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

5. Lease Serial No.: NMNM96203

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.: GAMBINO FEDERAL COM 001H

2. Name of Operator: PETROGULF CORPORATION

9. API Well No.: 30-015-54345

3a. Address: 518 17TH STREET SUITE 1455, DENVER, CO 80202

3b. Phone No. *(include area code)*: (303) 893-5400

10. Field and Pool, or Exploratory: PURPLE SAGE/WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NWSE / 2660 FSL / 2249 FEL / LAT 32.348518 / LONG -104.279479

At proposed prod. zone: SESW / 330 FSL / 2395 FWL / LAT 32.342025 / LONG -104.247097

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 34/T22S/R26E/NMP

14. Distance in miles and direction from nearest town or post office*: 5 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 391 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 640.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 550 feet

19. Proposed Depth: 8900 feet / 19657 feet

20. BLM/BIA Bond No. in file: FED: NMB1160836

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3270 feet

22. Approximate date work will start*: 01/02/2023

23. Estimated duration: 60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRIAN WOOD / Ph: (303) 893-5400	09/13/2022

Title: President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	11/03/2023

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 11/03/2023

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015- 54345	98220	PURPLE SAGE; WOLFCAMP (GAS)

4 Property Code	5 Property Name	6 Well Number
334835	GAMBINO FEDERAL COM	1H

7 OGRID No.	8 Operator Name	9 Elevation
373806	PETROGULF CORPORATION	3270.0'

10 Surface Location

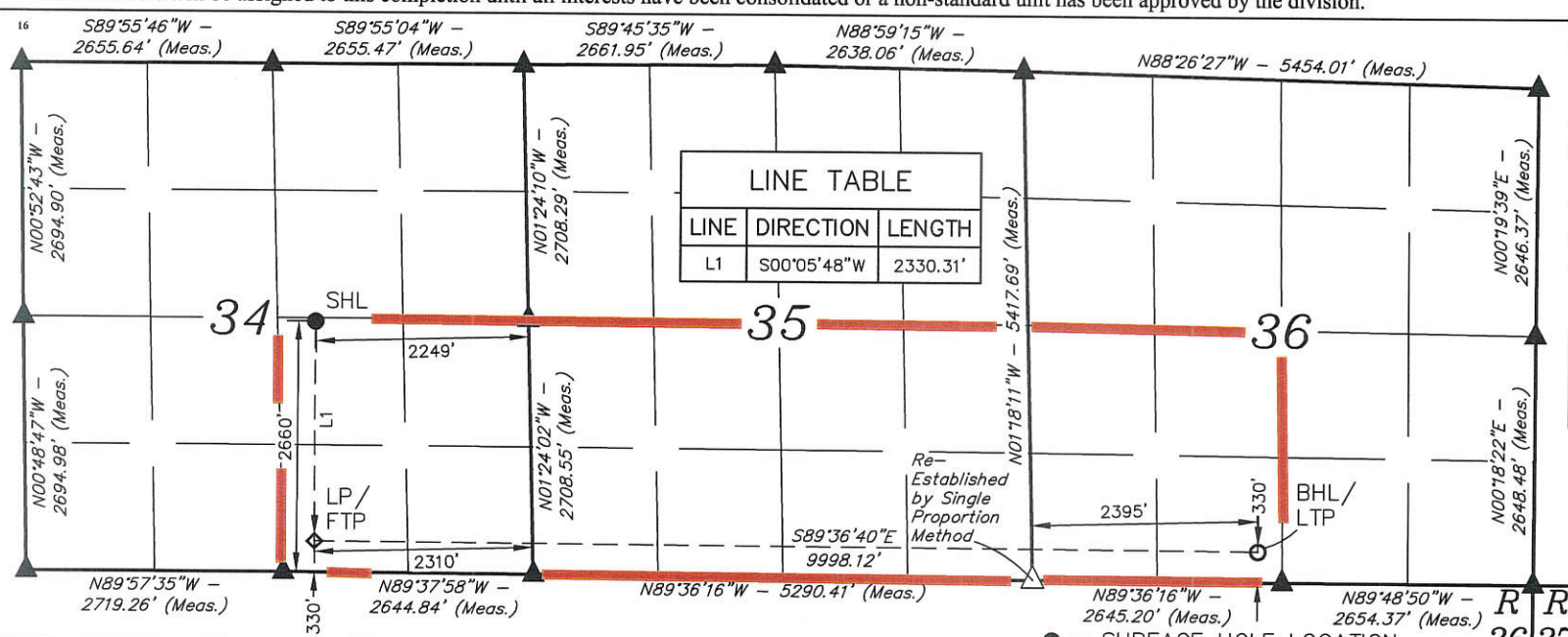
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	34	22S	26E		2660	SOUTH	2249	EAST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	36	22S	26E		330	SOUTH	2395	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
640.00		C	

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



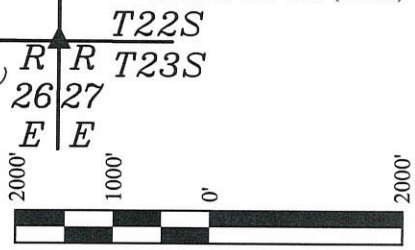
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S00°05'48"W	2330.31'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°20'54.67" (32.348518°)
LONGITUDE = 104°16'46.12" (104.279479°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°20'54.24" (32.348401°)
LONGITUDE = 104°16'44.31" (104.278975°)
STATE PLANE NAD 83 (N.M. EAST)
N: 490527.04' E: 557968.32'
STATE PLANE NAD 27 (N.M. EAST)
N: 490468.17' E: 516786.87'

NAD 83 (LP/FTP)
LATITUDE = 32°20'31.61" (32.342114°)
LONGITUDE = 104°16'46.07" (104.279464°)
NAD 27 (LP/FTP)
LATITUDE = 32°20'31.19" (32.341997°)
LONGITUDE = 104°16'44.25" (104.278960°)
STATE PLANE NAD 83 (N.M. EAST)
N: 488197.30' E: 557974.18'
STATE PLANE NAD 27 (N.M. EAST)
N: 488138.49' E: 516792.69'

NAD 83 (BHL/LTP)
LATITUDE = 32°20'31.29" (32.342025°)
LONGITUDE = 104°14'49.55" (104.247097°)
NAD 27 (BHL/LTP)
LATITUDE = 32°20'30.87" (32.341907°)
LONGITUDE = 104°14'47.74" (104.246595°)
STATE PLANE NAD 83 (N.M. EAST)
N: 488171.45' E: 567969.89'
STATE PLANE NAD 27 (N.M. EAST)
N: 488112.44' E: 526788.23'

● = 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.

B Wood 8-27-22
Signature Date

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:

PAUL BUCHELE
NEW MEXICO
23782
PROFESSIONAL SURVEYOR
05-25-22

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 #1H		A 34 22S 26E	2660' FSL x 2249' FEL	1500	4000	5500

IV. Central Delivery Point Name: Gambino Federal Com #1H [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 #1H		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: Jerry Goedert
Printed Name: Jerry Goedert
Title: Operations Manager
E-mail Address: Jgoedert@Petrogulf.com
Date: October 24, 2023
Phone: 303-968-8828

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
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 pressureventing 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 thediversion 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.

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

Drilling Plan Data Report
11/03/2023

APD ID: 10400088009 **Submission Date:** 09/13/2022

Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM **Well Number:** 001H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12408174	QUATERNARY	3270	0	0	OTHER : Caliche	USEABLE WATER	N
12408175	RUSTLER ANHYDRITE	2870	400	400	ANHYDRITE	NONE	N
12408176	TOP SALT	2750	520	520	SALT	NONE	N
12408177	BASE OF SALT	1610	1660	1660	SALT	NONE	N
12408178	LAMAR	1370	1900	1900	LIMESTONE	NATURAL GAS, OIL	N
12408179	BELL CANYON	1210	2060	2060	SANDSTONE	NATURAL GAS, OIL	N
12408180	CHERRY CANYON	475	2795	2800	SANDSTONE	NATURAL GAS, OIL	N
12408181	MANZANITA	377	2893	2900	LIMESTONE	NATURAL GAS, OIL	N
12408182	BRUSHY CANYON	-860	4130	4200	SANDSTONE	NATURAL GAS, OIL	N
12408183	BONE SPRING	-2100	5370	5535	LIMESTONE	NATURAL GAS, OIL	N
12408184	BONE SPRING 1ST	-3160	6430	6677	SANDSTONE	NATURAL GAS, OIL	N
12408185	BONE SPRING 2ND	-3630	6900	7184	SANDSTONE	NATURAL GAS, OIL	N
12408186	BONE SPRING 3RD	-5230	8500	8916	SANDSTONE	NATURAL GAS, OIL	N
12408187	WOLFCAMP	-5580	8850	9413	LIMESTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM **Well Number:** 001H

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_20230905122209.pdf

BOP Diagram Attachment:

BOP_Diagram_v2_20230811153936.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	3270	2795	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	1495	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	8890	0	8484	0	-5214	8890	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	8407	19657	8014	8900	-8014	-5630	11250	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:** 001H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_Rev_20230508135611.pdf

13.375in_Casing_Spec_20230508141127.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_Rev_20230508135644.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

7in_Casing_Spec_20220912084037.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_Rev_20230508135714.pdf

Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM **Well Number:** 001H

Casing Attachments

Casing ID: 4 **String** LINER

Inspection Document:

Spec Document:

4.5in_Casing_Spec_20220912075529.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_Rev_20230508135750.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		8407	19657	955	1.33	14.8	1270	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	8890	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:** 001H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		0	8890	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	8707	OTHER : Cut Brine	8.8	9.2							
8707	19657	OIL-BASED MUD	11.5	12							

Operator Name: PETROGULF CORPORATION

Well Name: GAMBINO FEDERAL COM **Well Number:** 001H

Section 6 - Test, Logging, Coring

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

GR 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 geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Gambino_Fed_Com_H2S_Plan_20220912080909.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Gambino_1H_Horizontal_Plan_20220912080924.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CoFlex_Certs_20220912081000.pdf
Speedhead_Specs_20220912081020.pdf
Gambino_1H_Drill_Plan_Rev2_20230927120301.pdf

Other Variance attachment:

Casing_Cementing_Variance_Rev_20230927121129.pdf

Petrogulf Corporation

Gambino Federal Com 1H
Eddy County, NM (NAD 83 NME)
Job No. WT-22-*
Plan 0.1

Aim Directional Services

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	3956.93	21.82	195.02	3904.57	-396.44	-106.36	1.000	195.02	-105.32	Hold: 21.82° Inc, 195.02° Azm
4	8707.36	21.82	195.02	8314.68	-2101.78	-563.89	0.000	0.00	-558.39	KOP: 10°/100' @ 8707.36' MD
5	9662.09	90.00	90.15	8900.00	-2329.74	5.86	10.000	-103.85	11.96	LP/Hold: 90.00° Inc, 90.15° Azm
6	19657.83	90.00	90.15	8900.00	-2355.59	10001.57	0.000	0.00	10007.70	PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP/FTP - Gambino Federal Com 1H	8900.00	-2329.74	5.86	488197.30	557974.18	32° 20' 31.611 N	104° 16' 46.069 W
LTP/PBHL - Gambino Federal Com 1H	8900.00	-2355.59	10001.57	488171.45	567969.89	32° 20' 31.291 N	104° 14' 49.551 W

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

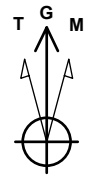
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

SITE DETAILS: Gambino Federal Com Pad

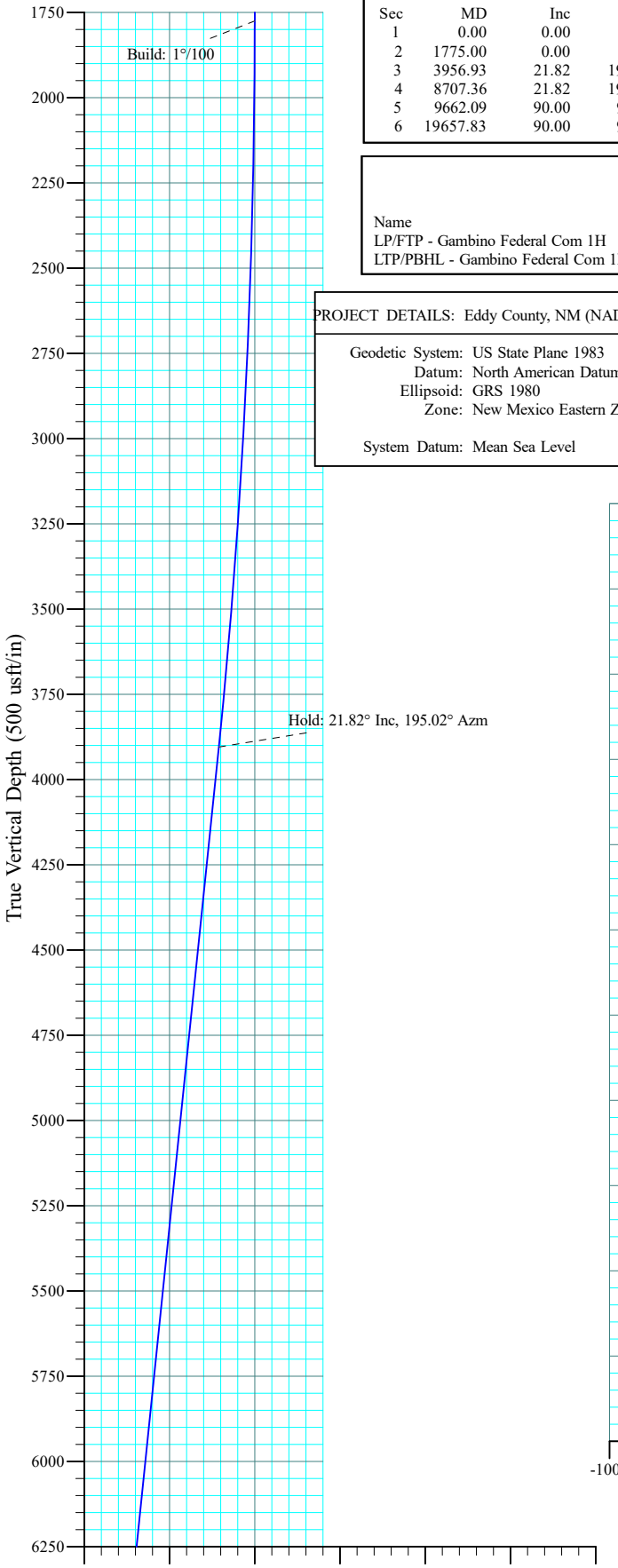
Site Centre Northing: 490616.97
Easting: 557965.56

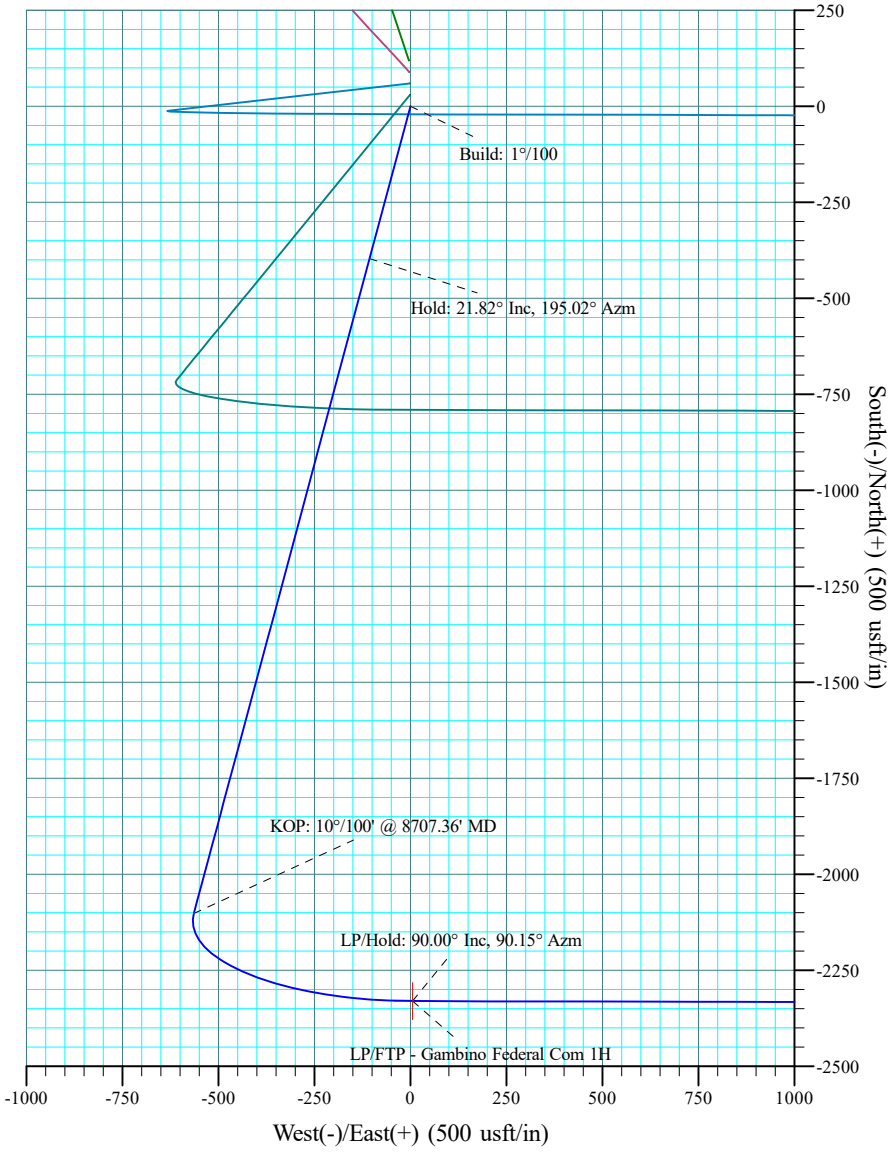
Positional Uncertainty: 0.00
Convergence: 0.03
Local North: Grid



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

Magnetic Field
Strength: 47544.0nT
Dip Angle: 59.94°
Date: 8/1/2022
Model: MVHD





Drawn By: KRN
Date Created: 7/12/2022
Date Revised: 7/12/2022
File:Petrogulf - Gambino Federal Com 1H - Plan 0.1 - Int.wpc

Petrogulf Corporation

Gambino Federal Com 1H
Eddy County, NM (NAD 83 NME)
Job No. WT-22-*
Plan 0.1

Aim Directional Services

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	3956.93	21.82	195.02	3904.57	-396.44	-106.36	1.000	195.02	-105.32		Hold: 21.82° Inc, 195.02° Azm
4	8707.36	21.82	195.02	8314.68	-2101.78	-563.89	0.000	0.00	-558.39		KOP: 10°/100' @ 8707.36' MD
5	9662.09	90.00	90.15	8900.00	-2329.74	5.86	10.000	-103.85	11.96	LP/FTP - Gambino Federal Com 1H	LP/Hold: 90.00° Inc, 90.15° Azm
6	19657.83	90.00	90.15	8900.00	-2355.59	10001.57	0.000	0.00	10007.70	LTP/PBHL - Gambino Federal Com 1H	PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP/FTP - Gambino Federal Com 1H	8900.00	-2329.74	5.86	488197.30	557974.18	32° 20' 31.611 N	104° 16' 46.069 W
LTP/PBHL - Gambino Federal Com 1H	8900.00	-2355.59	10001.57	488171.45	567969.89	32° 20' 31.291 N	104° 14' 49.551 W

SITE DETAILS: Gambino Federal Com Pad

Site Centre Northing: 490616.97
Easting: 557965.56

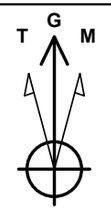
Positional Uncertainty: 0.00
Convergence: 0.03
Local North: Grid

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

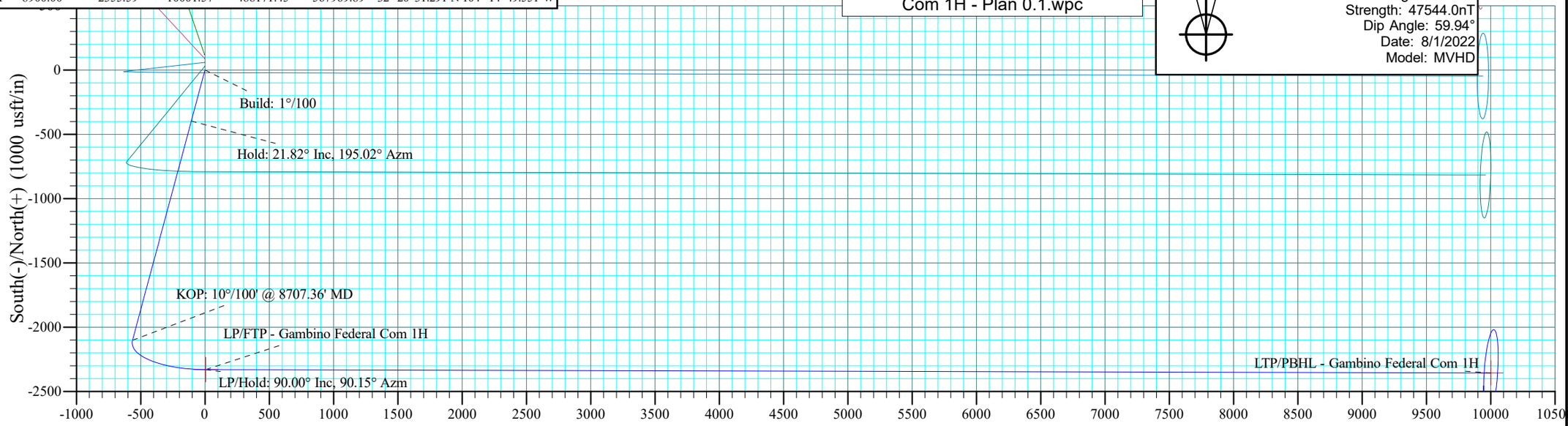
System Datum: Mean Sea Level

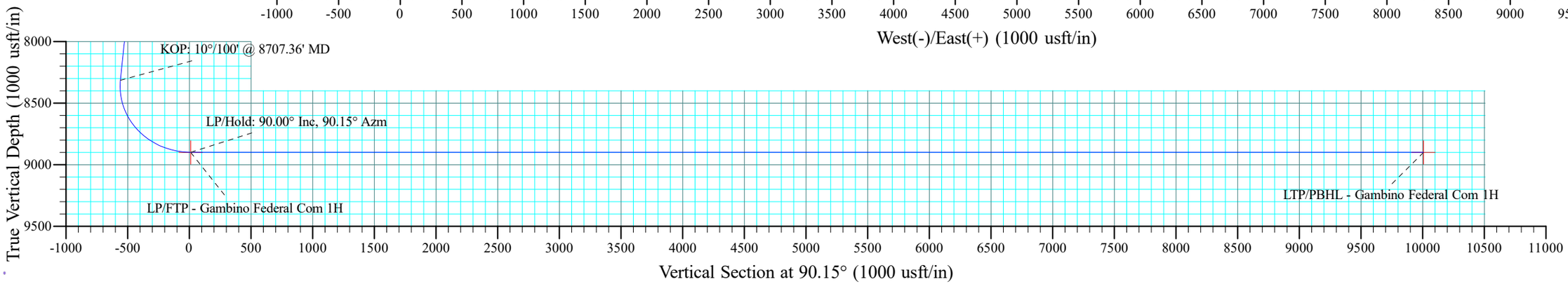
Drawn By: KRN
Date Created: 7/12/2022
Date Revised: 7/12/2022
File:Petrogulf - Gambino Federal Com 1H - Plan 0.1.wpc



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

Magnetic Field
Strength: 47544.0nT
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 1H

Planning

Plan: Plan 0.1

Standard Planning Report

12 July, 2022

Aim Directional Services

Aim Directional Services, LLC

Planning Report

Database:	RTOC- EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Gambino Federal Com 1H
Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	Plan 0.1		

Project Eddy County, NM (NAD 83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Gambino Federal Com Pad

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

Well Gambino Federal Com 1H

Well Position	**+N/-S**	-89.93 usft	**Northing:**	490,527.04 usft	**Latitude:**	32° 20' 54.666 N
	+E/-W	2.76 usft	**Easting:**	557,968.32 usft	**Longitude:**	104° 16' 46.124 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,270.00 usft

Wellbore Planning

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	8/1/2022	6.98	59.94	47,544.000

Design Plan 0.1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	90.15

Plan Survey Tool Program **Date** 7/12/2022

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	19,657.83	Plan 0.1 (Planning)	MWD+HRGM	
				OWSG MWD + HRGM	

Plan Sections

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	
3,956.93	21.82	195.02	3,904.57	-396.44	-106.36	1.000	1.000	0.000	195.02	
8,707.36	21.82	195.02	8,314.69	-2,101.78	-563.89	0.000	0.000	0.000	0.00	
9,662.09	90.00	90.15	8,900.00	-2,329.74	5.86	10.000	7.141	-10.984	-103.85	LP/FTP - Gambino
19,657.83	90.00	90.15	8,900.00	-2,355.59	10,001.57	0.000	0.000	0.000	0.00	LTP/PBHL - Gambi

Aim Directional Services, LLC

Planning Report

Database:	RTOC- EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Gambino Federal Com 1H
Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	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
Build: 1°/100									
1,800.00	0.25	195.02	1,800.00	-0.05	-0.01	-0.01	1.000	1.000	0.000
1,900.00	1.25	195.02	1,899.99	-1.32	-0.35	-0.35	1.000	1.000	0.000
2,000.00	2.25	195.02	1,999.94	-4.27	-1.14	-1.13	1.000	1.000	0.000
2,100.00	3.25	195.02	2,099.83	-8.90	-2.39	-2.36	1.000	1.000	0.000
2,200.00	4.25	195.02	2,199.61	-15.22	-4.08	-4.04	1.000	1.000	0.000
2,300.00	5.25	195.02	2,299.27	-23.22	-6.23	-6.17	1.000	1.000	0.000
2,400.00	6.25	195.02	2,398.76	-32.89	-8.82	-8.74	1.000	1.000	0.000
2,500.00	7.25	195.02	2,498.07	-44.24	-11.87	-11.75	1.000	1.000	0.000
2,600.00	8.25	195.02	2,597.15	-57.27	-15.36	-15.21	1.000	1.000	0.000
2,700.00	9.25	195.02	2,695.99	-71.96	-19.31	-19.12	1.000	1.000	0.000
2,800.00	10.25	195.02	2,794.54	-88.32	-23.69	-23.46	1.000	1.000	0.000
2,900.00	11.25	195.02	2,892.79	-106.33	-28.53	-28.25	1.000	1.000	0.000
3,000.00	12.25	195.02	2,990.69	-126.00	-33.81	-33.48	1.000	1.000	0.000
3,100.00	13.25	195.02	3,088.22	-147.32	-39.52	-39.14	1.000	1.000	0.000
3,200.00	14.25	195.02	3,185.35	-170.27	-45.68	-45.24	1.000	1.000	0.000
3,300.00	15.25	195.02	3,282.06	-194.86	-52.28	-51.77	1.000	1.000	0.000
3,400.00	16.25	195.02	3,378.30	-221.08	-59.31	-58.74	1.000	1.000	0.000
3,500.00	17.25	195.02	3,474.06	-248.91	-66.78	-66.13	1.000	1.000	0.000
3,600.00	18.25	195.02	3,569.30	-278.36	-74.68	-73.95	1.000	1.000	0.000
3,700.00	19.25	195.02	3,663.99	-309.40	-83.01	-82.20	1.000	1.000	0.000
3,800.00	20.25	195.02	3,758.10	-342.04	-91.77	-90.87	1.000	1.000	0.000
3,900.00	21.25	195.02	3,851.62	-376.26	-100.95	-99.96	1.000	1.000	0.000
3,956.93	21.82	195.02	3,904.57	-396.44	-106.36	-105.32	1.000	1.000	0.000
Hold: 21.82° Inc, 195.02° Azm									
4,000.00	21.82	195.02	3,944.56	-411.91	-110.51	-109.43	0.000	0.000	0.000
4,100.00	21.82	195.02	4,037.39	-447.80	-120.14	-118.97	0.000	0.000	0.000
4,200.00	21.82	195.02	4,130.23	-483.70	-129.77	-128.51	0.000	0.000	0.000
4,300.00	21.82	195.02	4,223.07	-519.60	-139.41	-138.04	0.000	0.000	0.000
4,400.00	21.82	195.02	4,315.90	-555.50	-149.04	-147.58	0.000	0.000	0.000
4,500.00	21.82	195.02	4,408.74	-591.40	-158.67	-157.12	0.000	0.000	0.000
4,600.00	21.82	195.02	4,501.57	-627.30	-168.30	-166.66	0.000	0.000	0.000
4,700.00	21.82	195.02	4,594.41	-663.19	-177.93	-176.19	0.000	0.000	0.000
4,800.00	21.82	195.02	4,687.25	-699.09	-187.56	-185.73	0.000	0.000	0.000

Aim Directional Services, LLC

Planning Report

Database:	RTOC- EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Gambino Federal Com 1H
Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	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	21.82	195.02	4,780.08	-734.99	-197.19	-195.27	0.000	0.000	0.000
5,000.00	21.82	195.02	4,872.92	-770.89	-206.82	-204.81	0.000	0.000	0.000
5,100.00	21.82	195.02	4,965.75	-806.79	-216.46	-214.34	0.000	0.000	0.000
5,200.00	21.82	195.02	5,058.59	-842.69	-226.09	-223.88	0.000	0.000	0.000
5,300.00	21.82	195.02	5,151.43	-878.59	-235.72	-233.42	0.000	0.000	0.000
5,400.00	21.82	195.02	5,244.26	-914.48	-245.35	-242.95	0.000	0.000	0.000
5,500.00	21.82	195.02	5,337.10	-950.38	-254.98	-252.49	0.000	0.000	0.000
5,600.00	21.82	195.02	5,429.93	-986.28	-264.61	-262.03	0.000	0.000	0.000
5,700.00	21.82	195.02	5,522.77	-1,022.18	-274.24	-271.57	0.000	0.000	0.000
5,800.00	21.82	195.02	5,615.61	-1,058.08	-283.88	-281.10	0.000	0.000	0.000
5,900.00	21.82	195.02	5,708.44	-1,093.98	-293.51	-290.64	0.000	0.000	0.000
6,000.00	21.82	195.02	5,801.28	-1,129.88	-303.14	-300.18	0.000	0.000	0.000
6,100.00	21.82	195.02	5,894.11	-1,165.77	-312.77	-309.72	0.000	0.000	0.000
6,200.00	21.82	195.02	5,986.95	-1,201.67	-322.40	-319.25	0.000	0.000	0.000
6,300.00	21.82	195.02	6,079.79	-1,237.57	-332.03	-328.79	0.000	0.000	0.000
6,400.00	21.82	195.02	6,172.62	-1,273.47	-341.66	-338.33	0.000	0.000	0.000
6,500.00	21.82	195.02	6,265.46	-1,309.37	-351.29	-347.87	0.000	0.000	0.000
6,600.00	21.82	195.02	6,358.29	-1,345.27	-360.93	-357.40	0.000	0.000	0.000
6,700.00	21.82	195.02	6,451.13	-1,381.17	-370.56	-366.94	0.000	0.000	0.000
6,800.00	21.82	195.02	6,543.97	-1,417.06	-380.19	-376.48	0.000	0.000	0.000
6,900.00	21.82	195.02	6,636.80	-1,452.96	-389.82	-386.01	0.000	0.000	0.000
7,000.00	21.82	195.02	6,729.64	-1,488.86	-399.45	-395.55	0.000	0.000	0.000
7,100.00	21.82	195.02	6,822.47	-1,524.76	-409.08	-405.09	0.000	0.000	0.000
7,200.00	21.82	195.02	6,915.31	-1,560.66	-418.71	-414.63	0.000	0.000	0.000
7,300.00	21.82	195.02	7,008.15	-1,596.56	-428.35	-424.16	0.000	0.000	0.000
7,400.00	21.82	195.02	7,100.98	-1,632.45	-437.98	-433.70	0.000	0.000	0.000
7,500.00	21.82	195.02	7,193.82	-1,668.35	-447.61	-443.24	0.000	0.000	0.000
7,600.00	21.82	195.02	7,286.66	-1,704.25	-457.24	-452.78	0.000	0.000	0.000
7,700.00	21.82	195.02	7,379.49	-1,740.15	-466.87	-462.31	0.000	0.000	0.000
7,800.00	21.82	195.02	7,472.33	-1,776.05	-476.50	-471.85	0.000	0.000	0.000
7,900.00	21.82	195.02	7,565.16	-1,811.95	-486.13	-481.39	0.000	0.000	0.000
8,000.00	21.82	195.02	7,658.00	-1,847.85	-495.76	-490.93	0.000	0.000	0.000
8,100.00	21.82	195.02	7,750.84	-1,883.74	-505.40	-500.46	0.000	0.000	0.000
8,200.00	21.82	195.02	7,843.67	-1,919.64	-515.03	-510.00	0.000	0.000	0.000
8,300.00	21.82	195.02	7,936.51	-1,955.54	-524.66	-519.54	0.000	0.000	0.000
8,400.00	21.82	195.02	8,029.34	-1,991.44	-534.29	-529.07	0.000	0.000	0.000
8,500.00	21.82	195.02	8,122.18	-2,027.34	-543.92	-538.61	0.000	0.000	0.000
8,600.00	21.82	195.02	8,215.02	-2,063.24	-553.55	-548.15	0.000	0.000	0.000
8,707.36	21.82	195.02	8,314.69	-2,101.78	-563.89	-558.39	0.000	0.000	0.000
KOP: 10°/100' @ 8707.36' MD									
8,750.00	21.19	183.50	8,354.37	-2,117.13	-566.42	-560.87	10.000	-1.483	-27.022
8,800.00	21.48	169.75	8,400.98	-2,135.17	-565.34	-559.75	10.000	0.577	-27.503
8,850.00	22.83	156.95	8,447.31	-2,153.11	-559.91	-554.27	10.000	2.709	-25.585
8,900.00	25.08	145.93	8,493.03	-2,170.82	-550.17	-544.48	10.000	4.496	-22.052
8,950.00	28.00	136.83	8,537.77	-2,188.17	-536.19	-530.46	10.000	5.853	-18.186
9,000.00	31.42	129.45	8,581.21	-2,205.03	-518.09	-512.31	10.000	6.831	-14.765
9,050.00	35.18	123.44	8,623.00	-2,221.26	-495.99	-490.17	10.000	7.523	-12.021
9,100.00	39.19	118.48	8,662.84	-2,236.74	-470.07	-464.21	10.000	8.013	-9.912
9,150.00	43.37	114.33	8,700.41	-2,251.36	-440.52	-434.63	10.000	8.366	-8.313
9,200.00	47.68	110.78	8,735.43	-2,264.99	-407.57	-401.64	10.000	8.624	-7.102
9,250.00	52.09	107.69	8,767.65	-2,277.55	-371.47	-365.51	10.000	8.814	-6.181
9,300.00	56.57	104.95	8,796.80	-2,288.93	-332.50	-326.51	10.000	8.958	-5.476
9,350.00	61.10	102.48	8,822.67	-2,299.05	-290.94	-284.93	10.000	9.066	-4.934
9,400.00	65.68	100.22	8,845.06	-2,307.83	-247.13	-241.09	10.000	9.148	-4.519

Aim Directional Services, LLC

Planning Report

Database:	RTOC- EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Gambino Federal Com 1H
Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	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)
9,450.00	70.28	98.12	8,863.81	-2,315.20	-201.38	-195.32	10.000	9.211	-4.203
9,500.00	74.91	96.14	8,878.76	-2,321.11	-154.05	-147.98	10.000	9.257	-3.966
9,550.00	79.55	94.24	8,889.81	-2,325.51	-105.50	-99.42	10.000	9.290	-3.797
9,600.00	84.21	92.40	8,896.87	-2,328.37	-56.10	-50.01	10.000	9.311	-3.684
9,650.00	88.87	90.58	8,899.88	-2,329.67	-6.23	-0.13	10.000	9.323	-3.624
9,662.09	90.00	90.15	8,900.00	-2,329.74	5.86	11.96	10.000	9.326	-3.609
LP/Hold: 90.00° Inc, 90.15° Azm									
9,700.00	90.00	90.15	8,900.00	-2,329.84	43.77	49.87	0.000	0.000	0.000
9,800.00	90.00	90.15	8,900.00	-2,330.10	143.77	149.87	0.000	0.000	0.000
9,900.00	90.00	90.15	8,900.00	-2,330.36	243.77	249.87	0.000	0.000	0.000
10,000.00	90.00	90.15	8,900.00	-2,330.62	343.77	349.87	0.000	0.000	0.000
10,100.00	90.00	90.15	8,900.00	-2,330.87	443.77	449.87	0.000	0.000	0.000
10,200.00	90.00	90.15	8,900.00	-2,331.13	543.77	549.87	0.000	0.000	0.000
10,300.00	90.00	90.15	8,900.00	-2,331.39	643.77	649.87	0.000	0.000	0.000
10,400.00	90.00	90.15	8,900.00	-2,331.65	743.77	749.87	0.000	0.000	0.000
10,500.00	90.00	90.15	8,900.00	-2,331.91	843.77	849.87	0.000	0.000	0.000
10,600.00	90.00	90.15	8,900.00	-2,332.17	943.77	949.87	0.000	0.000	0.000
10,700.00	90.00	90.15	8,900.00	-2,332.43	1,043.77	1,049.87	0.000	0.000	0.000
10,800.00	90.00	90.15	8,900.00	-2,332.69	1,143.77	1,149.87	0.000	0.000	0.000
10,900.00	90.00	90.15	8,900.00	-2,332.94	1,243.77	1,249.87	0.000	0.000	0.000
11,000.00	90.00	90.15	8,900.00	-2,333.20	1,343.77	1,349.87	0.000	0.000	0.000
11,100.00	90.00	90.15	8,900.00	-2,333.46	1,443.77	1,449.87	0.000	0.000	0.000
11,200.00	90.00	90.15	8,900.00	-2,333.72	1,543.77	1,549.87	0.000	0.000	0.000
11,300.00	90.00	90.15	8,900.00	-2,333.98	1,643.77	1,649.87	0.000	0.000	0.000
11,400.00	90.00	90.15	8,900.00	-2,334.24	1,743.77	1,749.87	0.000	0.000	0.000
11,500.00	90.00	90.15	8,900.00	-2,334.50	1,843.76	1,849.87	0.000	0.000	0.000
11,600.00	90.00	90.15	8,900.00	-2,334.75	1,943.76	1,949.87	0.000	0.000	0.000
11,700.00	90.00	90.15	8,900.00	-2,335.01	2,043.76	2,049.87	0.000	0.000	0.000
11,800.00	90.00	90.15	8,900.00	-2,335.27	2,143.76	2,149.87	0.000	0.000	0.000
11,900.00	90.00	90.15	8,900.00	-2,335.53	2,243.76	2,249.87	0.000	0.000	0.000
12,000.00	90.00	90.15	8,900.00	-2,335.79	2,343.76	2,349.87	0.000	0.000	0.000
12,100.00	90.00	90.15	8,900.00	-2,336.05	2,443.76	2,449.87	0.000	0.000	0.000
12,200.00	90.00	90.15	8,900.00	-2,336.31	2,543.76	2,549.87	0.000	0.000	0.000
12,300.00	90.00	90.15	8,900.00	-2,336.56	2,643.76	2,649.87	0.000	0.000	0.000
12,400.00	90.00	90.15	8,900.00	-2,336.82	2,743.76	2,749.87	0.000	0.000	0.000
12,500.00	90.00	90.15	8,900.00	-2,337.08	2,843.76	2,849.87	0.000	0.000	0.000
12,600.00	90.00	90.15	8,900.00	-2,337.34	2,943.76	2,949.87	0.000	0.000	0.000
12,700.00	90.00	90.15	8,900.00	-2,337.60	3,043.76	3,049.87	0.000	0.000	0.000
12,800.00	90.00	90.15	8,900.00	-2,337.86	3,143.76	3,149.87	0.000	0.000	0.000
12,900.00	90.00	90.15	8,900.00	-2,338.12	3,243.76	3,249.87	0.000	0.000	0.000
13,000.00	90.00	90.15	8,900.00	-2,338.37	3,343.76	3,349.87	0.000	0.000	0.000
13,100.00	90.00	90.15	8,900.00	-2,338.63	3,443.76	3,449.87	0.000	0.000	0.000
13,200.00	90.00	90.15	8,900.00	-2,338.89	3,543.76	3,549.87	0.000	0.000	0.000
13,300.00	90.00	90.15	8,900.00	-2,339.15	3,643.76	3,649.87	0.000	0.000	0.000
13,400.00	90.00	90.15	8,900.00	-2,339.41	3,743.76	3,749.87	0.000	0.000	0.000
13,500.00	90.00	90.15	8,900.00	-2,339.67	3,843.76	3,849.87	0.000	0.000	0.000
13,600.00	90.00	90.15	8,900.00	-2,339.93	3,943.76	3,949.87	0.000	0.000	0.000
13,700.00	90.00	90.15	8,900.00	-2,340.18	4,043.76	4,049.87	0.000	0.000	0.000
13,800.00	90.00	90.15	8,900.00	-2,340.44	4,143.76	4,149.87	0.000	0.000	0.000
13,900.00	90.00	90.15	8,900.00	-2,340.70	4,243.76	4,249.87	0.000	0.000	0.000
14,000.00	90.00	90.15	8,900.00	-2,340.96	4,343.76	4,349.87	0.000	0.000	0.000
14,100.00	90.00	90.15	8,900.00	-2,341.22	4,443.76	4,449.87	0.000	0.000	0.000
14,200.00	90.00	90.15	8,900.00	-2,341.48	4,543.76	4,549.87	0.000	0.000	0.000

Aim Directional Services, LLC
Planning Report

Database:	RTOC- EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Gambino Federal Com 1H
Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	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	-2,341.74	4,643.76	4,649.87	0.000	0.000	0.000
14,400.00	90.00	90.15	8,900.00	-2,341.99	4,743.76	4,749.87	0.000	0.000	0.000
14,500.00	90.00	90.15	8,900.00	-2,342.25	4,843.75	4,849.87	0.000	0.000	0.000
14,600.00	90.00	90.15	8,900.00	-2,342.51	4,943.75	4,949.87	0.000	0.000	0.000
14,700.00	90.00	90.15	8,900.00	-2,342.77	5,043.75	5,049.87	0.000	0.000	0.000
14,800.00	90.00	90.15	8,900.00	-2,343.03	5,143.75	5,149.87	0.000	0.000	0.000
14,900.00	90.00	90.15	8,900.00	-2,343.29	5,243.75	5,249.87	0.000	0.000	0.000
15,000.00	90.00	90.15	8,900.00	-2,343.55	5,343.75	5,349.87	0.000	0.000	0.000
15,100.00	90.00	90.15	8,900.00	-2,343.80	5,443.75	5,449.87	0.000	0.000	0.000
15,200.00	90.00	90.15	8,900.00	-2,344.06	5,543.75	5,549.87	0.000	0.000	0.000
15,300.00	90.00	90.15	8,900.00	-2,344.32	5,643.75	5,649.87	0.000	0.000	0.000
15,400.00	90.00	90.15	8,900.00	-2,344.58	5,743.75	5,749.87	0.000	0.000	0.000
15,500.00	90.00	90.15	8,900.00	-2,344.84	5,843.75	5,849.87	0.000	0.000	0.000
15,600.00	90.00	90.15	8,900.00	-2,345.10	5,943.75	5,949.87	0.000	0.000	0.000
15,700.00	90.00	90.15	8,900.00	-2,345.36	6,043.75	6,049.87	0.000	0.000	0.000
15,800.00	90.00	90.15	8,900.00	-2,345.62	6,143.75	6,149.87	0.000	0.000	0.000
15,900.00	90.00	90.15	8,900.00	-2,345.87	6,243.75	6,249.87	0.000	0.000	0.000
16,000.00	90.00	90.15	8,900.00	-2,346.13	6,343.75	6,349.87	0.000	0.000	0.000
16,100.00	90.00	90.15	8,900.00	-2,346.39	6,443.75	6,449.87	0.000	0.000	0.000
16,200.00	90.00	90.15	8,900.00	-2,346.65	6,543.75	6,549.87	0.000	0.000	0.000
16,300.00	90.00	90.15	8,900.00	-2,346.91	6,643.75	6,649.87	0.000	0.000	0.000
16,400.00	90.00	90.15	8,900.00	-2,347.17	6,743.75	6,749.87	0.000	0.000	0.000
16,500.00	90.00	90.15	8,900.00	-2,347.43	6,843.75	6,849.87	0.000	0.000	0.000
16,600.00	90.00	90.15	8,900.00	-2,347.68	6,943.75	6,949.87	0.000	0.000	0.000
16,700.00	90.00	90.15	8,900.00	-2,347.94	7,043.75	7,049.87	0.000	0.000	0.000
16,800.00	90.00	90.15	8,900.00	-2,348.20	7,143.75	7,149.87	0.000	0.000	0.000
16,900.00	90.00	90.15	8,900.00	-2,348.46	7,243.75	7,249.87	0.000	0.000	0.000
17,000.00	90.00	90.15	8,900.00	-2,348.72	7,343.75	7,349.87	0.000	0.000	0.000
17,100.00	90.00	90.15	8,900.00	-2,348.98	7,443.75	7,449.87	0.000	0.000	0.000
17,200.00	90.00	90.15	8,900.00	-2,349.24	7,543.75	7,549.87	0.000	0.000	0.000
17,300.00	90.00	90.15	8,900.00	-2,349.49	7,643.75	7,649.87	0.000	0.000	0.000
17,400.00	90.00	90.15	8,900.00	-2,349.75	7,743.75	7,749.87	0.000	0.000	0.000
17,500.00	90.00	90.15	8,900.00	-2,350.01	7,843.74	7,849.87	0.000	0.000	0.000
17,600.00	90.00	90.15	8,900.00	-2,350.27	7,943.74	7,949.87	0.000	0.000	0.000
17,700.00	90.00	90.15	8,900.00	-2,350.53	8,043.74	8,049.87	0.000	0.000	0.000
17,800.00	90.00	90.15	8,900.00	-2,350.79	8,143.74	8,149.87	0.000	0.000	0.000
17,900.00	90.00	90.15	8,900.00	-2,351.05	8,243.74	8,249.87	0.000	0.000	0.000
18,000.00	90.00	90.15	8,900.00	-2,351.30	8,343.74	8,349.87	0.000	0.000	0.000
18,100.00	90.00	90.15	8,900.00	-2,351.56	8,443.74	8,449.87	0.000	0.000	0.000
18,200.00	90.00	90.15	8,900.00	-2,351.82	8,543.74	8,549.87	0.000	0.000	0.000
18,300.00	90.00	90.15	8,900.00	-2,352.08	8,643.74	8,649.87	0.000	0.000	0.000
18,400.00	90.00	90.15	8,900.00	-2,352.34	8,743.74	8,749.87	0.000	0.000	0.000
18,500.00	90.00	90.15	8,900.00	-2,352.60	8,843.74	8,849.87	0.000	0.000	0.000
18,600.00	90.00	90.15	8,900.00	-2,352.86	8,943.74	8,949.87	0.000	0.000	0.000
18,700.00	90.00	90.15	8,900.00	-2,353.11	9,043.74	9,049.87	0.000	0.000	0.000
18,800.00	90.00	90.15	8,900.00	-2,353.37	9,143.74	9,149.87	0.000	0.000	0.000
18,900.00	90.00	90.15	8,900.00	-2,353.63	9,243.74	9,249.87	0.000	0.000	0.000
19,000.00	90.00	90.15	8,900.00	-2,353.89	9,343.74	9,349.87	0.000	0.000	0.000
19,100.00	90.00	90.15	8,900.00	-2,354.15	9,443.74	9,449.87	0.000	0.000	0.000
19,200.00	90.00	90.15	8,900.00	-2,354.41	9,543.74	9,549.87	0.000	0.000	0.000
19,300.00	90.00	90.15	8,900.00	-2,354.67	9,643.74	9,649.87	0.000	0.000	0.000
19,400.00	90.00	90.15	8,900.00	-2,354.92	9,743.74	9,749.87	0.000	0.000	0.000
19,500.00	90.00	90.15	8,900.00	-2,355.18	9,843.74	9,849.87	0.000	0.000	0.000
19,600.00	90.00	90.15	8,900.00	-2,355.44	9,943.74	9,949.87	0.000	0.000	0.000

Aim Directional Services, LLC
Planning Report

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Company:	Petrogulf Corporation	**TVD Reference:**	Well @ 3295.50usft (RKB 25.5)
Project:	Eddy County, NM (NAD 83 NME)	**MD Reference:**	Well @ 3295.50usft (RKB 25.5)
Site:	Gambino Federal Com Pad	**North Reference:**	Grid
Well:	Gambino Federal Com 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Planning		
Design:	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)
19,657.83	90.00	90.15	8,900.00	-2,355.59	10,001.57	10,007.70	0.000	0.000	0.000
PBHL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LP/FTP - Gambino Fe - plan hits target center - Point	0.00	0.00	8,900.00	-2,329.74	5.86	488,197.30	557,974.19	32° 20' 31.611 N	104° 16' 46.069 W
LTP/PBHL - Gambino - plan hits target center - Point	0.00	0.00	8,900.00	-2,355.59	10,001.57	488,171.45	567,969.89	32° 20' 31.291 N	104° 14' 49.551 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
19,657.83	8,900.00	20" Casing	20	24

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,775.00	1,775.00	0.00	0.00	Build: 1°/100
3,956.93	3,904.57	-396.44	-106.36	Hold: 21.82° Inc, 195.02° Azm
8,707.36	8,314.69	-2,101.78	-563.89	KOP: 10°/100' @ 8707.36' MD
9,662.09	8,900.00	-2,329.74	5.86	LP/Hold: 90.00° Inc, 90.15° Azm
19,657.83	8,900.00	-2,355.59	10,001.57	PBHL

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	PETROGULF CORPORATION
WELL NAME & NO.:	GAMBINO FEDERAL COM 1H
SURFACE HOLE FOOTAGE:	2660'/S & 2249'/E
BOTTOM HOLE FOOTAGE	330'/S & 2395'/W
LOCATION:	Section 34, T.22 S., R.26 E., NMP
COUNTY:	Eddy 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
Wellhead Variance	( ) Diverter		
Other	[ ] 4 String	[ ] Capitan Reef	[ ] WIPP
Other	[x] Fluid Filled	[ ] Pilot Hole	[ ] Open Annulus
Cementing	[ ] Contingency Cement Squeeze	[ ] EchoMeter	[ ] Primary Cement Squeeze
Special Requirements	[ ] Water Disposal	[x] COM	[ ] Unit
Special Requirements	[ ] Batch Sundry		
Special Requirements Variance	[ ] Break Testing	[ ] Offline Cementing	[ ] 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.

Approval Date: 11/03/2023

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.**

 Approval Date: 11/03/2023

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
(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 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 **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 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 **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

 Approval Date: 11/03/2023

Petrogulf Corpoation
H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S 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_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a pilot light.
- Beware of SO_2 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_2S and SO_2 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_2S Detection & Monitoring Equipment

- Every person on site will be required to wear a personal H_2S and SO_2 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_2S condition sign will be set at the entrance to the pad.
- Color-coded H_2S condition flag will be installed to indicate current H_2S 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_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S 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_2S where formation pressures are unknown.

vi. Metallurgy

- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S 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_2S.

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

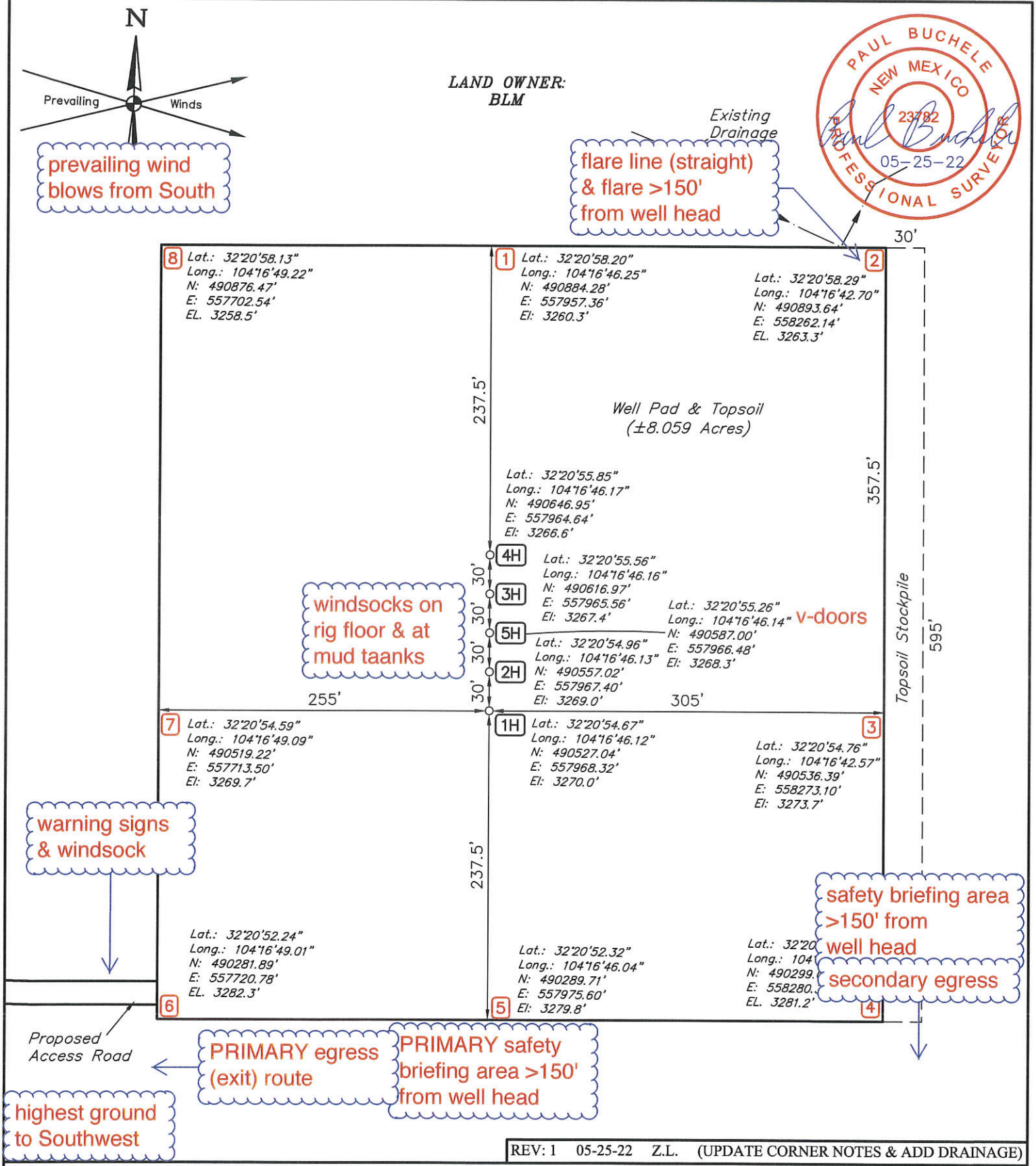
Yes

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



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

SURVEYED BY	S.L., M.D.	05-23-22	SCALE
DRAWN BY	C.D.L.	04-26-22	1" = 100'

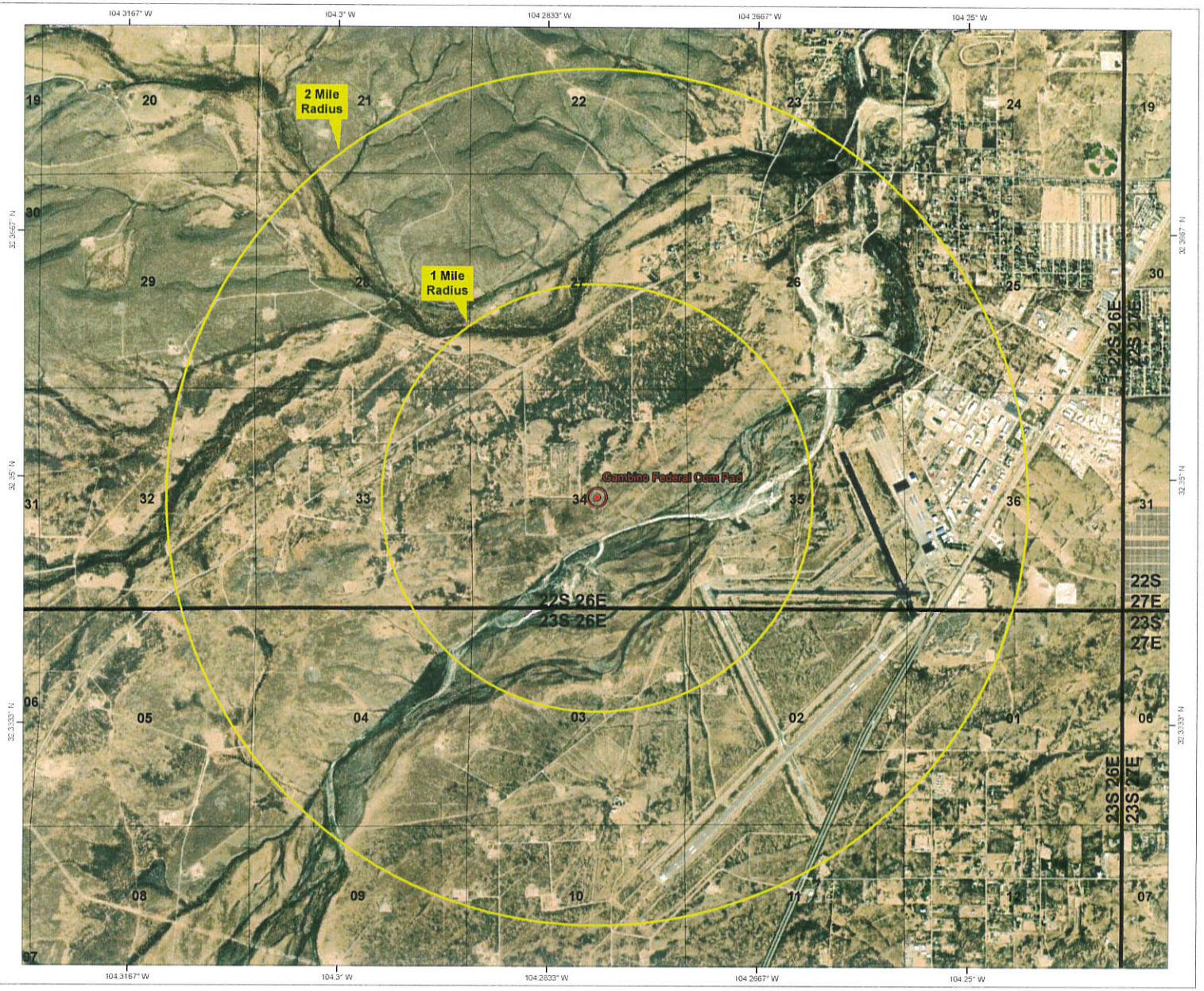
SITE PLAN

UINTAH ENGINEERING & LAND SURVEYING
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



Pad Center

1:27,000

0 0.25 0.5 1

Miles

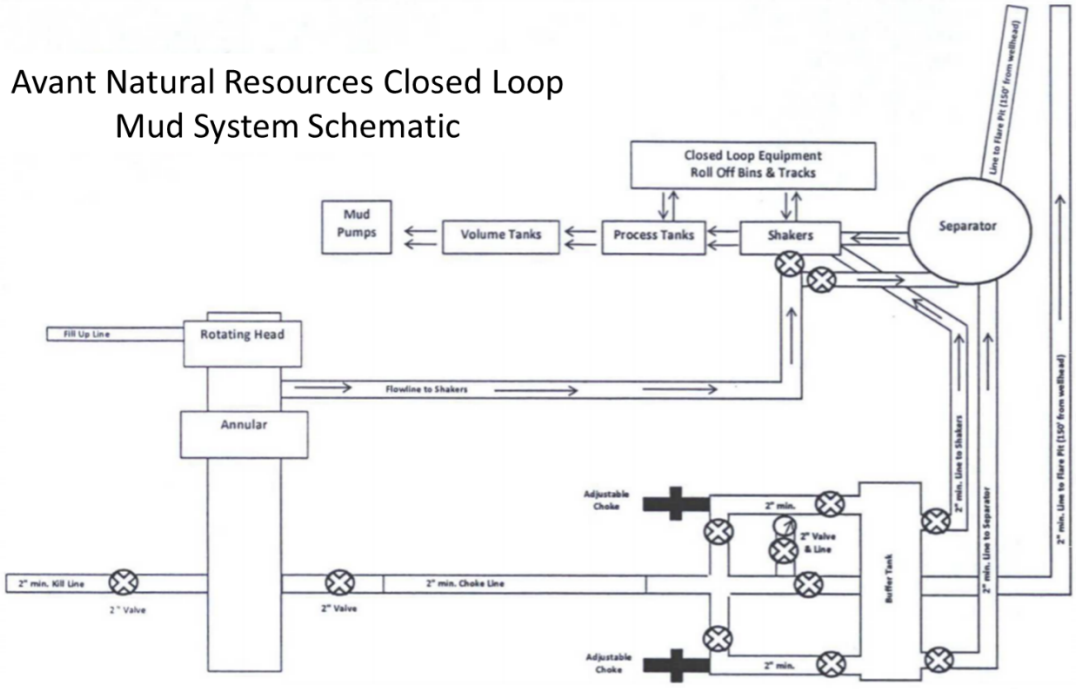
N

NAD 1983 New Mexico State Plane East
FIPS 3001 Feet

PERMITS WEST

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

Avant Natural Resources Closed Loop
Mud System Schematic



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 282571

CONDITIONS

Operator:	OGRID:
Petrogulf Corporation 600 Grant St., Ste. 620 Denver, CO 80203	373806
	Action Number: 282571
	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