FJM®**	
Outside Diameter	7.625	7.625	in.
Wall Thickness	0.500	--	in.
Inside Diameter	6.625	6.539	in.
Standard Drift	6.500	6.500	in.
Alternate Drift	--	--	in.
Nominal Linear Weight, T&C	39.00	--	lbs/ft
Plain End Weight	38.08	--	lbs/ft
SECTION AREA	**Pipe**	**USS-LIBERTY FJM®**	
Critical Area	11.192	6.665	sq. in.
Joint Efficiency	--	59.5	%
PERFORMANCE	**Pipe**	**USS-LIBERTY FJM®**	
Minimum Collapse Pressure	9,480	9,480	psi
Minimum Internal Yield Pressure	9,190	9,190	psi
Minimum Pipe Body Yield Strength	895,000	--	lbs
Joint Strength	--	533,000	lbs
Compression Rating	--	533,000	lbs
Reference Length	--	9,339	ft
Maximum Uniaxial Bend Rating	--	28.6	deg/100 ft
MAKE-UP DATA	**Pipe**	**USS-LIBERTY FJM®**	
Make-Up Loss	--	4.75	in.
Minimum Make-Up Torque	--	12,550	ft-lbs
Maximum Make-Up Torque	--	16,850	ft-lbs

1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2. Compressive & Tensile Connection Efficiencies are calculated by dividing the connection critical area by the pipe body area.
3. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
4. USS-LIBERTY FJM™ connections are optimized for each combination of OD and wall thickness and cannot be interchanged.
5. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
6. Reference length is calculated by joint strength divided by nominal plain end weight with 1.5 safety factor.
7. Connection external pressure leak resistance has been verified to 100% API pipe body collapse pressure following the guidelines of API 5C5 Cal III.

U. S. Steel Tubular Products
460 Wildwood Forest Drive, Suite 300S
Spring, Texas 77380

1-877-893-9461
connections@uss.com
www.usstubular.com

Intermediate #1 Casing

General Dimensions & Capacities						
Bit Size	Verify Size	**Max Bit Size:**	**18 3/4** "	**PASS**	**17 1/2**	"
Casing Size	Verify Size	**Max Casing Size:**	**16** "	**PASS**	**13 3/8**	"
Setting Depth	Casing Design Type	**(Conventional)**			**4336**	'
Mud Weight	From Mud Program Sheet				**10.0**	ppg
Mud Weight	Pressure Applied on Casing				**2255**	psi
Length	Surface Casing 1				**1022**	'
Length	Surface Casing 2				**26**	'
Length	Surface Casing 3					'
Length	Surface Casing 4					'
Surface Casing Setting Depth	Sum of All Surface Casing's				**1048**	'
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 1				**1.019**	ft³/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 2				**0.993**	ft³/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 3					ft³/ft
Annular Capacity (Per ft)	Intermediate 1 Casing to Surface Casing 4					ft³/ft
Annular Capacity	Intermediate 1 Casing to Surface Casing 1				**1041**	ft³
Annular Capacity	Intermediate 1 Casing to Surface Casing 2				**26**	ft³
Annular Capacity	Intermediate 1 Casing to Surface Casing 3					ft³
Annular Capacity	Intermediate 1 Casing to Surface Casing 4					ft³
Annular Capacity	Intermediate 1 Casing to All Surface Casing				**1067**	ft³
Int. 1 Csg. length Below Surface Csg. Shoe	Intermediate 1 Casing Shoe to Surface Casing Length (Open Hole)				**3288**	'
Annular Capacity (Per ft)	Intermediate 1 Casing Shoe to Surface Casing Shoe (Open Hole)				**0.69**	ft³/ft
Annular Capacity	Intermediate 1 Casing Shoe to Surface Casing Shoe (Open Hole)				**2284**	ft³
Total Annular Capacity	Intermediate 1 Casing to Open Hole & Intermediate 1 Casing to Surface Casing				**3351**	ft³
ECP/DV Tool Present?	**NO**					

Cement Program

REFER TO ATTACHED CEMENT PLAN

Casing Design Safety Factors						
Surface Casing	Collapse	**BLM Minimum Safety Factors**		**Partially Evacuated - % Free Gas**		**1.125**
Surface Casing	Burst	**(Applied or Hydrostatic)**	**1.0**	**50%**		**1.0**
Surface Casing	Tension (Connection)	**Dry:**	**1.6** **Wet:** **1.8**			**1.6**
Surface Casing	Tension (Body)	**Dry:**	**1.6** **Wet:** **1.8**			**1.6**

First Casing - Select Size & Specs			
First Casing	Type		Casing
First Casing	Size		13.375 "
First Casing	Weight		61 #
First Casing	ID		12.515 "
First Casing	Drift		12.359 "
First Casing	Connection		BTC
First Casing	Grade		J-55
First Casing	Collapse		1540 psi
First Casing	Joint Yield		1025 klbs
First Casing	Body Yield		962 klbs
First Casing	Joint Burst		3090 psi
First Casing	Tube Burst		3090 psi
First Casing	**Max Running Depth Collapse**		4336 '

Second Casing - (None)			
Second Casing	Type		None
Second Casing	Size		"
Second Casing	Weight		61 #
Second Casing	ID		"
Second Casing	Drift		"
Second Casing	Connection		BTC
Second Casing	Grade		J-55
Second Casing	Collapse		psi
Second Casing	Joint Yield		klbs
Second Casing	Body Yield		klbs
Second Casing	Joint Burst		psi
Second Casing	Tube Burst		psi
Second Casing	**Max Running Depth Collapse**		'

Third Casing - (None)			
Third Casing	Type		None
Third Casing	Size		"
Third Casing	Weight		95 #
Third Casing	ID		"
Third Casing	Drift		"
Third Casing	Connection		BTC
Third Casing	Grade		N-80
Third Casing	Collapse		psi
Third Casing	Joint Yield		klbs
Third Casing	Body Yield		klbs
Third Casing	Joint Burst		psi
Third Casing	Tube Burst		psi
Third Casing	**Max Running Depth Collapse**		'

Fourth Casing - (None)			
Fourth Casing	Type		None
Fourth Casing	Size		"
Fourth Casing	Weight		95 #
Fourth Casing	ID		"
Fourth Casing	Drift		"
Fourth Casing	Connection		BTC
Fourth Casing	Grade		HCN-80
Fourth Casing	Collapse		psi
Fourth Casing	Joint Yield		klbs
Fourth Casing	Body Yield		klbs
Fourth Casing	Joint Burst		psi
Fourth Casing	Tube Burst		psi
Fourth Casing	**Max Running Depth Collapse**		'

Collapse Design Verification					
First Casing	13.375 " 61 # J-55 BTC Casing = **4336** '	**Dp SF:**	**1.125**	**SF:** **1.366**	**PASS**
Collapse Design	**4336** '				**PASS**

Tension Design Verification					
First Casing	4336 ' 61.0 # J-55 BTC Casing = **264496** lbs	**Dp SF:**	**1.6** **(Body)**	**SF:** **3.637**	**PASS**
Tension Design	**264496** lbs	**(AIR)**			**PASS**

Intermediate #1 Casing Design	
First Casing	4336 ' 61.0 # J-55 BTC Casing **ID: 12.515 Drift: 12.359 Weight: 224114.9 lbs (Fluid)**

Intermediate #2 Casing

General Dimensions & Capacities						
Bit Size	Verify Size	**Max Bit Size:**	12 1/4 "	PASS	12 1/4	"
Casing Size	Verify Size	**Max Casing Size:**	9 5/8 "	PASS	9 5/8	"
Setting Depth	Casing Design Type	**(Conventional)**			11587	'
Mud Weight	From Mud Program Sheet				10.0	ppg
Mud Weight	Pressure Applied on Casing				6025	psi
Length	Intermediate #1 Casing 1				4336	'
Length	Intermediate #1 Casing 2					'
Length	Intermediate #1 Casing 3					'
Length	Intermediate #1 Casing 4					'
Surface Casing Setting Depth	Sum of All Intermediate #1 Casing's				4336	'
Annular Capacity (Per ft)	Intermediate #2 Casing to Intermediate #1 Casing 1				0.349	ft³/ft
Annular Capacity (Per ft)	Intermediate #2 Casing to Intermediate #1 Casing 2					ft³/ft
Annular Capacity (Per ft)	Intermediate #2 Casing to Intermediate #1 Casing 3					ft³/ft
Annular Capacity (Per ft)	Intermediate #2 Casing to Intermediate #1 Casing 4					ft³/ft
Annular Capacity	Intermediate #2 Casing to Intermediate #1 Casing 1				1513.19	ft³
Annular Capacity	Intermediate #2 Casing to Intermediate #1 Casing 2					ft³
Annular Capacity	Intermediate #2 Casing to Intermediate #1 Casing 3					ft³
Annular Capacity	Intermediate #2 Casing to Intermediate #1 Casing 4					ft³
Annular Capacity	Intermediate #2 Casing to All Intermediate #1 Casings				1513	ft³
Int. #2 Csg. length Below Surface Csg. Shoe	Intermediate #2 Casing Shoe to Intermediate #1 Casing Length (Open Hole)				7251	'
Annular Capacity (Per ft)	Intermediate #2 Casing Shoe to Intermediate #1 Casing Shoe (Open Hole)				0.31	ft³/ft
Annular Capacity	Intermediate #2 Casing Shoe to Intermediate #1 Casing Shoe (Open Hole)				2271	ft³
Total Annular Capacity	Intermediate #2 Casing to Open Hole & Intermediate #2 Casing to Intermediate #1 Casing				3784	ft³
ECP/DV Tool Present?	YES					
ECP/DV Tool	Setting Depth				4436	'
Int. #1 Csg Length Above ECP/DV Tool	ECP/DV Tool Depth to Surface (Cased Hole)				4336	'
Int. #2 Csg Length Above ECP/DV Tool	ECP/DV Tool Depth to Intermediate #1 Casing Shoe (Open Hole)				100	'
Annular Capacity Above ECP/DV Tool	Intermediate #1 Casing Shoe to Surface (Cased Hole)				1513	ft³
Annular Capacity Above ECP/DV Tool	ECP/DV Tool to Intermediate #1 Casing Shoe (Open Hole)				31	ft³
TOTAL Annular Cap. Above ECP/DV Tool	ECP/DV Tool Depth to Surface (Open Hole + Cased Hole)				1545	ft³
Int. #2 Csg Length Below ECP/DV Tool	Intermediate #2 Casing Shoe to ECP/DV Tool (Open Hole)				7151	'
TOTAL Annular Cap. Below ECP/DV Tool	Intermediate #2 Casing Shoe to ECP/DV Tool Depth (All Open Hole)				2240	ft³

Cement Program

REFER TO ATTACHED CEMENT PLAN

Casing Design Safety Factors							
Surface Casing	Collapse	**BLM Minimum Safety Factors**			**Partially Evacuated - % Free Gas**		1.125
Surface Casing	Burst	**(Applied or Hydrostatic)**		1.0			1.0
Surface Casing	Tension (Connection)	**Dry:**	1.6	**Wet:** 1.8	**50%**		1.6
Surface Casing	Tension (Body)	**Dry:**	1.6	**Wet:** 1.8			1.6

First Casing - Select Size & Specs			
First Casing	Type		Casing
First Casing	Size		9.625 "
First Casing	Weight		40 #
First Casing	ID		8.835 "
First Casing	Drift		8.750 "
First Casing	Connection		BTC
First Casing	Grade		HCP110
First Casing	Collapse	4230	psi
First Casing	Joint Yield	1260	klbs
First Casing	Body Yield	1260	klbs
First Casing	Joint Burst	7910	psi
First Casing	Tube Burst	7910	psi
First Casing	**Max Running Depth Collapse**		11587 '

Second Casing - (None)			
Second Casing	Type		None
Second Casing	Size		"
Second Casing	Weight		40 #
Second Casing	ID		"
Second Casing	Drift		"
Second Casing	Connection		BTC
Second Casing	Grade		HCL-80
Second Casing	Collapse		psi
Second Casing	Joint Yield		klbs
Second Casing	Body Yield		klbs
Second Casing	Joint Burst		psi
Second Casing	Tube Burst		psi
Second Casing	**Max Running Depth Collapse**		'

Third Casing - (None)			
Third Casing	Type		None
Third Casing	Size		"
Third Casing	Weight		72 #
Third Casing	ID		"
Third Casing	Drift		"
Third Casing	Connection		PE
Third Casing	Grade		HCL-80
Third Casing	Collapse		psi
Third Casing	Joint Yield		klbs
Third Casing	Body Yield		klbs
Third Casing	Joint Burst		psi
Third Casing	Tube Burst		psi
Third Casing	**Max Running Depth Collapse**		'

Fourth Casing - (None)			
Fourth Casing	Type		None
Fourth Casing	Size		"
Fourth Casing	Weight		80.7 #
Fourth Casing	ID		"
Fourth Casing	Drift		"
Fourth Casing	Connection		PE
Fourth Casing	Grade		HCP-110
Fourth Casing	Collapse		psi
Fourth Casing	Joint Yield		klbs
Fourth Casing	Body Yield		klbs
Fourth Casing	Joint Burst		psi
Fourth Casing	Tube Burst		psi
Fourth Casing	**Max Running Depth Collapse**		'

Collapse Design Verification									
First Casing	9.625 "	40.0 #	HCP110	BTC	Casing	= 11587 '	**Dp SF:** 1.125	**SF:** 1.404	PASS
Collapse Design						11587 '			PASS

Tension Design Verification										
First Casing	11587 '	40.0 #	HCP110	BTC	Casing	= 463480 lbs	**Dp SF:** 1.6	**(Body)**	**SF:** 2.719	PASS
Tension Design						463480 lbs		(AIR)		PASS

Intermediate #2 Casing Design									
First Casing	11587 '	40.0 #	HCP110	BTC	Casing	**ID:** 8.835	**Drift:** 8.750	**Weight:** 392719.7 lbs (Fluid)	

Intermediate #3 Casing

General Dimensions & Capacities

Bit Size	Verify Size	**Max Bit Size:**	**8 3/4** "	**PASS**	**8 3/4**	"
Casing Size	Verify Size	**Max Casing Size:**	**7 5/8** "	**PASS**	**7 5/8**	"
Setting Depth	Casing Design Type	**(Liner)**	**(Liner Top Depth)** '	**11387** '	**17403**	'
Mud Weight	From Mud Program Sheet				**13.0**	ppg
Mud Weight	Pressure Applied on Casing				**11764**	psi
Length	Intermediate #2 Casing 1				**11587**	'
Length	Intermediate #2 Casing 2					'
Length	Intermediate #2 Casing 3					'
Length	Intermediate #2 Casing 4					'
Surface Casing Setting Depth	Sum of All Intermediate #2 Casing's				**11587**	'
Annular Capacity (Per ft)	Intermediate #3 Casing to Intermediate #2 Casing 1				**0.109**	ft³/ft
Annular Capacity (Per ft)	Intermediate #3 Casing to Intermediate #2 Casing 2					ft³/ft
Annular Capacity (Per ft)	Intermediate #3 Casing to Intermediate #2 Casing 3					ft³/ft
Annular Capacity (Per ft)	Intermediate #3 Casing to Intermediate #2 Casing 4					ft³/ft
Annular Capacity	Intermediate #3 Casing to Intermediate #2 Casing 1				**1258.67**	ft³
Annular Capacity	Intermediate #3 Casing to Intermediate #2 Casing 2					ft³
Annular Capacity	Intermediate #3 Casing to Intermediate #2 Casing 3					ft³
Annular Capacity	Intermediate #3 Casing to Intermediate #2 Casing 4					ft³
Annular Capacity	Intermediate #3 Casing to All Intermediate #2 Casings				**1259**	ft³
Int. #3 Csg. length Below Int. #2 Csg. Shoe	Intermediate #3 Casing Shoe to Intermediate #2 Casing Length (Open Hole)				**5816**	'
Annular Capacity (Per ft)	Intermediate #3 Casing Shoe to Intermediate #2 Casing Shoe (Open Hole)				**0.10**	ft³/ft
Annular Capacity	Intermediate #3 Casing Shoe to Intermediate #2 Casing Shoe (Open Hole)				**584**	ft³
Total Annular Capacity	Intermediate #3 Casing to Open Hole & Intermediate #3 Casing to Intermediate #2 Casing				**1843**	ft³
ECP/DV Tool Present?	**NO**					

Cement Program

REFER TO ATTACHED CEMENT PLAN

Casing Design Safety Factors

Surface Casing	Collapse	**BLM Minimum Safety Factors**			**Partially Evacuated - % Free Gas**	**1.125**
Surface Casing	Burst	**(Applied or Hydrostatic)**		**1.0**		**1.0**
Surface Casing	Tension (Connection)	**Dry:**	**1.6**	**Wet:** **1.8**	**50%**	**1.6**
Surface Casing	Tension (Body)	**Dry:**	**1.6**	**Wet:** **1.8**		**1.6**

First Casing - Select Size & Specs

First Casing	Type		**Casing**
First Casing	Size		**7.625** "
First Casing	Weight		**39** #
First Casing	ID		**6.625** "
First Casing	Drift		**6.500** "
First Casing	Connection		**PE**
First Casing	Grade		**HCL-80**
First Casing	Collapse		**10600** psi
First Casing	Joint Yield		**533** klbs
First Casing	Body Yield		**895** klbs
First Casing	Joint Burst		**9180** psi
First Casing	Tube Burst		**9180** psi
First Casing	**Max Running Depth Collapse**		**17403** '

Second Casing - (None)

Second Casing	Type		**None**
Second Casing	Size		"
Second Casing	Weight		**47** #
Second Casing	ID		"
Second Casing	Drift		"
Second Casing	Connection		**BTC**
Second Casing	Grade		**HCL-80**
Second Casing	Collapse		psi
Second Casing	Joint Yield		klbs
Second Casing	Body Yield		klbs
Second Casing	Joint Burst		psi
Second Casing	Tube Burst		psi
Second Casing	**Max Running Depth Collapse**		'

Third Casing - (None)

Third Casing	Type		**None**
Third Casing	Size		"
Third Casing	Weight		**47** #
Third Casing	ID		"
Third Casing	Drift		"
Third Casing	Connection		**BTC**
Third Casing	Grade		**HCL-80**
Third Casing	Collapse		psi
Third Casing	Joint Yield		klbs
Third Casing	Body Yield		klbs
Third Casing	Joint Burst		psi
Third Casing	Tube Burst		psi
Third Casing	**Max Running Depth Collapse**		'

Fourth Casing - (None)

Fourth Casing	Type		**None**
Fourth Casing	Size		"
Fourth Casing	Weight		#
Fourth Casing	ID		"
Fourth Casing	Drift		"
Fourth Casing	Connection		
Fourth Casing	Grade		
Fourth Casing	Collapse		psi
Fourth Casing	Joint Yield		klbs
Fourth Casing	Body Yield		klbs
Fourth Casing	Joint Burst		psi
Fourth Casing	Tube Burst		psi
Fourth Casing	**Max Running Depth Collapse**		'

Collapse Design Verification

First Casing	7.625 "	39 #	HCL-80	FJ	Casing =	**17403** '	**Dp SF:** **1.125**	**SF:** **1.802**	**PASS**
Collapse Design						**17403** '			**PASS**

Tension Design Verification

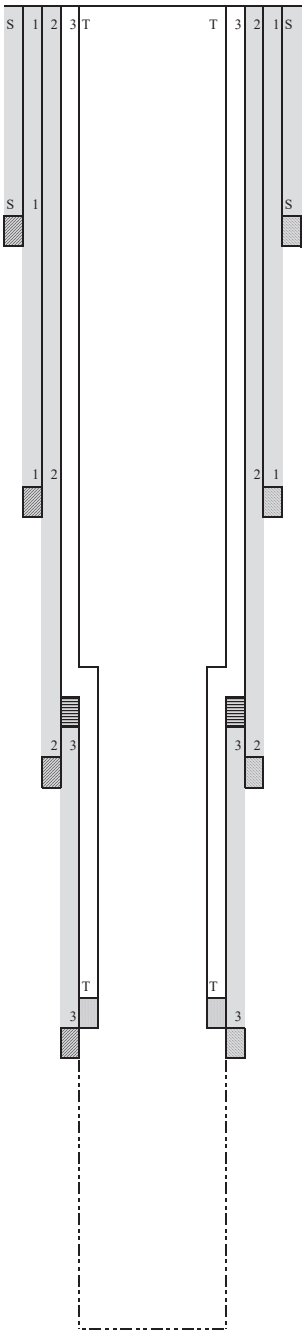
First Casing	6016 '	39.0 #	HCL-80	FJ	Casing =	**234624** lbs	**Dp SF:** **1.6**	**(Conn)** **SF:** **2.272**	**PASS**
Tension Design						**234624** lbs		**(AIR)**	**PASS**

Intermediate #3 Casing Design

First Casing	**6016** '	**39.0** #	**HCL-80**	**FJ**	**Casing**	**ID: 6.625**	**Drift: 6.500**	**Weight: 188057.4 lbs (Fluid)**	

WELLBORE SCHEMATIC

Permian Oilfield Partners, LLC.
Deep Hole Federal SWD #1
1339' FSL, 250' FEL
Sec. 19, T26S, R32E, Lea Co. NM
Lat 32.0245011° N, Lon 103.7065713° W
GL 3175', RKB 3205'



Surface - (Conventional)
Hole Size: 26"
Casing: 20" - 94# H-40 & 106.5# J-55 BTC Casing
Depth Top: Surface
Depth Btm: 1048'
Cement: 2040 sks - Class C + Additives (100% Excess)
Cement Top: Surface - (Circulate)

Intermediate #1 - (Conventional)
Hole Size: 17.5"
Casing: 13.375" - 61# J-55 BTC Casing
Depth Top: Surface
Depth Btm: 4336'
Cement: 2504 sks - Class C + Additives (50% Excess)
Cement Top: Surface - (Circulate)

Intermediate #2 - (Conventional)
Hole Size: 12.25"
Casing: 9.625" - 40# HCP110 BTC Casing
Depth Top: Surface
Depth Btm: 11587'
Cement: 2641 sks - Class C + Additives (50% Excess)
Cement Top: Surface - (Circulate)
ECP/DV Tool: 4436'

Intermediate #3 - (Liner)
Hole Size: 8.75"
Casing: 7.625" - 39# HCL-80 FJ Casing
Depth Top: 11387'
Depth Btm: 17403'
Cement: 560 sks - Class H + Additives (50% Excess)
Cement Top: 11387' - (Volumetric)

Intermediate #4 - (Open Hole)
Hole Size: 6.5"
Depth: 18777'
Inj. Interval: 17403' - 18777' (Open-Hole Completion)

Tubing - (Tapered)
Tubing Depth: 17358'
Tubing: 7" - 26# HCP-110 FJ Casing & 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
X/O Depth: 11387'
X/O: 7" 26# HCP-110 FJ Casing - X - 5.5" 17# HCL-80 FJ Casing (Fiberglass Lined)
Packer Depth: 17368'
Packer: 5.5" - Perma-Pak or Equivalent (Inconel)

Surface Casing

General Dimensions & Capacities						
Bit Size	Verify Size	Max Bit Size:	26 "	PASS	26	"
Casing Size	Verify Size	Max Casing Size:	20 "	PASS	20	"
Setting Depth	Casing Design Type	(Conventional)			1048	'
Mud Weight	From Mud Program Sheet				8.7	ppg
Mud Weight	Pressure Applied on Casing				474	psi
Length	Conductor				80	'
Conductor Setting Depth	Conductor Setting Depth				80	'
Annular Capacity (Per ft)	Surface Casing to Conductor				2.094	ft³/ft
Annular Capacity	Surface Casing to Conductor				167.55	ft³
Annular Capacity	Intermediate 1 Casing to All Surface Casing				168	ft³
Int. 1 Csg. length Below Conductor	Surface Casing Shoe to Conductor Length (Open Hole)				968	'
Annular Capacity (Per ft)	Surface Casing Shoe to Conductor (Open Hole)				1.51	ft³/ft
Annular Capacity	Surface Casing Shoe to Conductor (Open Hole)				1457	ft³
Total Annular Capacity	Surface Casing to Open Hole & Surface Casing to Conductor				1625	ft³
ECP/DV Tool Present?	NO					

Cement Program

REFER TO ATTACHED CEMENT PLAN

Casing Design Safety Factors						
Surface Casing	Collapse	BLM Minimum Safety Factors			Fully Evacuated - (100% Free Gas)	1.125
Surface Casing	Burst	(Applied or Hydrostatic)		1.0		1.0
Surface Casing	Tension (Connection)	Dry:	1.6	Wet: 1.8	100%	1.6
Surface Casing	Tension (Body)	Dry:	1.6	Wet: 1.8		1.6

First Casing - Select Size & Specs		
First Casing	Type	Casing
First Casing	Size	20.000 "
First Casing	Weight	94 #
First Casing	ID	19.124 "
First Casing	Drift	18.936 "
First Casing	Connection	BTC
First Casing	Grade	H-40
First Casing	Collapse	520 psi
First Casing	Joint Yield	1041 klbs
First Casing	Body Yield	1077 klbs
First Casing	Joint Burst	1530 psi
First Casing	Tube Burst	1530 psi
First Casing	Max Running Depth Collapse	1022 '

Second Casing - Select Size & Specs		
Second Casing	Type	Casing
Second Casing	Size	20.000 "
Second Casing	Weight	106.5 #
Second Casing	ID	19.000 "
Second Casing	Drift	18.812 "
Second Casing	Connection	BTC
Second Casing	Grade	J-55
Second Casing	Collapse	770 psi
Second Casing	Joint Yield	1595 klbs
Second Casing	Body Yield	1685 klbs
Second Casing	Joint Burst	2410 psi
Second Casing	Tube Burst	2410 psi
Second Casing	Max Running Depth Collapse	1513 '

Third Casing - (None)		
Third Casing	Type	None
Third Casing	Size	"
Third Casing	Weight	61 #
Third Casing	ID	"
Third Casing	Drift	"
Third Casing	Connection	STC
Third Casing	Grade	J-55
Third Casing	Collapse	psi
Third Casing	Joint Yield	klbs
Third Casing	Body Yield	klbs
Third Casing	Joint Burst	psi
Third Casing	Tube Burst	psi
Third Casing	Max Running Depth Collapse	'

Fourth Casing - (None)		
Fourth Casing	Type	None
Fourth Casing	Size	"
Fourth Casing	Weight	#
Fourth Casing	ID	"
Fourth Casing	Drift	"
Fourth Casing	Connection	
Fourth Casing	Grade	
Fourth Casing	Collapse	psi
Fourth Casing	Joint Yield	klbs
Fourth Casing	Body Yield	klbs
Fourth Casing	Joint Burst	psi
Fourth Casing	Tube Burst	psi
Fourth Casing	Max Running Depth Collapse	'

Collapse Design Verification															
First Casing	20.000 "	94 #	H-40	BTC	Casing	=	1022 '	Dp SF:	1.125	SF:	1.125	PASS
Second Casing	20.000 "	106.5 #	J-55	BTC	Casing	=	1048 '	Dp SF:	1.125	SF:	1.624	PASS
Collapse Design							1048 '					PASS

Tension Design Verification														
First Casing	1022 '	94.0 #	H-40	BTC	Casing	=	96041	lbs	Dp SF:	1.6	(Conn)	SF:	10.532	PASS
Second Casing	26 '	106.5 #	J-55	BTC	Casing	=	2800	lbs	Dp SF:	1.6	(Conn)	SF:	569.696	PASS
Tension Design							98841	lbs			(AIR)			PASS

Surface Casing Design													
First Casing	1022 '	94.0 #	H-40	BTC	Casing	ID: 19.124		Drift: 18.936			Weight: 83284.29509	lbs (Fluid)	
Second Casing	26 '	106.5 #	J-55	BTC	Casing	ID: 19.000		Drift: 18.812			Weight: 2427.865672	lbs (Fluid)	

Surface Casing

General Dimensions & Capacities						
Bit Size	Verify Size	Max Bit Size:	26 "	PASS	26	"
Casing Size	Verify Size	Max Casing Size:	20 "	PASS	20	"
Setting Depth	Casing Design Type	(Conventional)			1048	'
Mud Weight	From Mud Program Sheet				8.7	ppg
Mud Weight	Pressure Applied on Casing				474	psi
Length	Conductor				80	'
Conductor Setting Depth	Conductor Setting Depth				80	'
Annular Capacity (Per ft)	Surface Casing to Conductor				2.094	ft³/ft
Annular Capacity	Surface Casing to Conductor				167.55	ft³
Annular Capacity	Intermediate 1 Casing to All Surface Casing				168	ft³
Int. 1 Csg. length Below Conductor	Surface Casing Shoe to Conductor Length (Open Hole)				968	'
Annular Capacity (Per ft)	Surface Casing Shoe to Conductor (Open Hole)				1.51	ft³/ft
Annular Capacity	Surface Casing Shoe to Conductor (Open Hole)				1457	ft³
Total Annular Capacity	Surface Casing to Open Hole & Surface Casing to Conductor				1625	ft³
ECP/DV Tool Present?	NO					

Cement Program

REFER TO ATTACHED CEMENT PLAN

Casing Design Safety Factors						
Surface Casing	Collapse	BLM Minimum Safety Factors			Fully Evacuated - (100% Free Gas)	1.125
Surface Casing	Burst	(Applied or Hydrostatic)		1.0		1.0
Surface Casing	Tension (Connection)	Dry:	1.6	Wet: 1.8	100%	1.6
Surface Casing	Tension (Body)	Dry:	1.6	Wet: 1.8		1.6

First Casing - Select Size & Specs		
First Casing	Type	Casing
First Casing	Size	20.000 "
First Casing	Weight	94 #
First Casing	ID	19.124 "
First Casing	Drift	18.936 "
First Casing	Connection	BTC
First Casing	Grade	H-40
First Casing	Collapse	520 psi
First Casing	Joint Yield	1041 klbs
First Casing	Body Yield	1077 klbs
First Casing	Joint Burst	1530 psi
First Casing	Tube Burst	1530 psi
First Casing	Max Running Depth Collapse	1022 '

Second Casing - Select Size & Specs		
Second Casing	Type	Casing
Second Casing	Size	20.000 "
Second Casing	Weight	106.5 #
Second Casing	ID	19.000 "
Second Casing	Drift	18.812 "
Second Casing	Connection	BTC
Second Casing	Grade	J-55
Second Casing	Collapse	770 psi
Second Casing	Joint Yield	1595 klbs
Second Casing	Body Yield	1685 klbs
Second Casing	Joint Burst	2410 psi
Second Casing	Tube Burst	2410 psi
Second Casing	Max Running Depth Collapse	1513 '

Third Casing - (None)		
Third Casing	Type	None
Third Casing	Size	"
Third Casing	Weight	61 #
Third Casing	ID	"
Third Casing	Drift	"
Third Casing	Connection	STC
Third Casing	Grade	J-55
Third Casing	Collapse	psi
Third Casing	Joint Yield	klbs
Third Casing	Body Yield	klbs
Third Casing	Joint Burst	psi
Third Casing	Tube Burst	psi
Third Casing	Max Running Depth Collapse	'

Fourth Casing - (None)		
Fourth Casing	Type	None
Fourth Casing	Size	"
Fourth Casing	Weight	#
Fourth Casing	ID	"
Fourth Casing	Drift	"
Fourth Casing	Connection	
Fourth Casing	Grade	
Fourth Casing	Collapse	psi
Fourth Casing	Joint Yield	klbs
Fourth Casing	Body Yield	klbs
Fourth Casing	Joint Burst	psi
Fourth Casing	Tube Burst	psi
Fourth Casing	Max Running Depth Collapse	'

Collapse Design Verification															
First Casing	20.000 "	94 #	H-40	BTC	Casing	=	1022 '	Dp SF:	1.125	SF:	1.125	PASS
Second Casing	20.000 "	106.5 #	J-55	BTC	Casing	=	1048 '	Dp SF:	1.125	SF:	1.624	PASS
Collapse Design							1048 '					PASS

Tension Design Verification														
First Casing	1022 '	94.0 #	H-40	BTC	Casing	=	96041	lbs	Dp SF:	1.6	(Conn)	SF:	10.532	PASS
Second Casing	26 '	106.5 #	J-55	BTC	Casing	=	2800	lbs	Dp SF:	1.6	(Conn)	SF:	569.696	PASS
Tension Design							98841	lbs			(AIR)			PASS

Surface Casing Design													
First Casing	1022 '	94.0 #	H-40	BTC	Casing	ID: 19.124		Drift: 18.936			Weight: 83284.29509	lbs (Fluid)	
Second Casing	26 '	106.5 #	J-55	BTC	Casing	ID: 19.000		Drift: 18.812			Weight: 2427.865672	lbs (Fluid)	

Hydrogen Sulfide Drilling Operations Plan

Permian Oilfield Partners, LLC.

Deep Hole Federal SWD #1
1339' FSL, 250' FEL
Sec. 19, T26S, R32E, Lea Co. NM
Lat 32.0245011˚ N, Lon 103.7065713˚W

1. General Requirements

Rule 118 does not apply to this well because POP has researched this area and no high concentrations of H2S were found. POP will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. **The hazards and characteristics of hydrogen sulfide gas.**
2. **The proper use of personal protective equipment and life support systems.**
3. **The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.**
4. **The proper techniques for first aid and rescue operations. Additionally, supervisory personnel will be trained in the following areas:**

    - The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
    - Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
    - The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a known hydrogen sulfide source. The initial training session shall include a review of the site-specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 13 3/8" intermediate #1 casing.

1. **Well Control Equipment**

    - Choke manifold with minimum of one adjustable choke.
    - Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

- Auxiliary equipment including annular type blowout preventer.

2. **Protective Equipment for Essential Personnel**

   - A Thirty-minute self-contained work unit located in the dog house and at briefing areas.
   - If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas.
   - If higher concentrations of H2S are detected the well will be shut in and POP will follow Onshore Order 6 and install a rotating head, mud/gas separator, remote choke and flare line with igniter.

3. **Hydrogen Sulfide Protection and Monitoring Equipment**

   - Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. **Visual Warning Systems**

   - Wind direction indicators as indicated on the wellsite diagram.
   - Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisor's trailer. Communications in company vehicles and tool pushers are either two-way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Lea County Sheriff's Office 911 or (575) 396-3611

Ambulance Service 911 or (575) 885-2111

Carlsbad Fire Dept 911 or (575) 885-2111

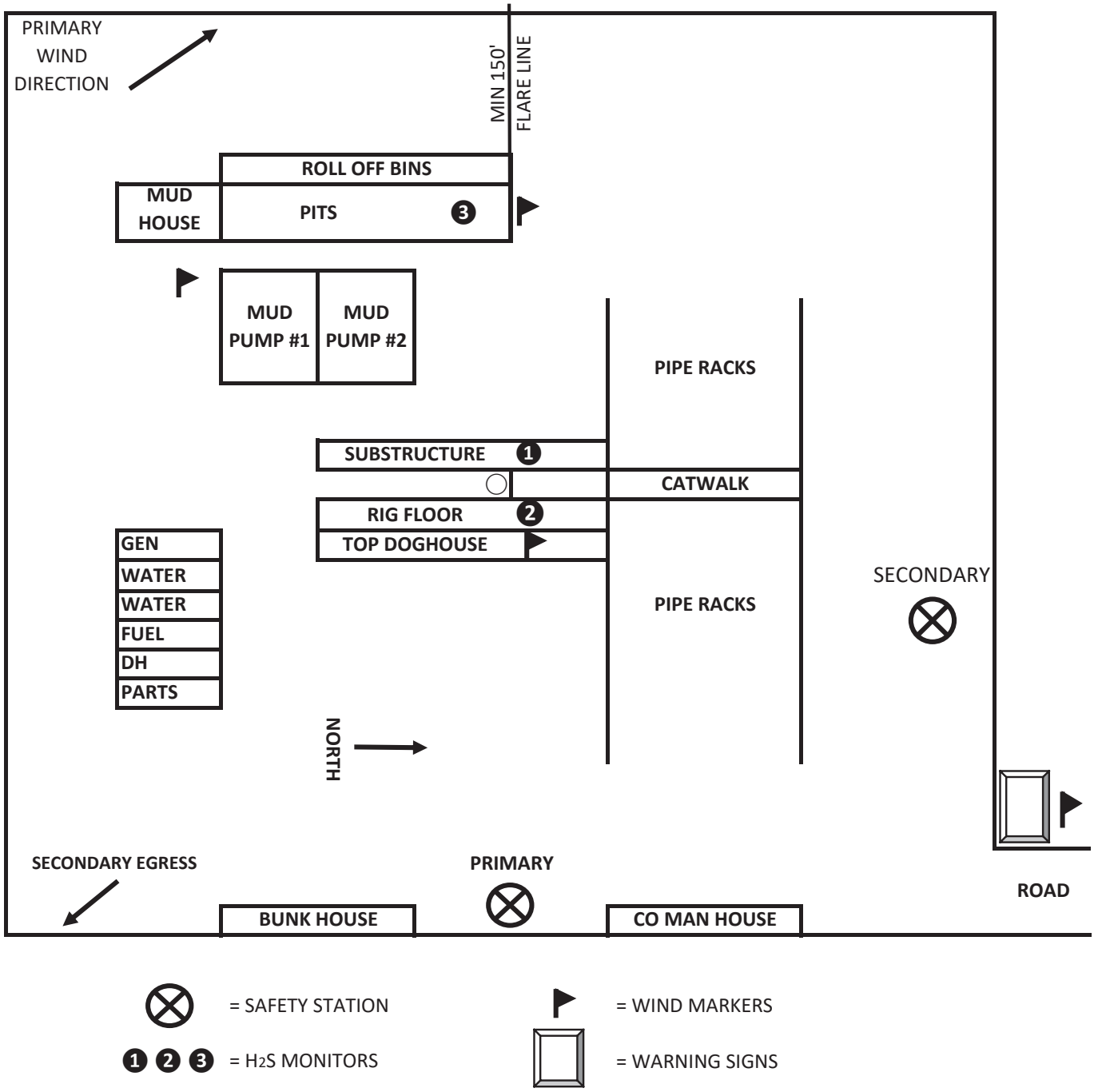
Closest Medical Facility - Columbia Medical Center of Carlsbad (575) 492-5000

Permian Oilfield Partners Hobbs Office (817) 606-7630

- Sean Puryear - (817) 600-8772
- Tyler Ledlow - (580) 603-1323
- Gary Fisher - (720) 315-8035

DEEP HOLE FEDERAL SWD #1

H_2S DIAGRAM



= SAFETY STATION

= WIND MARKERS

1 2 3 = H_2S MONITORS

= WARNING SIGNS

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025- **47934**	97869	SWD; DEVONIAN-SILURIAN

4 Property Code	5 Property Name	6 Well Number
329747	**DEEP HOLE FEDERAL SWD**	**1**

7 OGRID NO.	8 Operator Name	9 Elevation
328259	**PERMIAN OILFIELD PARTNERS, LLC**	**3175'**

10 Surface Location

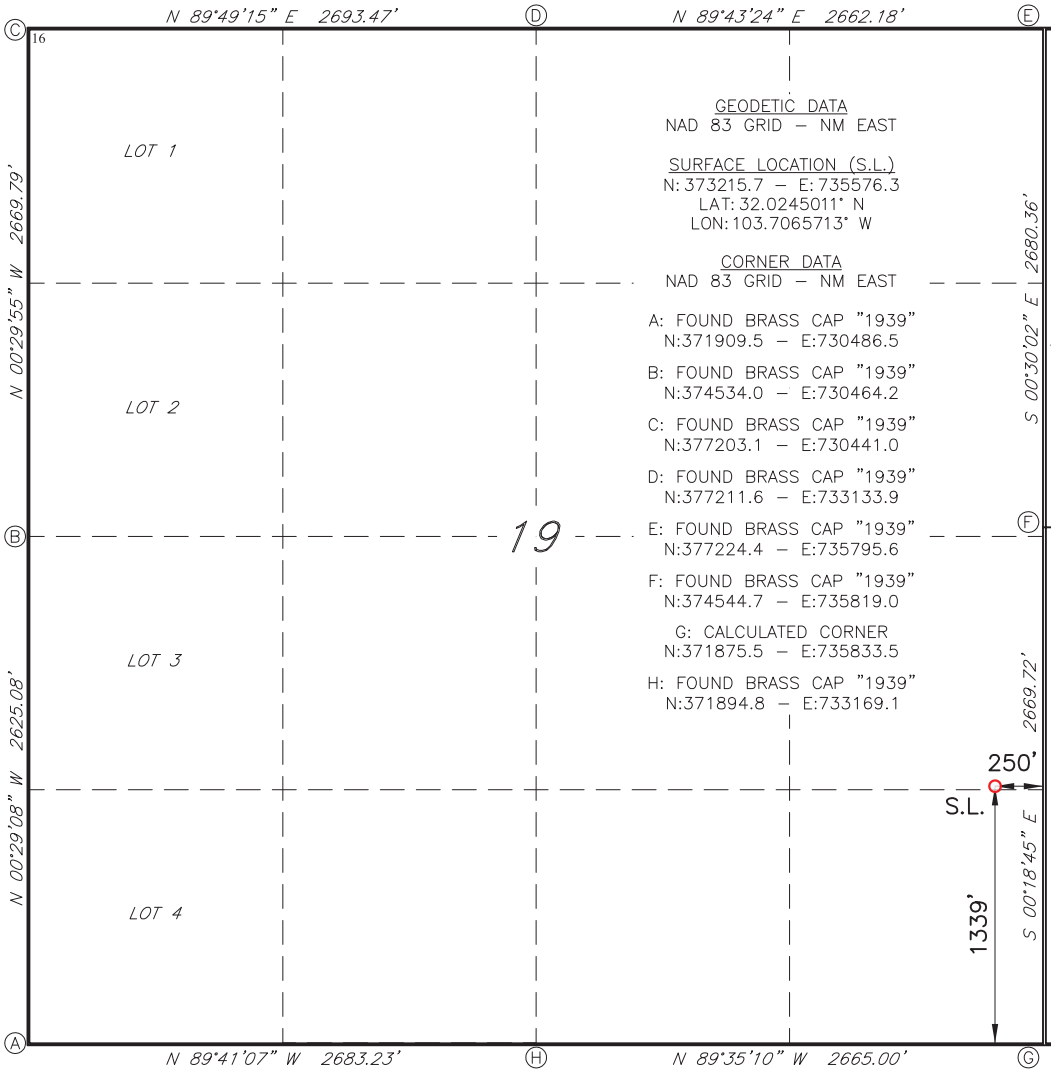
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
I	19	26S	32E		1339	SOUTH	250	EAST	LEA

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
			SWD-2098

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 4-17-2019 Date

Gary E. Fisher
Printed Name

gfisher@popmidstream.com
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

3-30-19
Date of Survey

Signature and Seal of Professional Surveyor:

JEFFREY L. FANSLER
NEW MEXICO
10034
PROFESSIONAL SURVEYOR

10034
Certificate Number

REVISED: 4/01/2019

Job No.: LS19030273R