

Form 3160-3  
(June 2015)

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**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMNM96203</b>
2. Name of Operator <b>PETROGULF CORPORATION</b>		6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. <b>GAMBINO FEDERAL COM</b> <b>005H</b>
3a. Address <b>518 17TH STREET SUITE 1455, DENVER, CO 80202</b>	3b. Phone No. (include area code) <b>(303) 893-5400</b>	9. API Well No. <span style="border: 1px solid red; padding: 2px;"><b>30-015-54344</b></span>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>SWNE / 2677 FNL / 2249 FEL / LAT 32.348683 / LONG -104.279485</b> At proposed prod. zone <b>NESW / 2640 FSL / 2395 FWL / LAT 32.348374 / LONG -104.247293</b>		10. Field and Pool, or Exploratory <b>PURPLE SAGE/WOLFCAMP</b>  11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 34/T22S/R26E/NMP</b>
14. Distance in miles and direction from nearest town or post office* <b>5 miles</b>		12. County or Parish <b>EDDY</b>
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>391 feet</b>		13. State <b>NM</b>
16. No of acres in lease		17. Spacing Unit dedicated to this well <b>640.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b>		20. BLM/BIA Bond No. in file <b>FED: NMB1160836</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3268 feet</b>	22. Approximate date work will start* <b>01/02/2023</b>	23. Estimated duration <b>60 days</b>

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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) <b>BRIAN WOOD / Ph: (303) 893-5400</b>	Date <b>09/13/2022</b>
Title <b>President</b>		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>	Date <b>11/03/2023</b>
Title <b>Assistant Field Manager Lands &amp; Minerals</b> Office <b>Carlsbad Field Office</b>		

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.



(Continued on page 2)

\*(Instructions on page 2)

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

<sup>1</sup> API Number <b>30-015-54344</b>		<sup>2</sup> Pool Code <b>98220</b>		<sup>3</sup> Pool Name <b>PURPLE SAGE; WOLFCAMP (GAS)</b>	
<sup>4</sup> Property Code <b>334835</b>		<sup>5</sup> Property Name <b>GAMBINO FEDERAL COM</b>		<sup>6</sup> Well Number <b>5H</b>	
<sup>7</sup> OGRID No. <b>373806</b>		<sup>8</sup> Operator Name <b>PETROGULF CORPORATION</b>		<sup>9</sup> Elevation <b>3268.3'</b>	

<sup>10</sup> Surface Location

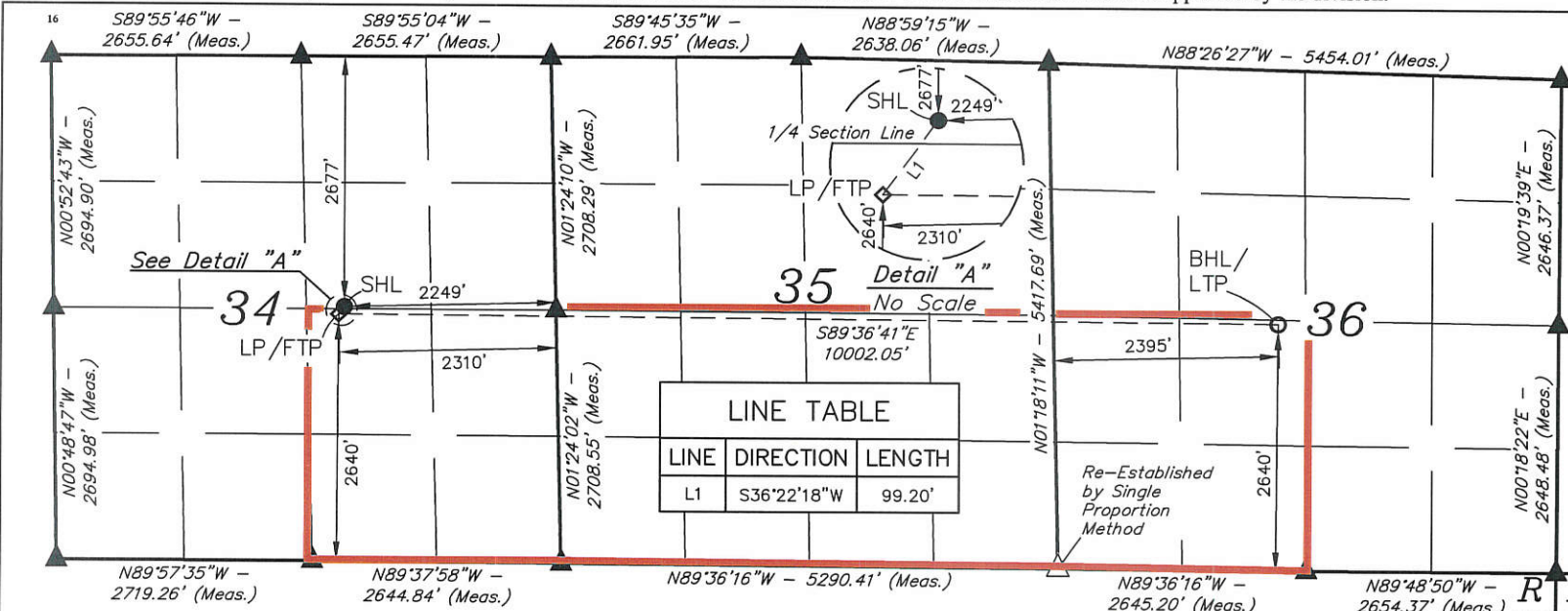
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	34	22S	26E		2677	NORTH	2249	EAST	EDDY

<sup>11</sup> 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
K	36	22S	26E		2640	SOUTH	2395	WEST	EDDY

<sup>12</sup> Dedicated Acres <b>640.00</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code <b>C</b>	<sup>15</sup> Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

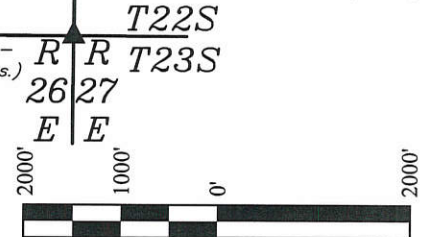


NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°20'55.26" (32.348683°)	
LONGITUDE = 104°16'46.14" (104.279485°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°20'54.84" (32.348566°)	
LONGITUDE = 104°16'44.33" (104.278981°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 490587.00' E: 557966.48'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 490528.12' E: 516785.03'	

NAD 83 (LP/FTP)	
LATITUDE = 32°20'54.47" (32.348463°)	
LONGITUDE = 104°16'46.83" (104.279674°)	
NAD 27 (LP/FTP)	
LATITUDE = 32°20'54.04" (32.348346°)	
LONGITUDE = 104°16'45.01" (104.279170°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 490506.89' E: 557908.00'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 490448.02' E: 516726.55'	

NAD 83 (BHL/LTP)	
LATITUDE = 32°20'54.15" (32.348374°)	
LONGITUDE = 104°14'50.25" (104.247293°)	
NAD 27 (BHL/LTP)	
LATITUDE = 32°20'53.72" (32.348256°)	
LONGITUDE = 104°14'48.44" (104.246790°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 490481.08' E: 567907.64'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 490422.00' E: 526726.02'	

- = SURFACE HOLE LOCATION
  - ◇ = LANDING POINT/ FIRST TAKE POINT
  - = BOTTOM HOLE LOCATION/ LAST TAKE POINT
  - ▲ = SECTION CORNER LOCATED
  - △ = SECTION CORNER RE-ESTABLISHED.
- (Not Set on Ground.)



SCALE  
DRAWN BY: S.T.O. 10-12-21  
REV: 2 Z.L. 05-25-22 (WELL MOVE)

**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.*

9-11-22  
Date

Signature  
**BRIAN WOOD**

Printed Name  
**brian@permitswest.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.*

May 23, 2022

Date of Survey  
Signature and Seal of Professional Surveyor:



Certificate Number:

NOTE:

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83).

State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

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

### NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

#### Section 1 – Plan Description

Effective May 25, 2021

**I. Operator:** Petrogulf Corporation **OGRID:** 373806 **Date:** 10/24/23

**II. Type:**  Original  Amendment due to  19.15.27.9.D(6)(a) NMAC  19.15.27.9.D(6)(b) NMAC  Other.

If Other, please describe: \_\_\_\_\_

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Gambino Federal Com #5H		A 34 22S 26E	2677' FNL x 2249' FEL	1500	4000	5500

**IV. Central Delivery Point Name:** Gambino Federal Com #5H [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Gambino Federal Com #5H		12/24/23	1/24/24	2/24/24	2/29/24	2/29/24

**VI. Separation Equipment:**  Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:**  Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:**  Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

**Section 2 – Enhanced Plan**  
**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

**X. Natural Gas Gathering System (NGGS):**

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.**  Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system  will  will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator  does  does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

Attach Operator’s plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:**  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.



### **Section 3 - Certifications**

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.**  Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.**  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

### **Section 4 - Notices**


1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 	
Printed Name: Jerry Goedert	
Title: Operations Manager	
E-mail Address: <a href="mailto:jgoedert@Petrogulf.com">jgoedert@Petrogulf.com</a>	
Date: October 24, 2023	
Phone: 303-968-8828	
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

## Petrogulf Corporation

## Natural Gas Management Plan – Attachment

- VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.
- VII. Petrogulf Corporation (PC) will take following actions to comply with the regulations listed in 19.15.27.8 :
- A. PC will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. PC will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.
  - B. All drilling operations will be equipped with a rig flare located at least 100 ft from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
  - C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flow will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, PC will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. PC will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
  - D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(1) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.
  - E. PC will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs in order to minimize the waste. Production storage tanks constructed after May 25, 2021 will be equipped with automatic gauging system. Flares constructed after May 25, 2021 will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. PC will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
  - F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured or estimated. PC will install equipment to measure

the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021 that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, PC will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

- VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.





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

# Drilling Plan Data Report

11/03/2023

APD ID: 10400088017

Submission Date: 09/13/2022

Highlighted data  
reflects the most  
recent changes

Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM

Well Number: 005H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12408210	QUATERNARY	3268	0	0	OTHER : Caliche	USEABLE WATER	N
12408211	RUSTLER ANHYDRITE	2868	400	400	ANHYDRITE	NONE	N
12408212	TOP SALT	2748	520	520	SALT	NONE	N
12408213	BASE OF SALT	1608	1660	1660	SALT	NONE	N
12408214	LAMAR	1368	1900	1900	LIMESTONE	NATURAL GAS, OIL	N
12408215	BELL CANYON	1208	2060	2060	SANDSTONE	NATURAL GAS, OIL	N
12408216	CHERRY CANYON	468	2800	2803	SANDSTONE	NATURAL GAS, OIL	N
12408217	MANZANITA	368	2900	2904	LIMESTONE	NATURAL GAS, OIL	N
12408218	BRUSHY CANYON	-862	4130	4150	SANDSTONE	NATURAL GAS, OIL	N
12408219	BONE SPRING	-2102	5370	5386	LIMESTONE	NATURAL GAS, OIL	N
12408220	BONE SPRING 1ST	-3162	6430	6452	SANDSTONE	NATURAL GAS, OIL	N
12408221	BONE SPRING 2ND	-3632	6900	6925	SANDSTONE	NATURAL GAS, OIL	N
12408222	BONE SPRING 3RD	-5232	8500	8534	SANDSTONE	NATURAL GAS, OIL	N
12408223	WOLFCAMP	-5582	8850	9018	LIMESTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Operator Name:** PETROGULF CORPORATION

**Well Name:** GAMBINO FEDERAL COM

**Well Number:** 005H

**Pressure Rating (PSI):** 5M

**Rating Depth:** 10000

**Equipment:** See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures for a 5000-psi system.

**Requesting Variance?** YES

**Variance request:** Variance is requested to use a co-flex hose between the BOP and choke instead of a steel line. See attached test certificate. If this hose is unavailable, then a hose of equal or higher-pressure rating will be used.

**Testing Procedure:** See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures for a 5000-psi system. Speed head (aka, multi-bowl wellhead) will be installed by a third-party welder under the supervision of the vendors representative.

**Choke Diagram Attachment:**

Choke\_Rev\_20230907162551.pdf

**BOP Diagram Attachment:**

BOP\_Diagram\_v2\_20230811155049.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	475	0	475	3268	2793	475	J-55	48	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1775	0	1775	0	1493	1775	J-55	36	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	PRODUCTION	8.75	7.0	NEW	NON API	N	0	9150	0	8890	0	-5622	9150	P-110	26	OTHER - HC BTC	1.125	1.125	DRY	1.6	DRY	1.6
4	LINER	6.125	4.5	NEW	NON API	N	8048	19253	8014	8900	-8014	-5632	11205	P-110	13.5	OTHER - HC GBCD	1.125	1.125	DRY	1.6	DRY	1.6

**Casing Attachments**

**Operator Name:** PETROGULF CORPORATION

**Well Name:** GAMBINO FEDERAL COM

**Well Number:** 005H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_Rev\_20230508150358.pdf

13.375in\_Casing\_Spec\_20230508150411.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_Rev\_20230508150336.pdf

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

**Inspection Document:**

**Spec Document:**

7in\_Casing\_Spec\_20220912151055.pdf

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Casing\_Design\_Assumptions\_Rev\_20230508150441.pdf

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Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM

Well Number: 005H

## Casing Attachments

Casing ID: 4 String LINER

Inspection Document:

Spec Document:

4.5in\_Casing\_Spec\_20220912151130.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing\_Design\_Assumptions\_Rev\_20230508150501.pdf

## Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Tail		0	475	400	1.34	14.8	536	50	Class C	1% CaCl2 + 0.005 gal/sack no foam V1A
LINER	Lead		0	0	0	0	0	0	0	None	None
LINER	Tail		8048	1925 3	945	1.33	14.8	1256	20	100% Class H	0.1% SuspendaCem 6302 + 0.3% NSR-1 + 0.5% C-47B + 0.005 gal/sack NoFoam V1A
INTERMEDIATE	Lead		0	1775	335	1.9	12.8	636	40	35% Class B Poz + 65% Class C	6% gel + 5% salt + + 0.25 #/sack poly flake + 0.005 gal/sack no foam V1A
INTERMEDIATE	Tail		0	1775	115	1.34	14.8	154	40	Class C	1% CaCl2 + 0.005 gal/sack no foam V1A
PRODUCTION	Lead		0	9150	485	3.39	10.7	1619	20	100% ProLite	5 #/sack Plexcrete STE + 2% SMS + 0.05% SuspendaCem 6302 + 0.65% R-1300 + 0.2% C-47B + 3 #/sack gilsonite + 0.005 gal/sack no foam V1A

**Operator Name:** PETROGULF CORPORATION

**Well Name:** GAMBINO FEDERAL COM

**Well Number:** 005H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		0	9150	285	1.27	14.2	361	20	50% Class B Poz + 50% Class H	5% salt + 0.1% NSR-1 + 0.005 gal/sack no foam V1A

### 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:** Sufficient mud materials (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase requirements will always be on site.

**Describe the mud monitoring system utilized:** An electronic pit volume totalizer (PVT) mud system will monitor pit volumes for gains or losses, flow rate, pump pressures, and stroke rate.

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	475	OTHER : Fresh Water	8.4	10.1							
475	1775	OTHER : Brine	10	10.5							
1775	8890	OTHER : Cut Brine	8.8	9.2							
8890	19253	OIL-BASED MUD	11.5	12							



**Operator Name:** PETROGULF CORPORATION

**Well Name:** GAMBINO FEDERAL COM

**Well Number:** 005H

### Section 6 - Test, Logging, Coring

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

Gamma Ray log will be acquired by MWD tools throughout the well.

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

GAMMA RAY LOG,

**Coring operation description for the well:**

No core or open hole or cased hole log is planned.

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5554

**Anticipated Surface Pressure:** 3595

**Anticipated Bottom Hole Temperature(F):** 154

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations**

Gambino\_Fed\_Com\_H2S\_Plan\_20220912151402.pdf

### Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Gambino\_5H\_Horizontal\_Plan\_20220912151424.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

CoFlex\_Certs\_20220912151457.pdf

Speedhead\_Specs\_20220912151516.pdf

Gambino\_5H\_Drill\_Plan\_rev2\_20230927132925.pdf

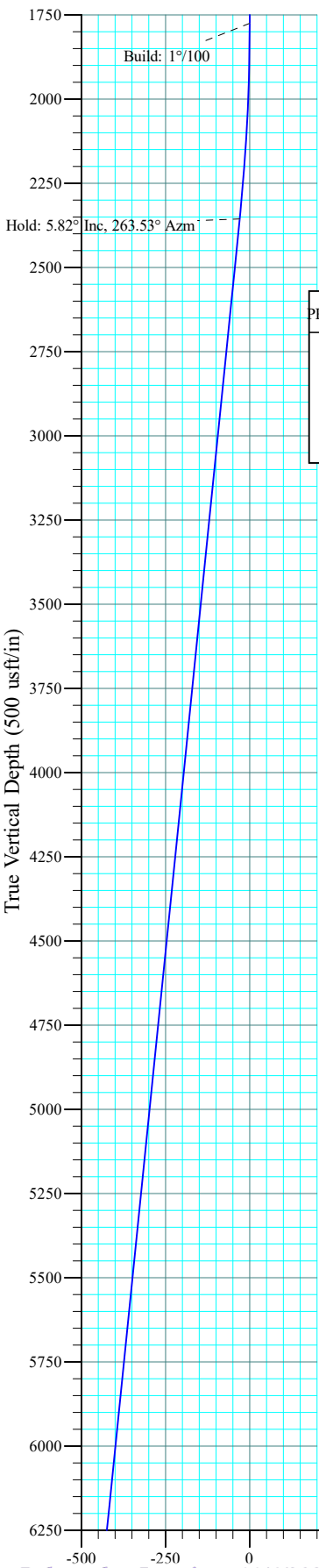
**Other Variance attachment:**

Casing\_Cementing\_Variance\_Rev\_20230508150652.pdf





**Gambino Federal Com 5H**  
**Eddy County, NM (NAD 83 NME)**  
**Job No. WT-22-\*\*\***  
**Plan 0.1**



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	
2	1775.00	0.00	0.00	1775.00	0.00	0.00	0.000	0.00	0.00	Build: 1°/100
3	2357.23	5.82	263.53	2356.23	-3.33	-29.37	1.000	263.53	-29.36	Hold: 5.82° Inc, 263.53° Azm
4	8301.01	5.82	263.53	8269.35	-71.22	-628.50	0.000	0.00	-628.31	KOP: 10°/100' @ 8301.01' MD
5	9258.85	90.00	90.15	8900.00	-80.10	-58.48	10.000	-173.35	-58.27	LP/Hold: 90.00° Inc, 90.15° Azm
6	19258.52	90.00	90.15	8900.00	-105.92	9941.16	0.000	0.00	9941.40	PBHL

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		
LP/FTP - Gambino Federal Com 5H	8900.00	-80.10	-58.48	490506.89	557908.00	32° 20' 54.467 N	104° 16' 46.827 W		
LTP/PBHL - Gambino Federal Com 5H	8900.00	-105.92	9941.16	490481.08	567907.64	32° 20' 54.147 N	104° 14' 50.255 W		

**PROJECT DETAILS: Eddy County, NM (NAD 83 NME)**

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

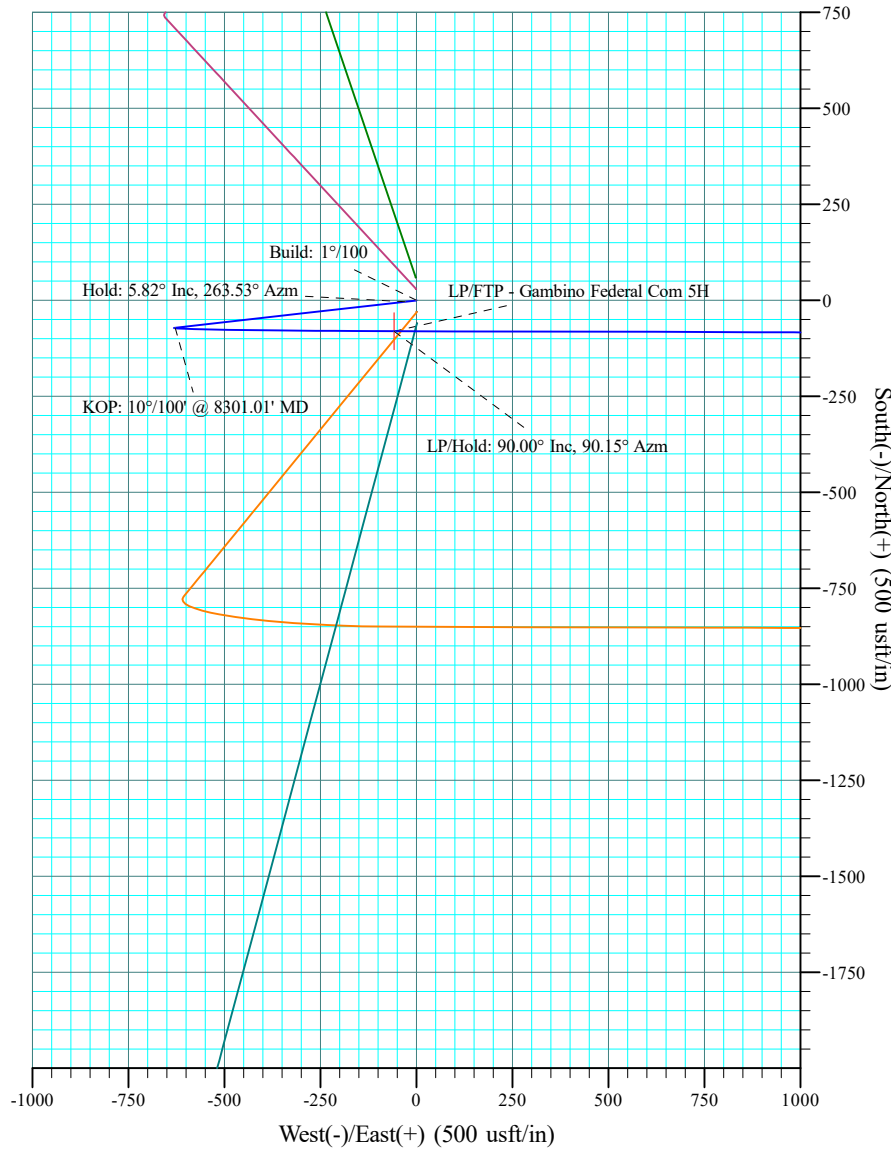
**SITE DETAILS: Gambino Federal Com Pad**

Site Centre Northing: 490616.97  
 Easting: 557965.56

Positional Uncertainty: 0.00  
 Convergence: 0.03  
 Local North: Grid

Azimuths to Grid North  
 True North: -0.03°  
 Magnetic North: 6.95°

Magnetic Field  
 Strength: 47544.1nT  
 Dip Angle: 59.94°  
 Date: 8/1/2022  
 Model: MVHD





# Petrogulf Corporation

Gambino Federal Com 5H  
Eddy County, NM (NAD 83 NME)  
Job No. WT-22-\*\*\*  
Plan 0.1



### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00		
2	1775.00	0.00	0.00	1775.00	0.00	0.00	0.000	0.00	0.00		Build: 1°/100
3	2357.23	5.82	263.53	2356.23	-3.33	-29.37	1.000	263.53	-29.36		Hold: 5.82° Inc, 263.53° Azm
4	8301.01	5.82	263.53	8269.35	-71.22	-628.50	0.000	0.00	-628.31		KOP: 10°/100' @ 8301.01' MD
5	9258.85	90.00	90.15	8900.00	-80.10	-58.48	10.000	-173.35	-58.27	LP/FTP - Gambino Federal Com 5H	LP/Hold: 90.00° Inc, 90.15° Azm
6	19258.52	90.00	90.15	8900.00	-105.92	9941.16	0.000	0.00	9941.40	LTP/PBHL - Gambino Federal Com 5HPBHL	

### SITE DETAILS: Gambino Federal Com Pad

Site Centre Northing: 490616.97  
Easting: 557965.56

Positional Uncertainty: 0.00  
Convergence: 0.03  
Local North: Grid

### PROJECT DETAILS: Eddy County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

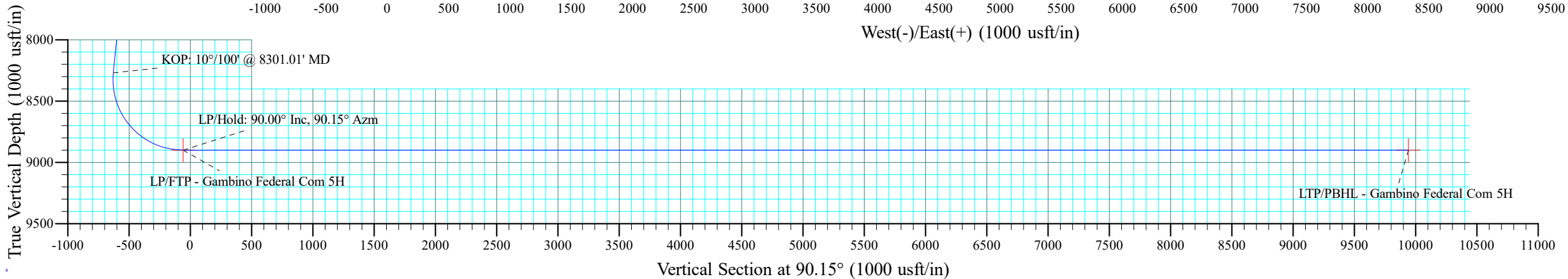
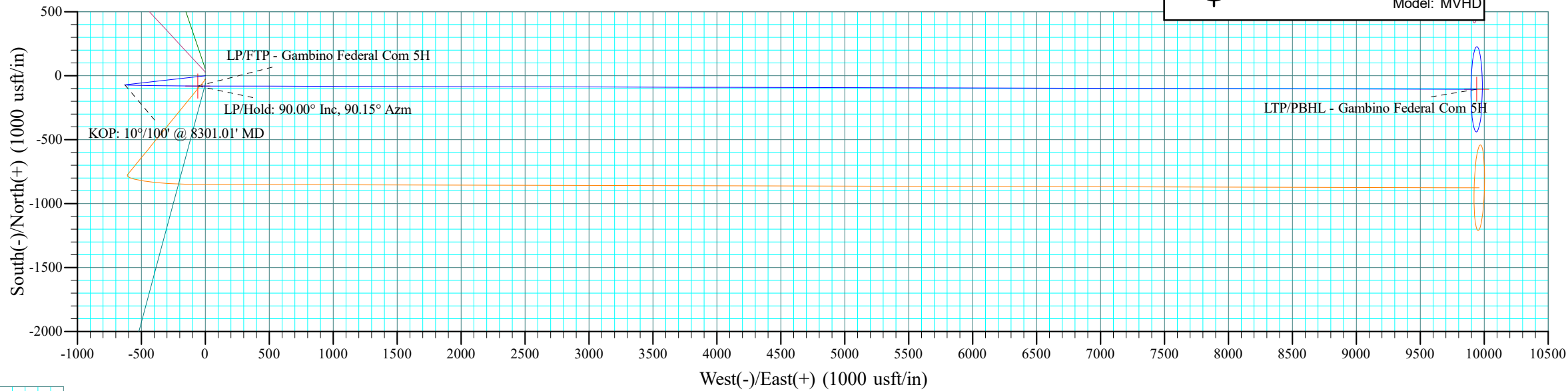
### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP/FTP - Gambino Federal Com 5H	8900.00	-80.10	-58.48	490506.89	557908.00	32° 20' 54.467 N 104° 16' 46.827 W	
LTP/PBHL - Gambino Federal Com 5H	8900.00	-105.92	9941.16	490481.08	567907.64	32° 20' 54.147 N 104° 14' 50.255 W	

Drawn By: KRN  
Date Created: 7/12/2022  
Date Revised: 7/12/2022  
File: Petrogulf - Gambino Federal Com 5H - Plan 0.1.wpc

Azimuths to Grid North  
True North: -0.03°  
Magnetic North: 6.95°

Magnetic Field  
Strength: 47544.1nT  
Dip Angle: 59.94°  
Date: 8/1/2022  
Model: MVHD





# **Petrogulf Corporation**

**Eddy County, NM (NAD 83 NME)**

**Gambino Federal Com Pad**

**Gambino Federal Com 5H**

**Planning**

**Plan: Plan 0.1**

## **Standard Planning Report**

**12 July, 2022**







# Aim Directional Services, LLC

## Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

<b>Project</b>	Eddy County, NM (NAD 83 NME)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Gambino Federal Com Pad				
<b>Site Position:</b>	<b>Northing:</b>	490,616.97 usft	<b>Latitude:</b>	32° 20' 55.556 N	
<b>From:</b> Map	<b>Easting:</b>	557,965.56 usft	<b>Longitude:</b>	104° 16' 46.155 W	
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.03 °

<b>Well</b>	Gambino Federal Com 5H					
<b>Well Position</b>	<b>+N/-S</b>	-29.97 usft	<b>Northing:</b>	490,587.00 usft	<b>Latitude:</b>	32° 20' 55.259 N
	<b>+E/-W</b>	0.92 usft	<b>Easting:</b>	557,966.48 usft	<b>Longitude:</b>	104° 16' 46.145 W
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	3,268.30 usft

<b>Wellbore</b>	Planning		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	8/1/2022	6.98	59.94	47,544.084

<b>Design</b>	Plan 0.1		
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<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	90.15

<b>Plan Survey Tool Program</b>		<b>Date</b> 7/12/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,258.52 Plan 0.1 (Planning)	MWD+HRGM OWSG MWD + HRGM	

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.00	
1,775.00	0.00	0.00	1,775.00	0.00	0.00	0.000	0.000	0.000	0.00	
2,357.23	5.82	263.53	2,356.23	-3.33	-29.37	1.000	1.000	0.000	263.53	
8,301.01	5.82	263.53	8,269.35	-71.22	-628.50	0.000	0.000	0.000	0.00	
9,258.85	90.00	90.15	8,900.00	-80.10	-58.48	10.000	8.788	-18.102	-173.35	LP/FTP - Gambino
19,258.52	90.00	90.15	8,900.00	-105.92	9,941.16	0.000	0.000	0.000	0.00	LTP/PBHL - Gambi



# Aim Directional Services, LLC

## Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.000	0.000	0.000
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.000	0.000	0.000
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.000	0.000	0.000
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.000	0.000	0.000
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.000	0.000	0.000
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.000	0.000	0.000
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.000	0.000	0.000
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.000	0.000	0.000
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.000	0.000	0.000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.000	0.000	0.000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.000	0.000	0.000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.000	0.000	0.000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.000	0.000	0.000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.000	0.000	0.000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.000	0.000	0.000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.000	0.000	0.000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.000	0.000	0.000
1,775.00	0.00	0.00	1,775.00	0.00	0.00	0.00	0.000	0.000	0.000
<b>Build: 1°/100</b>									
1,800.00	0.25	263.53	1,800.00	-0.01	-0.05	-0.05	1.000	1.000	0.000
1,900.00	1.25	263.53	1,899.99	-0.15	-1.35	-1.35	1.000	1.000	0.000
2,000.00	2.25	263.53	1,999.94	-0.50	-4.39	-4.39	1.000	1.000	0.000
2,100.00	3.25	263.53	2,099.83	-1.04	-9.16	-9.15	1.000	1.000	0.000
2,200.00	4.25	263.53	2,199.61	-1.77	-15.66	-15.65	1.000	1.000	0.000
2,300.00	5.25	263.53	2,299.27	-2.71	-23.88	-23.88	1.000	1.000	0.000
2,357.23	5.82	263.53	2,356.23	-3.33	-29.37	-29.36	1.000	1.000	0.000
<b>Hold: 5.82° Inc, 263.53° Azm</b>									
2,400.00	5.82	263.53	2,398.78	-3.82	-33.68	-33.67	0.000	0.000	0.000
2,500.00	5.82	263.53	2,498.26	-4.96	-43.76	-43.75	0.000	0.000	0.000
2,600.00	5.82	263.53	2,597.75	-6.10	-53.84	-53.82	0.000	0.000	0.000
2,700.00	5.82	263.53	2,697.23	-7.24	-63.92	-63.90	0.000	0.000	0.000
2,800.00	5.82	263.53	2,796.71	-8.39	-74.00	-73.98	0.000	0.000	0.000
2,900.00	5.82	263.53	2,896.20	-9.53	-84.08	-84.05	0.000	0.000	0.000
3,000.00	5.82	263.53	2,995.68	-10.67	-94.16	-94.13	0.000	0.000	0.000
3,100.00	5.82	263.53	3,095.17	-11.81	-104.24	-104.21	0.000	0.000	0.000
3,200.00	5.82	263.53	3,194.65	-12.96	-114.32	-114.29	0.000	0.000	0.000
3,300.00	5.82	263.53	3,294.14	-14.10	-124.40	-124.36	0.000	0.000	0.000
3,400.00	5.82	263.53	3,393.62	-15.24	-134.48	-134.44	0.000	0.000	0.000
3,500.00	5.82	263.53	3,493.10	-16.38	-144.56	-144.52	0.000	0.000	0.000
3,600.00	5.82	263.53	3,592.59	-17.52	-154.64	-154.59	0.000	0.000	0.000
3,700.00	5.82	263.53	3,692.07	-18.67	-164.72	-164.67	0.000	0.000	0.000
3,800.00	5.82	263.53	3,791.56	-19.81	-174.80	-174.75	0.000	0.000	0.000
3,900.00	5.82	263.53	3,891.04	-20.95	-184.88	-184.82	0.000	0.000	0.000
4,000.00	5.82	263.53	3,990.52	-22.09	-194.96	-194.90	0.000	0.000	0.000
4,100.00	5.82	263.53	4,090.01	-23.24	-205.04	-204.98	0.000	0.000	0.000
4,200.00	5.82	263.53	4,189.49	-24.38	-215.12	-215.05	0.000	0.000	0.000
4,300.00	5.82	263.53	4,288.98	-25.52	-225.20	-225.13	0.000	0.000	0.000
4,400.00	5.82	263.53	4,388.46	-26.66	-235.28	-235.21	0.000	0.000	0.000
4,500.00	5.82	263.53	4,487.94	-27.81	-245.36	-245.28	0.000	0.000	0.000
4,600.00	5.82	263.53	4,587.43	-28.95	-255.44	-255.36	0.000	0.000	0.000
4,700.00	5.82	263.53	4,686.91	-30.09	-265.52	-265.44	0.000	0.000	0.000
4,800.00	5.82	263.53	4,786.40	-31.23	-275.60	-275.52	0.000	0.000	0.000



# Aim Directional Services, LLC

## Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,900.00	5.82	263.53	4,885.88	-32.37	-285.68	-285.59	0.000	0.000	0.000
5,000.00	5.82	263.53	4,985.37	-33.52	-295.76	-295.67	0.000	0.000	0.000
5,100.00	5.82	263.53	5,084.85	-34.66	-305.84	-305.75	0.000	0.000	0.000
5,200.00	5.82	263.53	5,184.33	-35.80	-315.92	-315.82	0.000	0.000	0.000
5,300.00	5.82	263.53	5,283.82	-36.94	-326.00	-325.90	0.000	0.000	0.000
5,400.00	5.82	263.53	5,383.30	-38.09	-336.08	-335.98	0.000	0.000	0.000
5,500.00	5.82	263.53	5,482.79	-39.23	-346.16	-346.05	0.000	0.000	0.000
5,600.00	5.82	263.53	5,582.27	-40.37	-356.24	-356.13	0.000	0.000	0.000
5,700.00	5.82	263.53	5,681.75	-41.51	-366.32	-366.21	0.000	0.000	0.000
5,800.00	5.82	263.53	5,781.24	-42.66	-376.40	-376.28	0.000	0.000	0.000
5,900.00	5.82	263.53	5,880.72	-43.80	-386.48	-386.36	0.000	0.000	0.000
6,000.00	5.82	263.53	5,980.21	-44.94	-396.56	-396.44	0.000	0.000	0.000
6,100.00	5.82	263.53	6,079.69	-46.08	-406.64	-406.51	0.000	0.000	0.000
6,200.00	5.82	263.53	6,179.17	-47.22	-416.72	-416.59	0.000	0.000	0.000
6,300.00	5.82	263.53	6,278.66	-48.37	-426.80	-426.67	0.000	0.000	0.000
6,400.00	5.82	263.53	6,378.14	-49.51	-436.88	-436.75	0.000	0.000	0.000
6,500.00	5.82	263.53	6,477.63	-50.65	-446.96	-446.82	0.000	0.000	0.000
6,600.00	5.82	263.53	6,577.11	-51.79	-457.04	-456.90	0.000	0.000	0.000
6,700.00	5.82	263.53	6,676.60	-52.94	-467.12	-466.98	0.000	0.000	0.000
6,800.00	5.82	263.53	6,776.08	-54.08	-477.20	-477.05	0.000	0.000	0.000
6,900.00	5.82	263.53	6,875.56	-55.22	-487.28	-487.13	0.000	0.000	0.000
7,000.00	5.82	263.53	6,975.05	-56.36	-497.36	-497.21	0.000	0.000	0.000
7,100.00	5.82	263.53	7,074.53	-57.50	-507.44	-507.28	0.000	0.000	0.000
7,200.00	5.82	263.53	7,174.02	-58.65	-517.52	-517.36	0.000	0.000	0.000
7,300.00	5.82	263.53	7,273.50	-59.79	-527.60	-527.44	0.000	0.000	0.000
7,400.00	5.82	263.53	7,372.98	-60.93	-537.68	-537.51	0.000	0.000	0.000
7,500.00	5.82	263.53	7,472.47	-62.07	-547.76	-547.59	0.000	0.000	0.000
7,600.00	5.82	263.53	7,571.95	-63.22	-557.84	-557.67	0.000	0.000	0.000
7,700.00	5.82	263.53	7,671.44	-64.36	-567.91	-567.74	0.000	0.000	0.000
7,800.00	5.82	263.53	7,770.92	-65.50	-577.99	-577.82	0.000	0.000	0.000
7,900.00	5.82	263.53	7,870.40	-66.64	-588.07	-587.90	0.000	0.000	0.000
8,000.00	5.82	263.53	7,969.89	-67.79	-598.15	-597.98	0.000	0.000	0.000
8,100.00	5.82	263.53	8,069.37	-68.93	-608.23	-608.05	0.000	0.000	0.000
8,200.00	5.82	263.53	8,168.86	-70.07	-618.31	-618.13	0.000	0.000	0.000
8,301.01	5.82	263.53	8,269.35	-71.22	-628.50	-628.31	0.000	0.000	0.000
<b>KOP: 10°/100' @ 8301.01' MD</b>									
8,350.00	1.11	232.90	8,318.23	-71.79	-631.35	-631.16	10.000	-9.617	-62.531
8,400.00	4.17	99.42	8,368.20	-72.38	-629.94	-629.75	10.000	6.116	-266.970
8,450.00	9.14	94.33	8,417.84	-72.98	-624.18	-623.99	10.000	9.940	-10.168
8,500.00	14.13	92.82	8,466.80	-73.58	-614.12	-613.93	10.000	9.982	-3.025
8,550.00	19.13	92.09	8,514.69	-74.18	-599.83	-599.63	10.000	9.991	-1.466
8,600.00	24.12	91.65	8,561.16	-74.77	-581.42	-581.22	10.000	9.995	-0.876
8,650.00	29.12	91.36	8,605.85	-75.36	-559.03	-558.83	10.000	9.997	-0.590
8,700.00	34.12	91.14	8,648.41	-75.92	-532.83	-532.63	10.000	9.997	-0.430
8,750.00	39.12	90.98	8,688.53	-76.47	-503.01	-502.81	10.000	9.998	-0.331
8,800.00	44.12	90.84	8,725.89	-77.00	-469.82	-469.62	10.000	9.998	-0.267
8,850.00	49.12	90.73	8,760.22	-77.49	-433.50	-433.29	10.000	9.999	-0.223
8,900.00	54.12	90.63	8,791.26	-77.96	-394.32	-394.11	10.000	9.999	-0.191
8,950.00	59.12	90.55	8,818.76	-78.39	-352.58	-352.37	10.000	9.999	-0.169
9,000.00	64.12	90.47	8,842.52	-78.78	-308.61	-308.40	10.000	9.999	-0.152
9,050.00	69.12	90.40	8,862.36	-79.13	-262.73	-262.52	10.000	9.999	-0.140
9,100.00	74.12	90.34	8,878.12	-79.44	-215.30	-215.09	10.000	9.999	-0.131
9,150.00	79.12	90.28	8,889.69	-79.70	-166.67	-166.46	10.000	9.999	-0.124
9,200.00	84.12	90.22	8,896.98	-79.91	-117.22	-117.01	10.000	9.999	-0.120



# Aim Directional Services, LLC

## Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,250.00	89.12	90.16	8,899.93	-80.08	-67.32	-67.11	10.000	9.999	-0.118
9,258.85	90.00	90.15	8,900.00	-80.10	-58.48	-58.27	10.000	9.999	-0.117
<b>LP/Hold: 90.00° Inc, 90.15° Azm</b>									
9,300.00	90.00	90.15	8,900.00	-80.21	-17.32	-17.11	0.000	0.000	0.000
9,400.00	90.00	90.15	8,900.00	-80.47	82.67	82.89	0.000	0.000	0.000
9,500.00	90.00	90.15	8,900.00	-80.72	182.67	182.89	0.000	0.000	0.000
9,600.00	90.00	90.15	8,900.00	-80.98	282.67	282.89	0.000	0.000	0.000
9,700.00	90.00	90.15	8,900.00	-81.24	382.67	382.89	0.000	0.000	0.000
9,800.00	90.00	90.15	8,900.00	-81.50	482.67	482.89	0.000	0.000	0.000
9,900.00	90.00	90.15	8,900.00	-81.76	582.67	582.89	0.000	0.000	0.000
10,000.00	90.00	90.15	8,900.00	-82.02	682.67	682.89	0.000	0.000	0.000
10,100.00	90.00	90.15	8,900.00	-82.27	782.67	782.89	0.000	0.000	0.000
10,200.00	90.00	90.15	8,900.00	-82.53	882.67	882.89	0.000	0.000	0.000
10,300.00	90.00	90.15	8,900.00	-82.79	982.67	982.89	0.000	0.000	0.000
10,400.00	90.00	90.15	8,900.00	-83.05	1,082.67	1,082.89	0.000	0.000	0.000
10,500.00	90.00	90.15	8,900.00	-83.31	1,182.67	1,182.89	0.000	0.000	0.000
10,600.00	90.00	90.15	8,900.00	-83.56	1,282.67	1,282.89	0.000	0.000	0.000
10,700.00	90.00	90.15	8,900.00	-83.82	1,382.67	1,382.89	0.000	0.000	0.000
10,800.00	90.00	90.15	8,900.00	-84.08	1,482.67	1,482.89	0.000	0.000	0.000
10,900.00	90.00	90.15	8,900.00	-84.34	1,582.67	1,582.89	0.000	0.000	0.000
11,000.00	90.00	90.15	8,900.00	-84.60	1,682.67	1,682.89	0.000	0.000	0.000
11,100.00	90.00	90.15	8,900.00	-84.86	1,782.67	1,782.89	0.000	0.000	0.000
11,200.00	90.00	90.15	8,900.00	-85.11	1,882.67	1,882.89	0.000	0.000	0.000
11,300.00	90.00	90.15	8,900.00	-85.37	1,982.67	1,982.89	0.000	0.000	0.000
11,400.00	90.00	90.15	8,900.00	-85.63	2,082.67	2,082.89	0.000	0.000	0.000
11,500.00	90.00	90.15	8,900.00	-85.89	2,182.67	2,182.89	0.000	0.000	0.000
11,600.00	90.00	90.15	8,900.00	-86.15	2,282.67	2,282.89	0.000	0.000	0.000
11,700.00	90.00	90.15	8,900.00	-86.40	2,382.67	2,382.89	0.000	0.000	0.000
11,800.00	90.00	90.15	8,900.00	-86.66	2,482.67	2,482.89	0.000	0.000	0.000
11,900.00	90.00	90.15	8,900.00	-86.92	2,582.67	2,582.89	0.000	0.000	0.000
12,000.00	90.00	90.15	8,900.00	-87.18	2,682.67	2,682.89	0.000	0.000	0.000
12,100.00	90.00	90.15	8,900.00	-87.44	2,782.67	2,782.89	0.000	0.000	0.000
12,200.00	90.00	90.15	8,900.00	-87.70	2,882.67	2,882.89	0.000	0.000	0.000
12,300.00	90.00	90.15	8,900.00	-87.95	2,982.67	2,982.89	0.000	0.000	0.000
12,400.00	90.00	90.15	8,900.00	-88.21	3,082.66	3,082.89	0.000	0.000	0.000
12,500.00	90.00	90.15	8,900.00	-88.47	3,182.66	3,182.89	0.000	0.000	0.000
12,600.00	90.00	90.15	8,900.00	-88.73	3,282.66	3,282.89	0.000	0.000	0.000
12,700.00	90.00	90.15	8,900.00	-88.99	3,382.66	3,382.89	0.000	0.000	0.000
12,800.00	90.00	90.15	8,900.00	-89.24	3,482.66	3,482.89	0.000	0.000	0.000
12,900.00	90.00	90.15	8,900.00	-89.50	3,582.66	3,582.89	0.000	0.000	0.000
13,000.00	90.00	90.15	8,900.00	-89.76	3,682.66	3,682.89	0.000	0.000	0.000
13,100.00	90.00	90.15	8,900.00	-90.02	3,782.66	3,782.89	0.000	0.000	0.000
13,200.00	90.00	90.15	8,900.00	-90.28	3,882.66	3,882.89	0.000	0.000	0.000
13,300.00	90.00	90.15	8,900.00	-90.54	3,982.66	3,982.89	0.000	0.000	0.000
13,400.00	90.00	90.15	8,900.00	-90.79	4,082.66	4,082.89	0.000	0.000	0.000
13,500.00	90.00	90.15	8,900.00	-91.05	4,182.66	4,182.89	0.000	0.000	0.000
13,600.00	90.00	90.15	8,900.00	-91.31	4,282.66	4,282.89	0.000	0.000	0.000
13,700.00	90.00	90.15	8,900.00	-91.57	4,382.66	4,382.89	0.000	0.000	0.000
13,800.00	90.00	90.15	8,900.00	-91.83	4,482.66	4,482.89	0.000	0.000	0.000
13,900.00	90.00	90.15	8,900.00	-92.08	4,582.66	4,582.89	0.000	0.000	0.000
14,000.00	90.00	90.15	8,900.00	-92.34	4,682.66	4,682.89	0.000	0.000	0.000
14,100.00	90.00	90.15	8,900.00	-92.60	4,782.66	4,782.89	0.000	0.000	0.000
14,200.00	90.00	90.15	8,900.00	-92.86	4,882.66	4,882.89	0.000	0.000	0.000



# Aim Directional Services, LLC

## Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
14,300.00	90.00	90.15	8,900.00	-93.12	4,982.66	4,982.89	0.000	0.000	0.000
14,400.00	90.00	90.15	8,900.00	-93.38	5,082.66	5,082.89	0.000	0.000	0.000
14,500.00	90.00	90.15	8,900.00	-93.63	5,182.66	5,182.89	0.000	0.000	0.000
14,600.00	90.00	90.15	8,900.00	-93.89	5,282.66	5,282.89	0.000	0.000	0.000
14,700.00	90.00	90.15	8,900.00	-94.15	5,382.66	5,382.89	0.000	0.000	0.000
14,800.00	90.00	90.15	8,900.00	-94.41	5,482.66	5,482.89	0.000	0.000	0.000
14,900.00	90.00	90.15	8,900.00	-94.67	5,582.66	5,582.89	0.000	0.000	0.000
15,000.00	90.00	90.15	8,900.00	-94.92	5,682.66	5,682.89	0.000	0.000	0.000
15,100.00	90.00	90.15	8,900.00	-95.18	5,782.66	5,782.89	0.000	0.000	0.000
15,200.00	90.00	90.15	8,900.00	-95.44	5,882.66	5,882.89	0.000	0.000	0.000
15,300.00	90.00	90.15	8,900.00	-95.70	5,982.66	5,982.89	0.000	0.000	0.000
15,400.00	90.00	90.15	8,900.00	-95.96	6,082.65	6,082.89	0.000	0.000	0.000
15,500.00	90.00	90.15	8,900.00	-96.22	6,182.65	6,182.89	0.000	0.000	0.000
15,600.00	90.00	90.15	8,900.00	-96.47	6,282.65	6,282.89	0.000	0.000	0.000
15,700.00	90.00	90.15	8,900.00	-96.73	6,382.65	6,382.89	0.000	0.000	0.000
15,800.00	90.00	90.15	8,900.00	-96.99	6,482.65	6,482.89	0.000	0.000	0.000
15,900.00	90.00	90.15	8,900.00	-97.25	6,582.65	6,582.89	0.000	0.000	0.000
16,000.00	90.00	90.15	8,900.00	-97.51	6,682.65	6,682.89	0.000	0.000	0.000
16,100.00	90.00	90.15	8,900.00	-97.76	6,782.65	6,782.89	0.000	0.000	0.000
16,200.00	90.00	90.15	8,900.00	-98.02	6,882.65	6,882.89	0.000	0.000	0.000
16,300.00	90.00	90.15	8,900.00	-98.28	6,982.65	6,982.89	0.000	0.000	0.000
16,400.00	90.00	90.15	8,900.00	-98.54	7,082.65	7,082.89	0.000	0.000	0.000
16,500.00	90.00	90.15	8,900.00	-98.80	7,182.65	7,182.89	0.000	0.000	0.000
16,600.00	90.00	90.15	8,900.00	-99.06	7,282.65	7,282.89	0.000	0.000	0.000
16,700.00	90.00	90.15	8,900.00	-99.31	7,382.65	7,382.89	0.000	0.000	0.000
16,800.00	90.00	90.15	8,900.00	-99.57	7,482.65	7,482.89	0.000	0.000	0.000
16,900.00	90.00	90.15	8,900.00	-99.83	7,582.65	7,582.89	0.000	0.000	0.000
17,000.00	90.00	90.15	8,900.00	-100.09	7,682.65	7,682.89	0.000	0.000	0.000
17,100.00	90.00	90.15	8,900.00	-100.35	7,782.65	7,782.89	0.000	0.000	0.000
17,200.00	90.00	90.15	8,900.00	-100.60	7,882.65	7,882.89	0.000	0.000	0.000
17,300.00	90.00	90.15	8,900.00	-100.86	7,982.65	7,982.89	0.000	0.000	0.000
17,400.00	90.00	90.15	8,900.00	-101.12	8,082.65	8,082.89	0.000	0.000	0.000
17,500.00	90.00	90.15	8,900.00	-101.38	8,182.65	8,182.89	0.000	0.000	0.000
17,600.00	90.00	90.15	8,900.00	-101.64	8,282.65	8,282.89	0.000	0.000	0.000
17,700.00	90.00	90.15	8,900.00	-101.90	8,382.65	8,382.89	0.000	0.000	0.000
17,800.00	90.00	90.15	8,900.00	-102.15	8,482.65	8,482.89	0.000	0.000	0.000
17,900.00	90.00	90.15	8,900.00	-102.41	8,582.65	8,582.89	0.000	0.000	0.000
18,000.00	90.00	90.15	8,900.00	-102.67	8,682.65	8,682.89	0.000	0.000	0.000
18,100.00	90.00	90.15	8,900.00	-102.93	8,782.65	8,782.89	0.000	0.000	0.000
18,200.00	90.00	90.15	8,900.00	-103.19	8,882.65	8,882.89	0.000	0.000	0.000
18,300.00	90.00	90.15	8,900.00	-103.44	8,982.65	8,982.89	0.000	0.000	0.000
18,400.00	90.00	90.15	8,900.00	-103.70	9,082.64	9,082.89	0.000	0.000	0.000
18,500.00	90.00	90.15	8,900.00	-103.96	9,182.64	9,182.89	0.000	0.000	0.000
18,600.00	90.00	90.15	8,900.00	-104.22	9,282.64	9,282.89	0.000	0.000	0.000
18,700.00	90.00	90.15	8,900.00	-104.48	9,382.64	9,382.89	0.000	0.000	0.000
18,800.00	90.00	90.15	8,900.00	-104.74	9,482.64	9,482.89	0.000	0.000	0.000
18,900.00	90.00	90.15	8,900.00	-104.99	9,582.64	9,582.89	0.000	0.000	0.000
19,000.00	90.00	90.15	8,900.00	-105.25	9,682.64	9,682.89	0.000	0.000	0.000
19,100.00	90.00	90.15	8,900.00	-105.51	9,782.64	9,782.89	0.000	0.000	0.000
19,200.00	90.00	90.15	8,900.00	-105.77	9,882.64	9,882.89	0.000	0.000	0.000
19,258.52	90.00	90.15	8,900.00	-105.92	9,941.16	9,941.40	0.000	0.000	0.000
<b>PBHL</b>									





**Aim Directional Services, LLC**  
 Planning Report



<b>Database:</b>	RTOC- EDM 5000.1 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Gambino Federal Com 5H
<b>Company:</b>	Petrogulf Corporation	<b>TVD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Project:</b>	Eddy County, NM (NAD 83 NME)	<b>MD Reference:</b>	Well @ 3293.80usft (RKB 25.5)
<b>Site:</b>	Gambino Federal Com Pad	<b>North Reference:</b>	Grid
<b>Well:</b>	Gambino Federal Com 5H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Planning		
<b>Design:</b>	Plan 0.1		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/PBHL - Gambino - hit/miss target - Shape - Point	0.00	0.00	8,900.00	-105.92	9,941.16	490,481.08	567,907.64	32° 20' 54.147 N	104° 14' 50.255 W
LP/FTP - Gambino Fe - plan hits target center - Point	0.00	0.00	8,900.00	-80.10	-58.48	490,506.90	557,908.01	32° 20' 54.467 N	104° 16' 46.827 W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,775.00	1,775.00	0.00	0.00	Build: 1°/100
2,357.23	2,356.23	-3.33	-29.37	Hold: 5.82° Inc, 263.53° Azm
8,301.01	8,269.35	-71.22	-628.50	KOP: 10°/100' @ 8301.01' MD
9,258.85	8,900.00	-80.10	-58.48	LP/Hold: 90.00° Inc, 90.15° Azm
19,258.52	8,900.00	-105.92	9,941.16	PBHL

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	PETROGULF CORPORATION
WELL NAME & NO.:	GAMBINO FEDERAL COM 5H
SURFACE HOLE FOOTAGE:	2677'/N& 2249'/E
BOTTOM HOLE FOOTAGE:	2640'/S & 2395'/W
LOCATION:	Section 34, T.22 S., R.26 E., NMP
COUNTY:	Eddy County, New Mexico

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Wellhead Variance	<input type="radio"/> Diverter		
Other	<input type="checkbox"/> 4 String	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Open Annulus
Cementing	<input type="checkbox"/> Contingency Cement Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> Primary Cement Squeeze
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry		
Special Requirements Variance	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 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

#### Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **475 feet** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  - ❖ In Medium 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.
3. The minimum required fill of cement behind the **7** inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
- Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**  
**Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
  2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
    - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    - c. Manufacturer representative shall install the test plug for the initial BOP test.
    - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR part 3170 must be followed.

### D. SPECIAL REQUIREMENT (S)

#### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR part 3170.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

## GENERAL REQUIREMENTS

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

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

Eddy County

**EMAIL** or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

[BLM\\_NM\\_CFO\\_DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV)

(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,

(575) 689-5981

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 2<sup>nd</sup> 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 **43 CFR part 3170 Subpart 3172** 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 integrity 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 integrity 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 **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
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 43 CFR part 3170 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 cement), 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** 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 **43 CFR**

**part 3170 Subpart 3172.**

**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.

JS 10/12/2023



Petrogulf Corporation  
H<sub>2</sub>S Drilling Operations Plan

- a. All personnel will be trained in H<sub>2</sub>S working conditions as required by Onshore Order 6 before drilling out of the surface casing.
- b. Two briefing areas will be established. Each will be at least 150' from the wellhead, perpendicular from one another, and easily entered and exited. See H<sub>2</sub>S page 5 for more details.
- c. H<sub>2</sub>S Safety Equipment/Systems:
  - i. Well Control Equipment
    - Flare line will be  $\geq 150'$  from the wellhead and ignited by a pilot light.
    - Beware of SO<sub>2</sub> created by flaring.
    - Choke manifold will include a remotely operated choke.
    - Mud gas separator
  - ii. Protective Equipment for Essential Personnel
    - Every person on site will be required to wear a personal H<sub>2</sub>S and SO<sub>2</sub> monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the chest.
    - One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
    - Four work/escape packs will be on the rig floor. Each pack will have a long enough hose to allow unimpaired work activity.
    - Four emergency escape packs will be in the doghouse for emergency evacuation.
    - Hand signals will be used when wearing protective breathing apparatus.
    - Stokes litter or stretcher
    - Two full OSHA compliant body harnesses
    - A 100-foot long x 5/8 inch OSHA compliant rope
    - One 20-pound ABC fire extinguisher

- iii. H<sub>2</sub>S Detection & Monitoring Equipment
  - Every person on site will be required to wear a personal H<sub>2</sub>S and SO<sub>2</sub> monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the chest.
  - A stationary detector with three sensors will be in the doghouse.
  - Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
  - Visual and audible alarms will be triggered at 10 ppm.
  - Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.
  
- iv. Visual Warning System
  - Color-coded H<sub>2</sub>S condition sign will be set at the entrance to the pad.
  - Color-coded H<sub>2</sub>S condition flag will be installed to indicate current H<sub>2</sub>S conditions.
  - Two wind-socks will be installed that will be visible from all sides.
  
- v. Mud Program
  - A water-based mud will be maintained with a pH of  $\geq 10$  to control corrosion, H<sub>2</sub>S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
  - Drilling mud containing H<sub>2</sub>S gas will be degassed at an optimum location for the rig configuration.
  - This gas will be piped into the flare system.
  - Enough mud additives will be on location to scavenge and/or neutralize H<sub>2</sub>S where formation pressures are unknown.
  
- vi. Metallurgy
  - All equipment that has the potential to be exposed to H<sub>2</sub>S will be suitable for H<sub>2</sub>S service.
  - Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).
  
- vii. Communication from well site
  - Cell phones and/or 2-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H<sub>2</sub>S.

Company Personnel to be Notified

Jerry Goedert, Operations Engineer Office: (303) 893-5400

Local & County Agencies

Carlsbad Fire Department 911 or (575) 885-3125

Carlsbad Airport (575) 887-3060

Eddy County Sheriff (Carlsbad) 911 (575) 887-7551

Eddy County Emergency Management (Carlsbad) (575) 887-9511

Carlsbad Medical Center Hospital (575) 887-4100

Eddy County South Road Department (Carlsbad) (575) 885-4835

State Agencies

NM State Police (Carlsbad) (575) 885-3138

NM Oil Conservation (Artesia) (575) 748-1283

NM Oil Conservation (Santa Fe) (505) 476-3440

NM Dept. of Transportation (Roswell) (575) 637-7201

Federal Agencies

BLM Carlsbad Field Office (575) 234-5972

National Response Center (800) 424-8802

US EPA Region 6 (Dallas) (800) 887-6063

(214) 665-6444



Residents within 2 miles

Yes

Air Evacuation

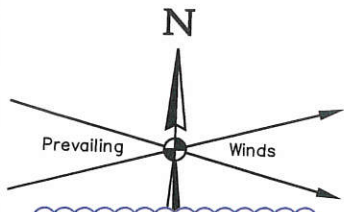
Med Flight Air Ambulance (Albuquerque) (800) 842-4431

Lifeguard (Albuquerque) (888) 866-7256

Veterinarians

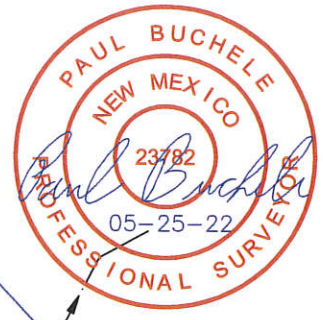
Desert Willow Veterinary Services (Carlsbad) (575) 885-3399

Animal Care Center (Carlsbad) (575) 885-5352



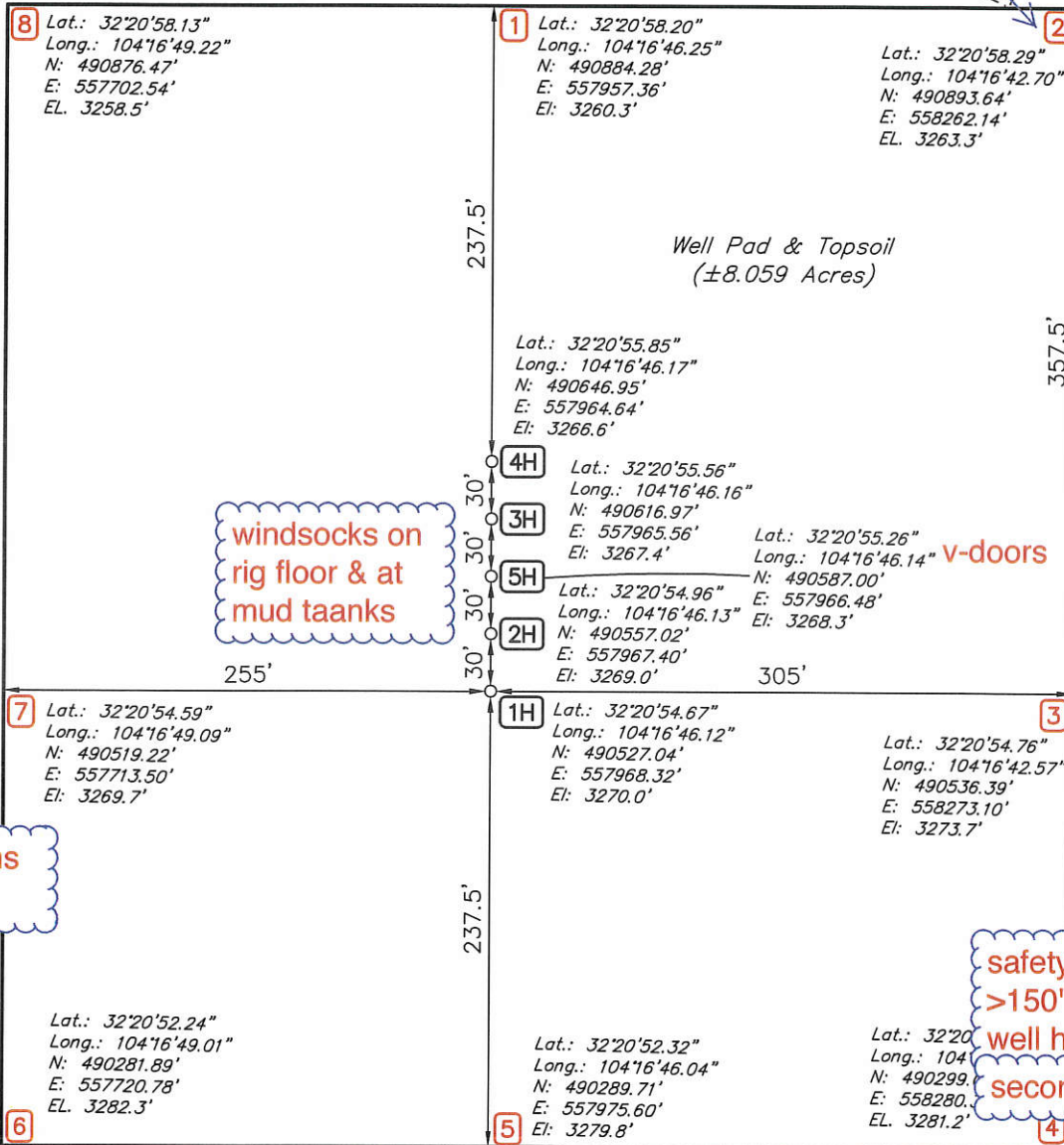
prevailing wind blows from South

LAND OWNER: BLM



flare line (straight) & flare >150' from well head

Existing Drainage



windsocks on rig floor & at mud tanks

warning signs & windsock

safety briefing area >150' from well head secondary egress

PRIMARY egress (exit) route PRIMARY safety briefing area >150' from well head

highest ground to Southwest

REV: 1 05-25-22 Z.L. (UPDATE CORNER NOTES & ADD DRAINAGE)

- NOTES: Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83) Latitude and Longitude Coordinates shown are NAD 83. Coordinates shown are New Mexico Coordinate System of 1983, East Zone, U.S. Feet.

PETROGULF CORPORATION

GAMBINO FEDERAL COM 1H, 2H, 3H, 4H & 5H, NW 1/4 SE 1/4 & SW 1/4 NE 1/4, SECTION 34, T22S, R26E, N.M.P.M. EDDY COUNTY, NEW MEXICO

Table with 4 columns: SURVEYED BY, DRAWN BY, DATE, SCALE. Values include S.L., M.D., 05-23-22, C.D.L., 04-26-22, and SCALE 1" = 100'.

SITE PLAN



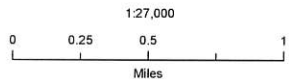
UELS, LLC Corporate Office \* 85 South 200 East Vernal, UT 84078 \* (435) 789-1017



# Petrogulf Corporation

Gambino Federal Com Pad  
H2S Contingency Plan:  
Radius Map

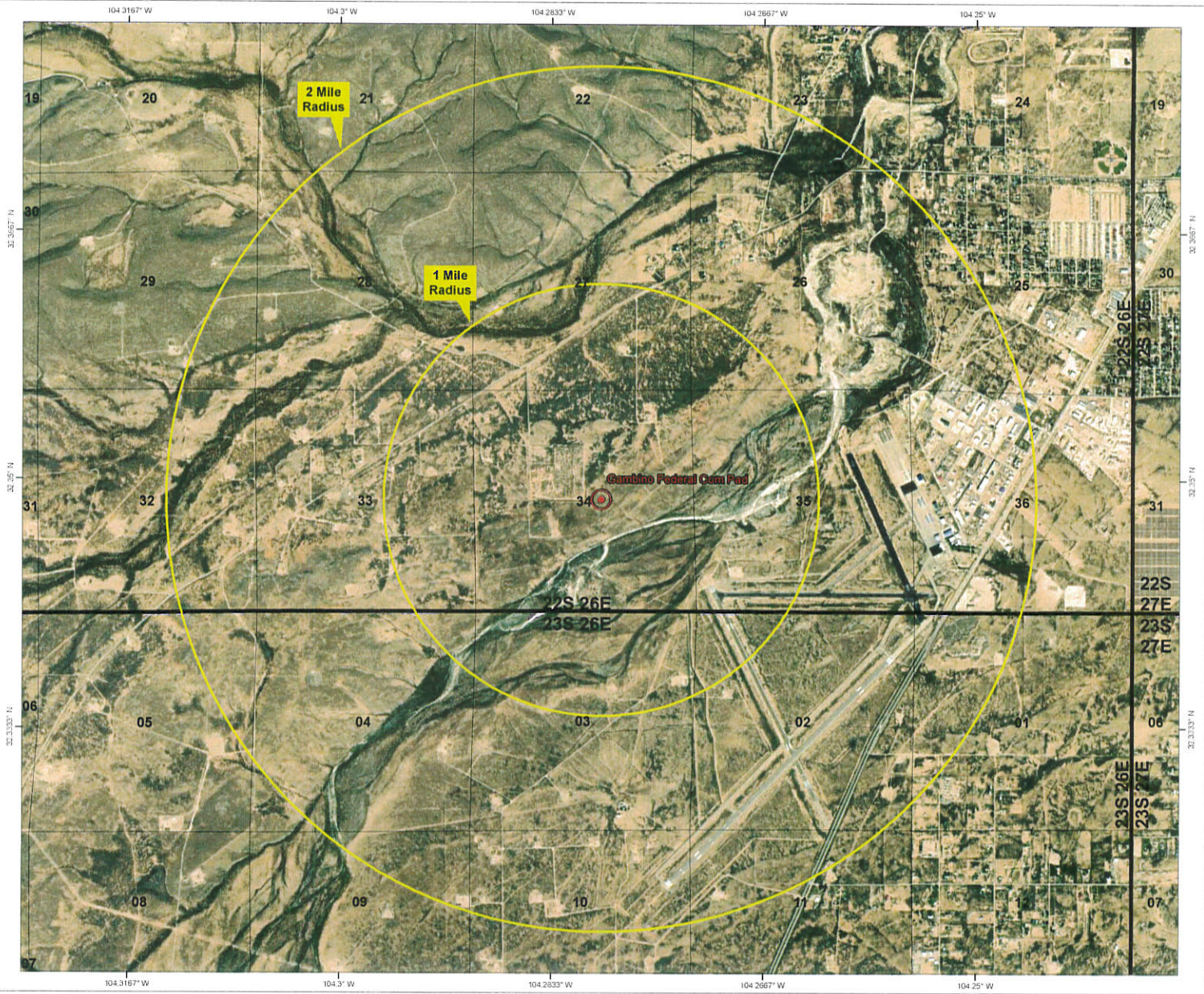
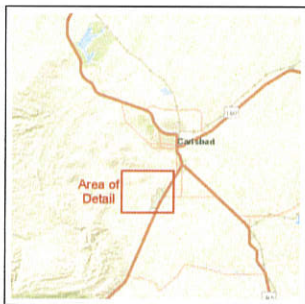
Section 34, Township 22S, Range 26E  
Eddy County, New Mexico



NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., August 11, 2022  
for FAE II Operating, LLC







**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 282577

**CONDITIONS**

Operator: Petrogulf Corporation 600 Grant St., Ste. 620 Denver, CO 80203	OGRID: 373806
	Action Number: 282577
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	11/6/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	11/6/2023
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	11/6/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	11/6/2023
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	11/6/2023
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	11/6/2023