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.

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.

2. Name of Operator

9. API Well No.
30-025-54320

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

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

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	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: 12/11/2024

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 Submittal Type: ☐ Initial Submittal ☑ Amended Report ☐ As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-54320	98150	WC-025 G-08 S263620C;LOWER BONE SPRING

Property Code	Property Name	Well Number
336861	RAE'S CREEK FED COM 25 36 22	085H

OGRID No.	Operator Name	Ground Level Elevation
228937	MATADOR PRODUCTION COMPANY	3052'

Surface Owner: ☐ State ☑ Fee ☐ Tribal ☐ Federal

Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☑ Federal

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
O	22	25-S	36-E	-	200' S	1740' E	N 32.1091419	W 103.2501118	LEA

Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
A	15	25-S	36-E	-	110' N	660' E	N 32.1372966	W 103.2465962	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidated Code
320				

Order Numbers

Well Setbacks are under Common Ownership: ☐ Yes ☐ No

Kick Off Point (KOP)

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
A	27	25-S	36-E	-	400' N	660' E	N 32.1074911	W 103.2466248	LEA

First Take Point (FTP)

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
P	22	25-S	36-E	-	100' S	660' E	N 32.1088654	W 103.2466241	LEA

Last Take Point (LTP)

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude	Longitude	County
A	15	25-S	36-E	-	110' N	660' E	N 32.1372966	W 103.2465962	LEA

Unitized Area or Area of Uniform Intrest	Spacing Unity Type ☐ Horizontal ☐ Vertical	Ground Floor Elevation

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief; and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received The consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Cassie Hahn 1/16/2025

Signature Date

Cassie Hahn

Print Name

chahn@matadorresources.com

E-mail Address

SURVEYORS 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.

ANGEL M. BALLA NEW MEXICO 25116 1/16/24 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor Date

Certificate Number	Date of Survey
	11/03/2022

S:\SURVEY\AMEREBEY_OPERATING_LLC\RAES_CREEK_FED_COM\FINAL_PRODUCTS\LO_RAES_CREEK_FED_COM_25_36_22_085H_REV3.dwg MIKE.WALLER 10/30/2024 3:29 PM

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

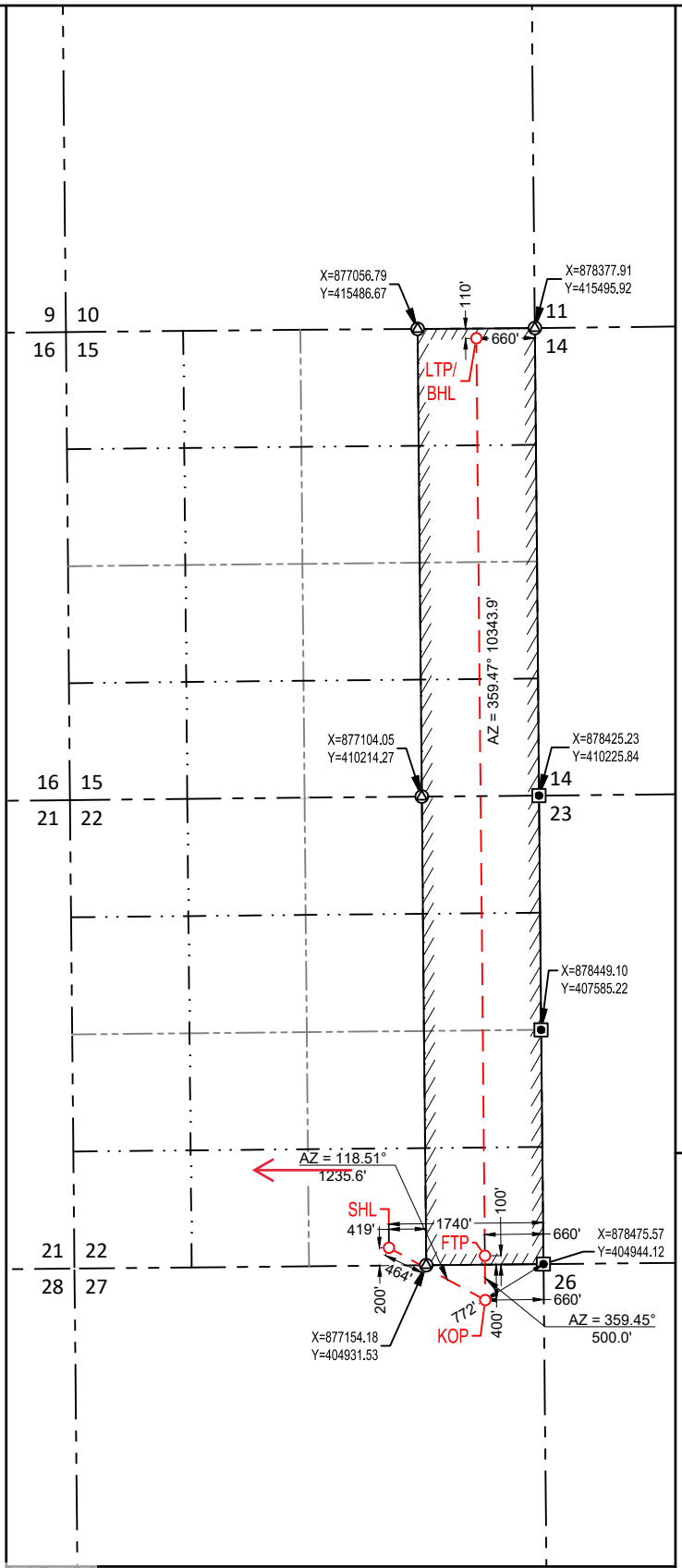
Submittal Type:
- ☐ Initial Submittal
- ☐ Amended Report
- ☐ As Drilled

Property Name and Well Number

RAE'S CREEK FED COM 25 36 22 085H

SURFACE LOCATION (SHL)
NEW MEXICO EAST
NAD 1983
X=876734 Y=405128
LAT.: N 32.1091419
LONG.: W 103.2501118
200' FSL 1740' FEL

KICK OFF POINT (KOP)
NEW MEXICO EAST
NAD 1983
X=877819 Y=404538
LAT.: N 32.1074911
LONG.: W 103.2466248
400' FNL 660' FEL



FIRST TAKE POINT (FTP)
NEW MEXICO EAST
NAD 1983
X=877815 Y=405038
LAT.: N 32.1088654
LONG.: W 103.2466241
100' FSL 660' FEL

LAST TAKE POINT (LTP)
BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST
NAD 1983
X=877719 Y=415381
LAT.: N 32.1372966
LONG.: W 103.2465962
110' FNL 660' FEL

SURVEYORS 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.

11/03/2022
Date of Survey

Signature and Seal of Professional Surveyor:

S:\SURVEY\AMREDEV_OPERATING_LLC\RAE'S_CREEK_FED_COM\FINAL_PRODUCTS\LO_RAE'S_CREEK_FED_COM_25_36_22_085H_REV3.dwg MIKE.WALLER 10/30/2024 3:29 PM

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: Matador Production Company **OGRID:** 228937 **Date:** 1/7/2025

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
Rae's Creek 25 36 22 Fed Com #115H	TBD	O-22-25S-36E	200' FSL & 1,780' FEL	790	1,750	2,280
Rae's Creek 25 36 22 Fed Com #095H	TBD	O-22-25S-36E	200' FSL & 1,760' FEL	915	1,390	1,550
Rae's Creek 25 36 22 Fed Com #085H	TBD	O-22-25S-36E	200' FSL & 1,740' FEL	790	1,750	2,280

IV. Central Delivery Point Name: Peach TB [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
Rae's Creek 25 36 22 Fed Com #115H	TBD	05/18//2025	07/07/2025	8/20/2025	9/08/2025	9/08/2025
Rae's Creek 25 36 22 Fed Com #095H	TBD	08/03/2025	09/05/2025	09/10/2025	10/01/2025	10/01/2025
Rae's Creek 25 36 22 Fed Com #085H	TBD	07/07/2025	08/02/2025	8/20/2025	9/05/2025	9/05/2025

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

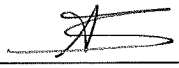
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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: Adrian Salinas
Title: Facilities Engineer
E-mail Address: adrian.salinas@matadorresources.com
Date: 1/07/2025
Phone: 832-314-0336
OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Addendum to Natural Gas Management Plan for Matador's

Rae's Creek 25 36 22 Fed Com #115H, Rae's Creek 25 36 22 Fed Com #095H Rae's Creek 25 36 22 Fed Com #085H

VI. Separation Equipment

Flow from the wells will be routed via a flowline to a 72"x15' three phase separator dedicated to the well. The first stage separators are sized with input from BRE ProMax and API 12J. Anticipated production rates can be seen in the below table. Liquid retention times at expected maximum rates will be >3 minutes. Gas will be routed from the first stage separator to sales. Hydrocarbon liquids are dumped from the first stage separator to one or more heater treaters. From the heater treaters, hydrocarbon liquid will be routed to Vapor Recovery Towers, then to storage tanks. Water is dumped from the first stage 3-phase separators and heater treaters to water storage tanks. The flash gas from the heater treater(s), vapor recovery towers and tanks will be captured by Vapor Recovery Units (VRUs) and routed to sales or to a compressor if the sales line pressure is higher than the VRU's maximum discharge pressure (~150 psi). Therefore, Matador has sized and staged our separation equipment to optimize gas capture, and our separation equipment is of sufficient size to handle the expected volumes of gas.

Well Name	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Rae's Creek 25 36 22 Fed Com #115H	790	1,750	2,280
Rae's Creek 25 36 22 Fed Com #095H	915	1,390	1,550
Rae's Creek 25 36 22 Fed Com #085H	790	1,750	2,280

VII. Operation Practices

Although not a complete recitation of all our efforts to comply with subsection A through F of 19.15.27.8 NMAC, a summary is as follows. During drilling, Matador will have a properly sized flare stack at least 100 feet from the nearest surface hole. During initial flowback we will route the flowback fluids into completion or storage tanks and, to the extent possible, flare rather than vent any gas. We will commence operation of a separator as soon as technically feasible and have instructed our team that we want to connect the gas to sales as soon as possible but not later than 30 days after initial flowback.

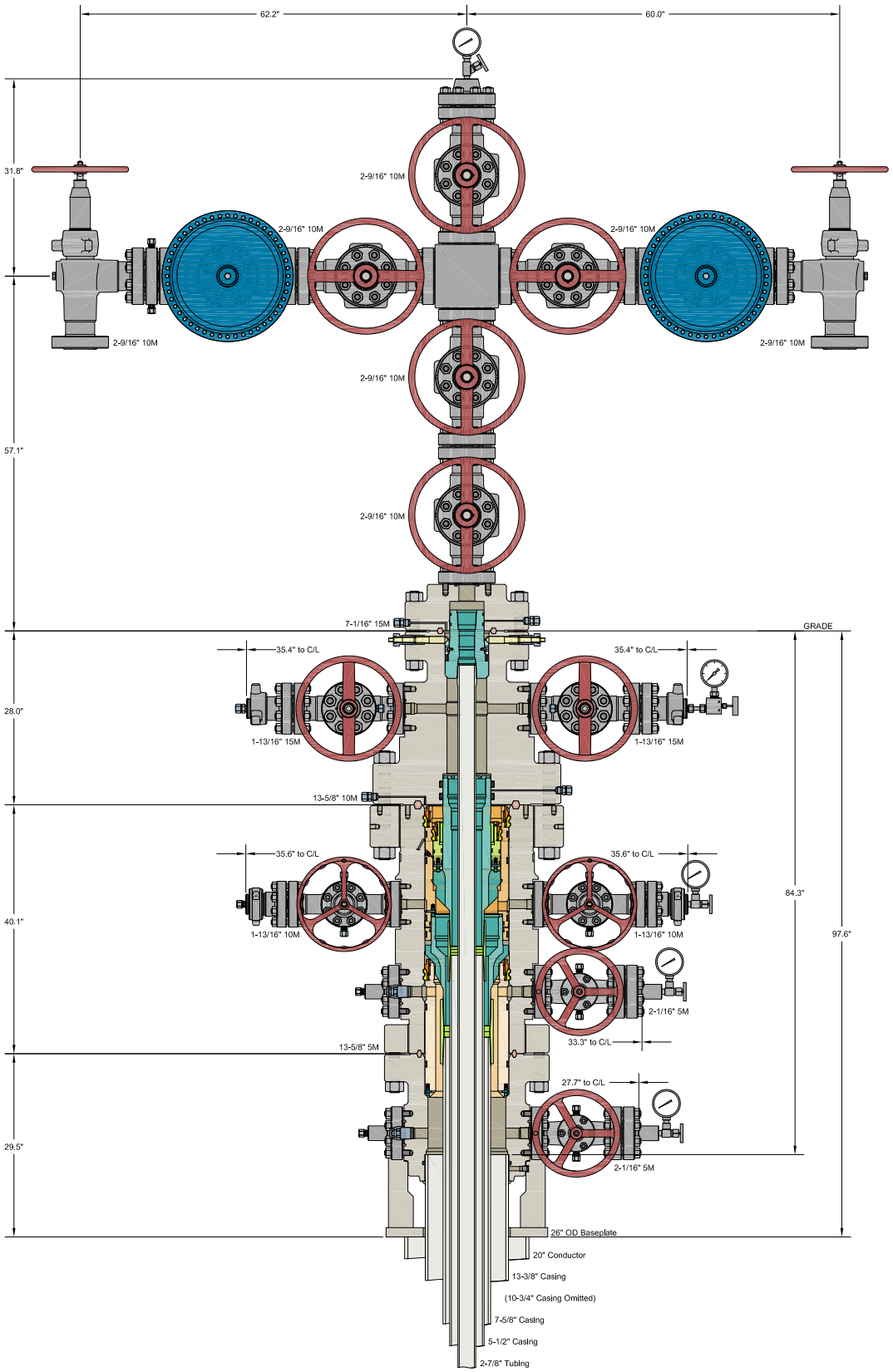
Regarding production operations, we have designed our production facilities to be compliant with the requirements of Part E of 19.15.27.8 NMAC. We will instruct our team to perform the AVOs on the frequency required under the rules. While the well is producing, we will take steps to minimize flaring during maintenance, as set forth below, and we have a process in place for the measuring of any flared gas and the reporting of any reportable flaring events.

VII. Best Management Practices

Steps are taken to minimize venting during active or planned maintenance when technically feasible including:

- Isolating the affected component and reducing pressure through process piping

- Blowing down the equipment being maintained to a control device
- Performing preventative maintenance and minimizing the duration of maintenance activities
- Shutting in sources of supply as possible
- Other steps that are available depending on the maintenance being performed

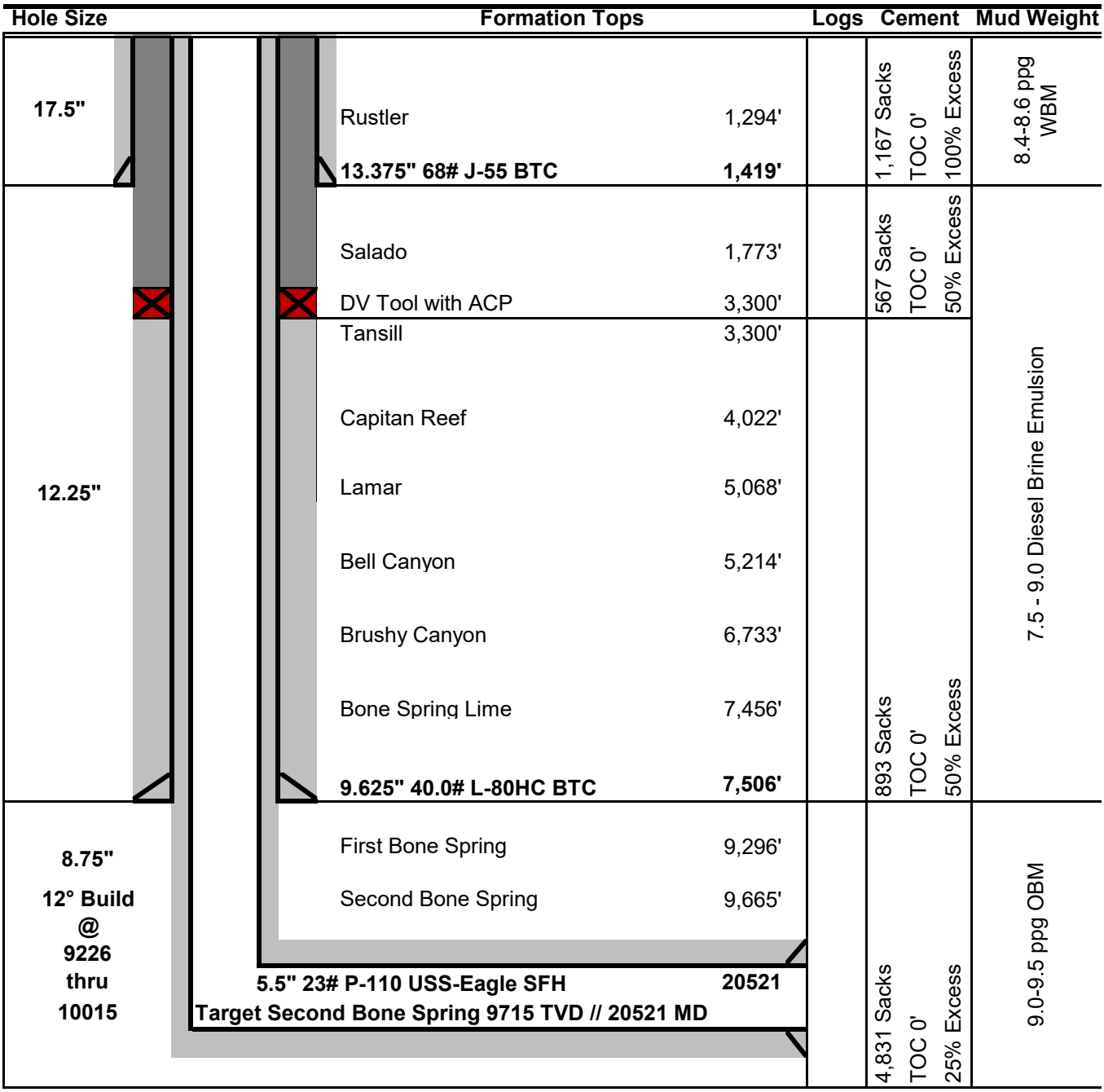


ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	AMEREDEV DELAWARE	
20" x 13-3/8" x 7-5/8" x 5-1/2" x 2-7/8" MBU-4T-SOW Sys. With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 2-9/16" 10M x 2-9/16" 10M Production Tree Assembly	DRAWN	DLE 03SEP20
	APPRV	
	DRAWING NO.	HBE0000176

Wellbore Schematic

Well:	Rae's Creek 25 36 22 Fed Com 085H	**Co. Well ID:**	xxxxxx
SHL:	SEC. 22, T.-25S, R.-36E, 200' FSL, 1740' FEL	**AFE No.:**	xxxx-xxx
BHL:	SEC. 15, T.-25S, R.-36E, 50' FNL, 1980' FEL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3052
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Second Bone Spring
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	9715
	Tubing Spool - 7-1/16" 15M x 13-3/8" 10M	**MD:**	20521
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	DrillingCR@ameredev.com



Casing Design and Safety Factor Check

Casing Specifications						
Segment	**Hole ID**	**Depth**	**OD**	**Weight**	**Grade**	**Coupling**
Surface	17.5	1,419'	13.375	68	J-55	BTC
Intermediate	12.25	7,506'	9.625	40	HCL-80	BTC
Prod Segment A	6.75	9226	5.5	23	P-110	SFH
Prod Segment B	6.75	20521	5.5	23	P-110	SFH

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.375	1,069	915	4,100	3,450
Safety Factors				
1.56	11.08	9.48	6.47	0.96
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
9.625	916	1042	4230	5750
Safety Factors				
1.31	3.05	3.47	1.18	1.20
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	1.75	1.57	2.81	3.00
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	2.80	2.52	1.26	3.00

PERFORMANCE DATA

API BTC **13.375 in** **68.00 lbs/ft** **J-55**
Technical Data Sheet

Tubular Parameters

Size	13.375	in	Minimum Yield	55,000	psi
Nominal Weight	68.00	lbs/ft	Minimum Tensile	75,000	psi
Grade	J-55		Yield Load	1,069,000	lbs
PE Weight	66.10	lbs/ft	Tensile Load	1,458,000	lbs
Wall Thickness	0.480	in	Min. Internal Yield Pressure	3,500	psi
Nominal ID	12.415	in	Collapse Pressure	1,950	psi
Drift Diameter	12.259	in			
Nom. Pipe Body Area	19.445	in²			

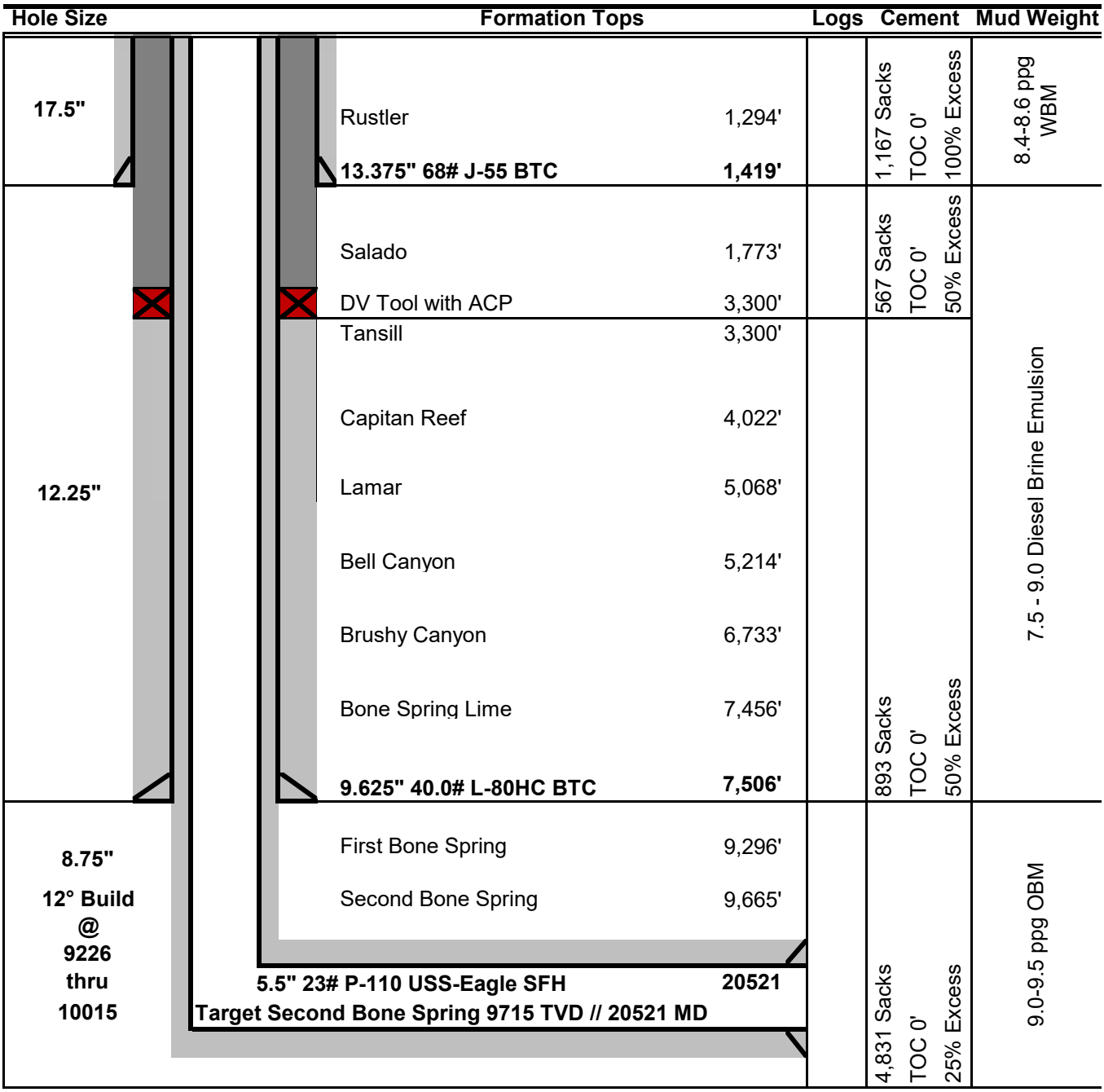
Connection Parameters

Connection OD	14.375	in
Coupling Length	10.625	in
Threads Per Inch	5.000	in
Standoff Thread Turns	1.000	
Make-Up Loss	4.513	in
Yield Load In Tension	---	lbs
Min. Internal Yield Pressure	3,500	psi

Printed on: February-13-2015

Wellbore Schematic

Well:	Rae's Creek 25 36 22 Fed Com 085H	**Co. Well ID:**	xxxxxx
SHL:	SEC. 22, T.-25S, R.-36E, 200' FSL, 1740' FEL	**AFE No.:**	xxxx-xxx
BHL:	SEC. 15, T.-25S, R.-36E, 50' FNL, 1980' FEL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3052
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Second Bone Spring
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	9715
	Tubing Spool - 7-1/16" 15M x 13-3/8" 10M	**MD:**	20521
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	DrillingCR@ameredev.com



Casing Design and Safety Factor Check

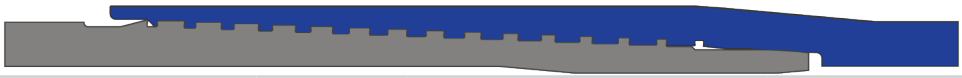
Casing Specifications						
Segment	**Hole ID**	**Depth**	**OD**	**Weight**	**Grade**	**Coupling**
Surface	17.5	1,419'	13.375	68	J-55	BTC
Intermediate	12.25	7,506'	9.625	40	HCL-80	BTC
Prod Segment A	6.75	9226	5.5	23	P-110	SFH
Prod Segment B	6.75	20521	5.5	23	P-110	SFH

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.375	1,069	915	4,100	3,450
Safety Factors				
1.56	11.08	9.48	6.47	0.96
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
9.625	916	1042	4230	5750
Safety Factors				
1.31	3.05	3.47	1.18	1.20
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	1.75	1.57	2.81	3.00
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	2.80	2.52	1.26	3.00

U. S. Steel Tubular Products

11/14/2018 9:02:57 AM

5.500" 23.00lbs/ft (0.415" Wall) USS RYS110 USS-EAGLE SFH™



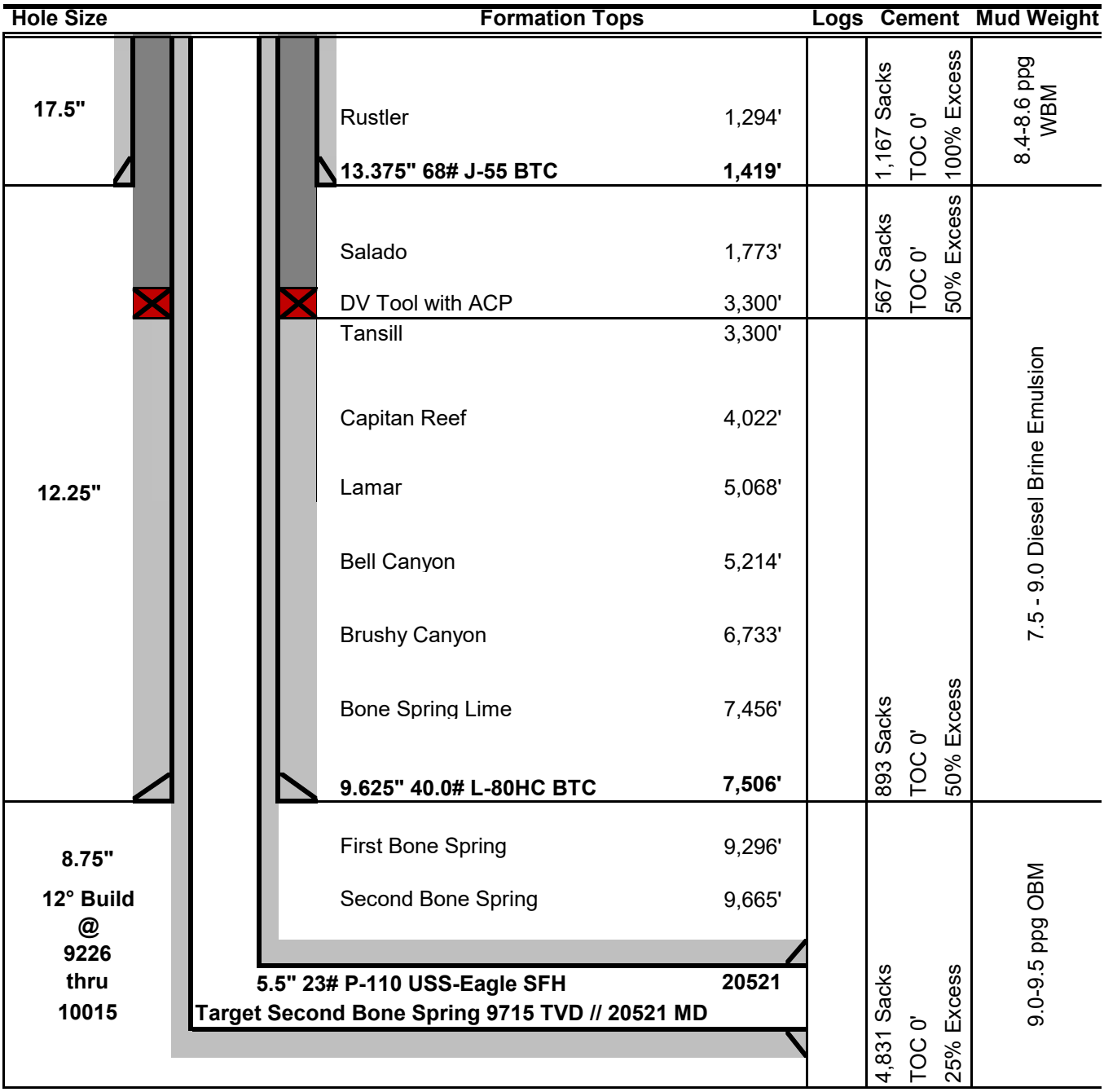
MECHANICAL PROPERTIES	Pipe	USS-EAGLE SFH™	
Minimum Yield Strength	110,000	--	psi
Maximum Yield Strength	125,000	--	psi
Minimum Tensile Strength	120,000	--	psi
DIMENSIONS	**Pipe**	**USS-EAGLE SFH™**	
Outside Diameter	5.500	5.830	in.
Wall Thickness	0.415	--	in.
Inside Diameter	4.670	4.585	in.
Standard Drift	4.545	4.545	in.
Alternate Drift	--	4.545	in.
Nominal Linear Weight, T&C	23.00	--	lbs/ft
Plain End Weight	22.56	--	lbs/ft
SECTION AREA	**Pipe**	**USS-EAGLE SFH™**	
Critical Area	6.630	5.507	sq. in.
Joint Efficiency	--	83.1	%
PERFORMANCE	**Pipe**	**USS-EAGLE SFH™**	
Minimum Collapse Pressure	14,540	14,540	psi
External Pressure Leak Resistance	--	10,000	psi
Minimum Internal Yield Pressure	14,520	14,520	psi
Minimum Pipe Body Yield Strength	729,000	--	lbs
Joint Strength	--	606,000	lbs
Compression Rating	--	606,000	lbs
Reference Length	--	17,909	ft
Maximum Uniaxial Bend Rating	--	76.2	deg/100 ft
MAKE-UP DATA	**Pipe**	**USS-EAGLE SFH™**	
Make-Up Loss	--	6.65	in.
Minimum Make-Up Torque	--	16,600	ft-lbs
Maximum Make-Up Torque	--	19,800	ft-lbs
Maximum Operating Torque	--	28,000	ft-lbs

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

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

Wellbore Schematic

Well:	Rae's Creek 25 36 22 Fed Com 085H	**Co. Well ID:**	xxxxxx
SHL:	SEC. 22, T.-25S, R.-36E, 200' FSL, 1740' FEL	**AFE No.:**	xxxx-xxx
BHL:	SEC. 15, T.-25S, R.-36E, 50' FNL, 1980' FEL	**API No.:**	xxxxxxxxxx
	Lea, NM	**GL:**	3052
Wellhead:	A - 13-5/8" 10M x 13-5/8" SOW	**Field:**	Delaware
	B - 13-5/8" 10M x 13-5/8" 10M	**Objective:**	Second Bone Spring
	C - 13-5/8" 10M x 13-5/8" 10M	**TVD:**	9715
	Tubing Spool - 7-1/16" 15M x 13-3/8" 10M	**MD:**	20521
Xmas Tree:	2-9/16" 10M	**Rig:**	TBD **KB** 27'
Tubing:	2-7/8" L-80 6.5# 8rd EUE	**E-Mail:**	DrillingCR@ameredev.com



Casing Design and Safety Factor Check

Casing Specifications						
Segment	**Hole ID**	**Depth**	**OD**	**Weight**	**Grade**	**Coupling**
Surface	17.5	1,419'	13.375	68	J-55	BTC
Intermediate	12.25	7,506'	9.625	40	HCL-80	BTC
Prod Segment A	6.75	9226	5.5	23	P-110	SFH
Prod Segment B	6.75	20521	5.5	23	P-110	SFH

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
14.375	1,069	915	4,100	3,450
Safety Factors				
1.56	11.08	9.48	6.47	0.96
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
9.625	916	1042	4230	5750
Safety Factors				
1.31	3.05	3.47	1.18	1.20
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	1.75	1.57	2.81	3.00
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
inches	*1000 lbs*	*1000 lbs*	*psi*	*psi*
5.777	728	655	12780	14360
Safety Factors				
1.49	2.80	2.52	1.26	3.00

BORUSAN MANNESMANN

API 5CT Casing Performance Data Sheet

Manufactured to specifications of API 5CT 9th edition and bears the API monogram.
Designed for enhanced performance through increased collapse resistance.

Grade	L80HC

	Pipe Body Mechanical Properties
Minimum Yield Strength	80,000 psi
Maximum Yield Strength	95,000 psi
Minimum Tensile Strength	95,000 psi
Maximum Hardness	23.0 HRC

	Sizes
OD	7 5/8 in
Nominal Wall Thickness	0.375 in
Nominal Weight, T&C	29.70 lb/ft
Nominal Weight, PE	29.06 lb/ft
Nominal ID	6.875 in
Standard Drift	6.750 in
Alternate Drift	N/A

	Minimum Performance
Collapse Pressure	5,780 psi
Internal Pressure Yield	6,880 psi
Pipe body Tension Yield	683,000 lbs
Internal pressure leak resistance STC/LTC connections	6,880 psi
Internal pressure leak resistance BTC connections	6,880 psi

	Inspection and Testing
Visual	OD Longitidunal and independent 3rd party SEA
NDT	Independent 3rd party full body EMI after hydrotest Calibration notch sensitivity: 10% of specified wall thickness

	Color code
Pipe ends	One red, one brown and one blue band
Couplings	Red with one brown band

Rig Skid Procedure

- Drilling rig will drill to Intermediate setting depth per drilling program and run 7-5/8” casing.
- We will cement Intermediate casing to surface as per program, after we bump the plug on final stage of cement we will install well head packing on MB4 Multi bowl and test.
- WOC 4 hrs, break down BOP and Install Dry Hole Cap and install pressure gauges.
    - Pressures of all postponed wells on pad will be noted on daily drilling report.
- Skid rig to drill next well programmed on drilling pad.
- Once all wells to be drilled on drilling pad have reached Intermediate casing depth, operations will begin drilling production section of the wells.

- Drilling rig will drill to Production setting depth per drilling program and run 5-1/2” casing.
- We will cement Production casing to as per program, after we bump the plug on final stage of cement we will WOC 8hrs or till 500 psi compressive have been reached, we will remove BOP and install casing slips and tubing head and test to 70% burst, we will install pressure gauges.
    - Pressures of all postponed wells on pad will be noted on daily drilling report.
- Skid rig to drill next well programmed on drilling pad.

- Continue with program until all wells on schedule have been completed.

Requested Exceptions

- Variance is requested to connect the BOP choke outlet to the choke manifold using a co-flex line (instead of using a 4" OD steel line) with a 10,000 psi working pressure that has been tested to 15,000 psi and is built to API Spec 16C. Once the flex line is installed it will be tied down with safety clamps.

- Variance is requested to allow Option of rig not capable of reaching TD presetting Surface, Drilling Plan will be same using Fresh Water fluid system.

- Variance is requested to wave any centralizer requirements on the 5-1/2" casing. Ameredev will utilize cement expansion additives in the cement slurry to maximize cement bond and zonal isolation.

- Variance is requested to wave any centralizer requirements on the 9-5/8" casing. Ameredev will utilize cement expansion additives in the cement slurry to maximize cement bond and zonal isolation.

- Variance is requested to allow Temporary Postponement of Operations on well to skid to adjacent well if multiple wells on drilling pad are drilled.

- Variance is requested to allow use of Multi-Bowl Well Head System.

- Variance is requested to allow adjustment of Casing Design Safety Factor on conditions that Ameredev keeps minimum of 1/3 casing capacity filled with OMW drilling fluids.

- Variance is requested to allow 5M Annular Preventer on 10M BOPE System to drill Production Interval. (Supporting Documentation Attached)

Certificate of Conformity

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100119	1384765	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740359504	
Project:		

Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 01/13/22	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
10	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	67640	ContiTech Standard

Hydrostatic Test Certificate

ContiTech

Certificate Number	COM Order Reference	Customer Name & Address
H100119	1384765	HELMERICH & PAYNE DRILLING CO 1434 SOUTH BOULDER AVE TULSA, OK 74119 USA
Customer Purchase Order No:	740359504	
Project:		

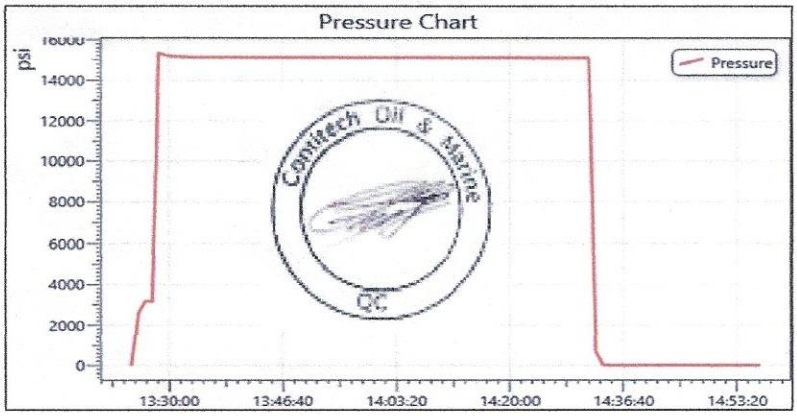
Test Center Address	Accepted by COM Inspection	Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Gerson Mejia-Lazo Date: 01/13/22	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work. Press. (psi)	Test Press. (psi)	Test Time (minutes)
10	RECERTIFICATION	3" ID 10K Choke and Kill Hose x 35ft OAL	1	67640	10,000	15,000	60

Record Information	
Start Time	1/12/2022 13:24:31
End Time	1/12/2022 14:56:39
Interval	00:01:00
Number	93
MaxValue	15942
MinValue	-2
AvgValue	10660
RecordName	sn 67640
RecordNumber	190

Gauge Information	
Model	ADT680
SN	21817380014
Range	(0-40000)psi
Unit	psi



Hose Assembly Evaluation Sheet	

Prepared by	Cristian Rivera		Date:	18-Mar-22		QIN:	N/A
Customer:	HELMERICH & PAYNE INTERNATIONAL DRILLING CO.		Location:	H&P INT'L DRILLING CO 210 MAGNOLIA DR GALENA PARK,TX,77547-2738			
User contact:	JACKIE PEEBLES		Phone:			e-mail:	JACKIE.PEEBLES@HPINC.COM

	Parameters	Hose Details	Test Status
Application Information	PO	740367496 (TAG H&P PO #740367496 & HP ID 88000240 OSN #60884)	PASS
	Gates SO	523295	
	Serial #:	60884 ASSET 88000240	
	As Tested Serial:	H3-031822-1 RE-TEST	
	Hose ID:	3 Inch	
	Hose type:	INSPECT & RETEST OF CUSTOMER HOSE 3" X 35 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FIXED X FIXED FLANGES NO INLAY WITH BX 155 RING GROOVE ENDS	
	Working pressure:	10,000 PSI.	

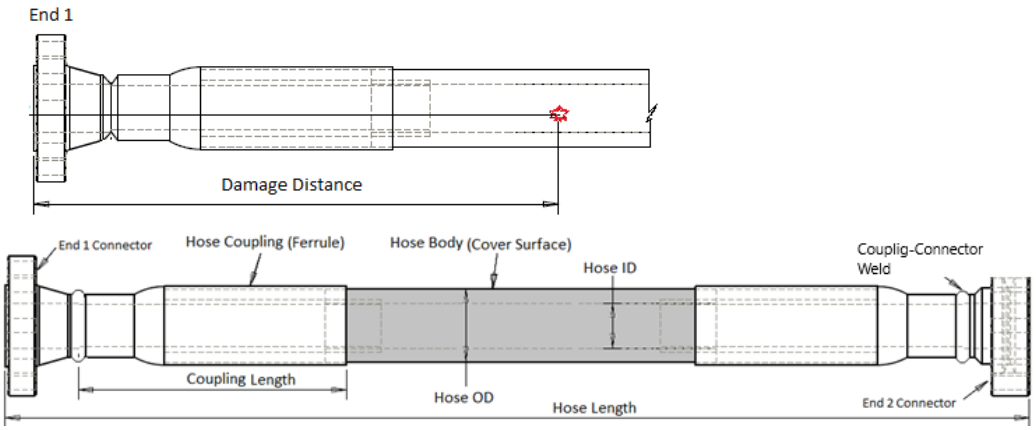
1. Visual Examination

An API 16C, 3" X 35 ft. choke & kill hose with SS armor and 4 1/16" 10k fixed x fixed flanges no inlay with bx 155 ring groove ends was received from HELMERICH & PAYNE INTERNATIONAL DRILLING CO. for inspection, testing and external cosmetic repairs. The hydrostatic pressure testing was requested to 15,000 PSI., by the customer "HELMERICH & PAYNE INTERNATIONAL DRILLING CO.".

Visual inspection and examination of external hose assembly showed some cosmetic dents and repairable damages to the external armor at distance 11ft 0in. from EF1.

Both external & internal hose body and couplings of the hose were examined. Visual Inspection photos are in Table 2, while post inspection/testing pictures are in Table 4.

The hose was hydrostatically tested at 15,000 PSI. test pressure with an hour-long hold. On completion of hydrostatic testing, an internal baroscopic examination was carried out, to check the condition of internal hose areas, mainly hose tube and coupling hose interface.



Hose Assembly Evaluation Sheet	

Figure 1: Generic Hose Assembly

1.0 Observations and comments

	Comments
1	 **Photos: As received.**

Hose Assembly Evaluation Sheet	

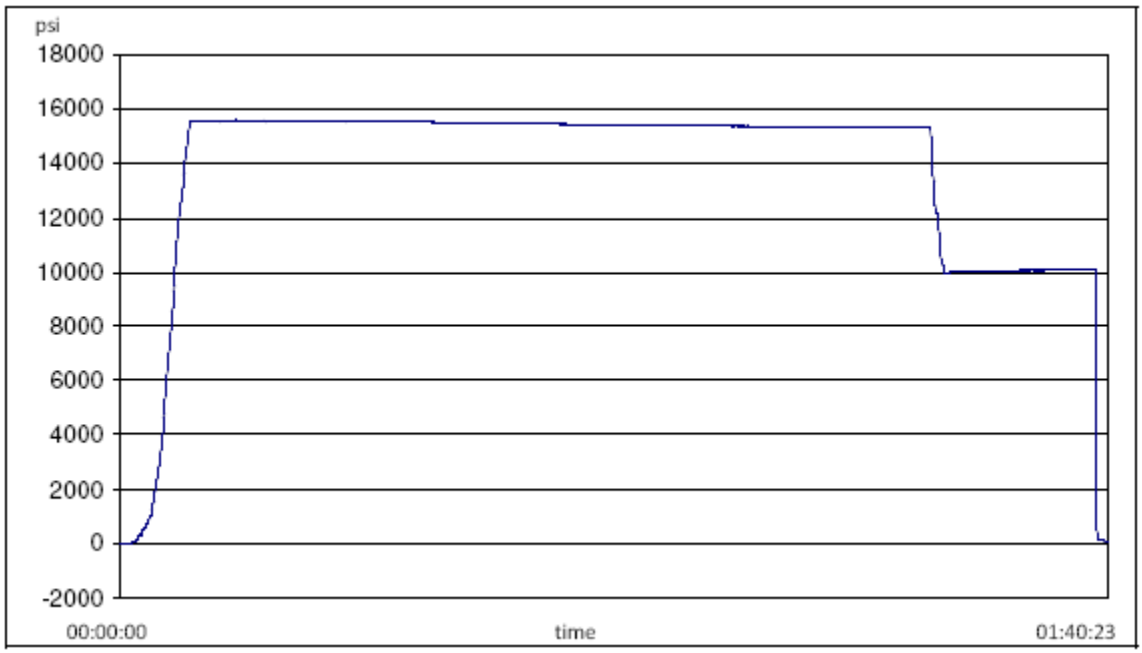
2	  **Photo: Damaged armor 11ft 0in. from EF1**
3	 **Photos: At Shipping.**

Hose Assembly Evaluation Sheet	

4	 **Photos: Repaired Armor and Engraving.**
5	 **Photo: Hose ID.**

Hose Assembly Evaluation Sheet	

2. Hydro Static Pressure test



2.1 Hydrostatic Pressure test Procedures

	Hose Type	Test Specification	Test Date	Technician
1	3" x 35 ft 16c choke & kill hose	GTS-04-053	03/18/202	Jose Suasti

2.2 Gates Hydrostatic Pressure tester

	Test Equipment	Serial No	Last Cal Date	Cal Due Date
1	S-25-A-W	110AMCL2	2022-01-10	2023-01-10
2	S-25-A-W	110APO2K	2022-01-10	2023-01-10

2.3 Hydro Static Test Pressure results

	Details	Results	
1	Hydrostatic Test Results [1]	Pass	~~Fail~~
2	Failure Mode	None	
3	Hose Dispatched to the customer?	Yes	~~No~~

Note:

1. Hydrostatic Pressure report is given in Appendix 1

Hose Assembly Evaluation Sheet	

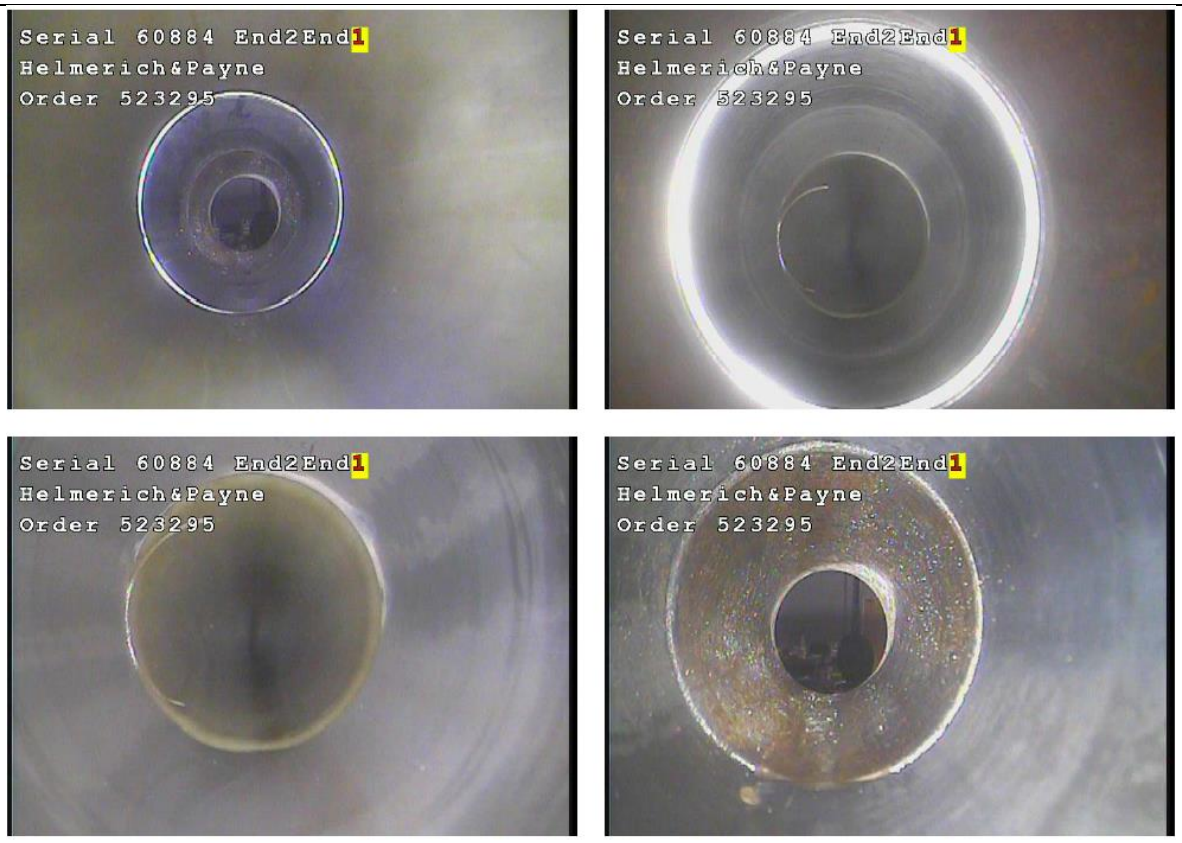
3. Hose borescope inspection

3.2 Internal Failure Details

	Type of Failure	Location of Defect	Ref. Photo	Defect Details
1	Liner breach/ collapse	None		None
2	Bulges/ Blisters	None		None
3	Other breach/failures	None		None

Photos: Liner/Coupling Interface END 1

Hose Assembly Evaluation Sheet	



Photos: Liner/Coupling Interface END 2

Note

Borescope completed? Yes

4. Summary

Hose assembly successfully tested to requested test pressure of 15,000 PSI with an hour hold. It was then serialized and stamped, as H3-031822-1 RE-TEST. The bore scope showed no blisters or delamination in the internal lining/tube area.

External damages were repaired as agreed with the customer.

Hose Assembly Evaluation Sheet	

APPENDIX 1:

Pressure Chart

H3-8455

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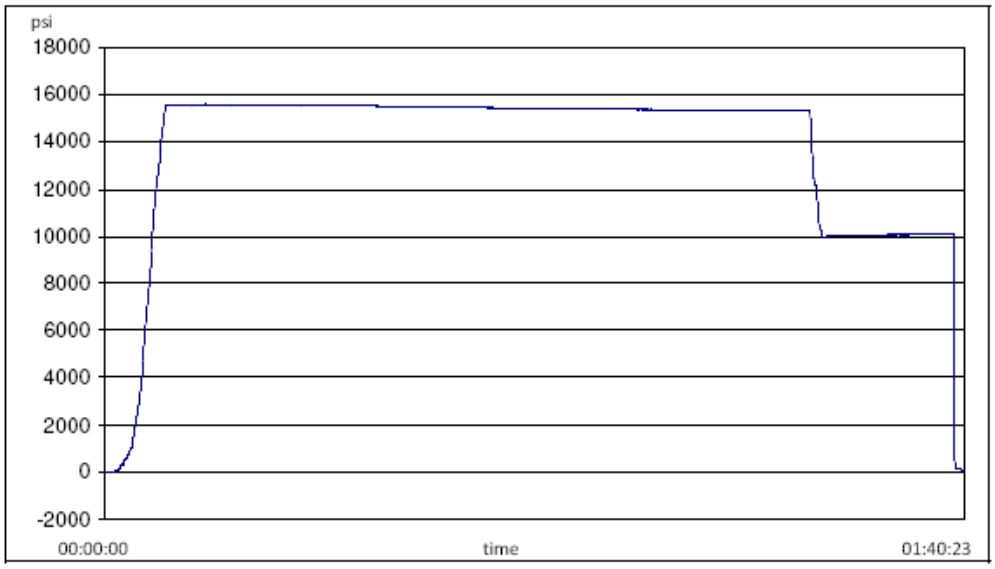
TEST REPORT

CUSTOMER			**TEST OBJECT**		
Company:	Helmerich & Payne, Inc		Serial number:	H3-031822-1 RE-TEST	
			Lot number:		
Production description:	IMR		Description:	IMR	
Sales order #:	523295				
Customer reference:	60884 ASSET 88000240		Hose ID:	3.0 CK03 16C 10K	
			Part number:		
TEST INFORMATION					
Test procedure:	GTS-04-053		Fitting 1:	3.0 x 4-1/16 10K	
Test pressure:	15000.00	psi	Part number:		
Test pressure hold:	3600.00	sec	Description:		
Work pressure:	10000.00	psi			
Work pressure hold:	900.00	sec	Fitting 2:	3.0 x 4-1/16 10K	
Length difference:	0.00	%	Part number:		
Length difference:	0.00	inch	Description:		
Visual check:			Length:	35	feet
Pressure test result:	PASS				
Length measurement result:					
Test operator:	Jose Suasti				



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Hose Assembly Evaluation Sheet	

H3-8455

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TEST REPORT

GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110AMCL2	2022-01-10	2023-01-10
S-25-A-W	110APO2K	2022-01-10	2023-01-10

Comment

Filename: D:\Certificates\Report_031822-H3-031822-1.pdf Page 2/2

Hose Assembly Evaluation Sheet	

APPENDIX 2:

Certificate of Conformance

BLACK GOLD®

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX. 77086

PHONE: +1 (281) 602-4100
FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: www.gates.com/oilandgas

CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

CUSTOMER:	HELMERICH & PAYNE INTERNATIONAL DRILLING CO.
CUSTOMER P.O.#:	740367496 (TAG H&P PO #740367496 & HP ID 88000240 OSN #60884)
CUSTOMER P/N:	HP 88000240 IMR RETEST OSN #60884
PART DESCRIPTION:	INSPECT & RETEST OF CUSTOMER HOSE 3" X 35 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FIXED X FIXED FLANGES NO INLAY WITH BX 155 RING GROOVE ENDS
SALES ORDER #:	523295
QUANTITY:	1
SERIAL #:	H3-031822-1 RE-TEST

SIGNATURE: _____

TITLE: QUALITY ASSURANCE

DATE: 3/18/2022

AMEREDEV

American Resource Development LLC.

Ameredev Operating

Lea County, NM (N83-NME)
Raes Creek Fed Com
Raes Creek Fed Com 25 36 22 085H

OWB

Plan: PWP0

Standard Planning Report - Geographic

15 December, 2022

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project Lea County, NM (N83-NME)

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

Site Raes Creek Fed Com

Site Position:		**Northing:**	405,101.73 usft	**Latitude:**	32.1091454
From:	Lat/Long	**Easting:**	874,028.05 usft	**Longitude:**	-103.2588495
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Raes Creek Fed Com 25 36 22 085H

Well Position	**+N/-S**	0.0 usft	**Northing:**	405,127.54 usft	**Latitude:**	32.1091419
	+E/-W	0.0 usft	**Easting:**	876,733.64 usft	**Longitude:**	-103.2501118
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,052.0 usft
Grid Convergence:		0.58 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/13/2022	6.21	59.79	47,304.48547162

Design PWP0

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.47

Plan Survey Tool Program **Date** 12/15/2022

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	20,521.1	PWP0 (OWB)	MWD OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,249.6	4.99	200.69	2,249.3	-10.2	-3.8	2.00	2.00	0.00	200.69	
9,225.8	4.99	200.69	9,199.1	-578.0	-218.3	0.00	0.00	0.00	0.00	
10,014.6	90.00	359.47	9,715.0	-102.3	-239.0	12.00	10.78	20.13	158.71	FTP (RCFC 085H)
20,421.6	90.00	359.47	9,715.0	10,304.3	-335.2	0.00	0.00	0.00	0.00	BHL (RCFC 085H)
20,471.3	90.00	359.47	9,715.0	10,354.0	-335.7	0.00	0.00	0.00	0.00	LTP (RCFC 085H)
20,521.1	90.00	359.47	9,715.0	10,403.7	-336.1	0.00	0.00	0.00	0.00	BHL (RCFC 085H)

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
100.0	0.00	0.00	100.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
200.0	0.00	0.00	200.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
300.0	0.00	0.00	300.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
400.0	0.00	0.00	400.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
500.0	0.00	0.00	500.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
600.0	0.00	0.00	600.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
700.0	0.00	0.00	700.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
800.0	0.00	0.00	800.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
900.0	0.00	0.00	900.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,000.0	0.00	0.00	1,000.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,100.0	0.00	0.00	1,100.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,200.0	0.00	0.00	1,200.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,297.0	0.00	0.00	1,297.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
Rustler									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,400.0	0.00	0.00	1,400.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,500.0	0.00	0.00	1,500.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,600.0	0.00	0.00	1,600.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,700.0	0.00	0.00	1,700.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,776.0	0.00	0.00	1,776.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
Salado									
1,800.0	0.00	0.00	1,800.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
1,900.0	0.00	0.00	1,900.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
2,000.0	0.00	0.00	2,000.0	0.0	0.0	405,127.54	876,733.64	32.1091419	-103.2501118
Start Build 2.00									
2,100.0	2.00	200.69	2,100.0	-1.6	-0.6	405,125.91	876,733.02	32.1091375	-103.2501138
2,200.0	4.00	200.69	2,199.8	-6.5	-2.5	405,121.01	876,731.17	32.1091240	-103.2501200
2,249.6	4.99	200.69	2,249.3	-10.2	-3.8	405,117.38	876,729.80	32.1091141	-103.2501245
Start 6976.3 hold at 2249.6 MD									
2,300.0	4.99	200.69	2,299.5	-14.3	-5.4	405,113.27	876,728.25	32.1091029	-103.2501297
2,400.0	4.99	200.69	2,399.1	-22.4	-8.5	405,105.13	876,725.18	32.1090806	-103.2501398
2,500.0	4.99	200.69	2,498.7	-30.5	-11.5	405,097.00	876,722.10	32.1090583	-103.2501500
2,600.0	4.99	200.69	2,598.4	-38.7	-14.6	405,088.86	876,719.03	32.1090360	-103.2501602
2,700.0	4.99	200.69	2,698.0	-46.8	-17.7	405,080.72	876,715.96	32.1090137	-103.2501704
2,800.0	4.99	200.69	2,797.6	-55.0	-20.8	405,072.58	876,712.88	32.1089914	-103.2501806
2,900.0	4.99	200.69	2,897.2	-63.1	-23.8	405,064.44	876,709.81	32.1089691	-103.2501908
3,000.0	4.99	200.69	2,996.8	-71.2	-26.9	405,056.30	876,706.73	32.1089469	-103.2502010
3,100.0	4.99	200.69	3,096.5	-79.4	-30.0	405,048.16	876,703.66	32.1089246	-103.2502112
3,200.0	4.99	200.69	3,196.1	-87.5	-33.1	405,040.02	876,700.59	32.1089023	-103.2502214
3,300.0	4.99	200.69	3,295.7	-95.7	-36.1	405,031.88	876,697.51	32.1088800	-103.2502315
3,307.3	4.99	200.69	3,303.0	-96.3	-36.3	405,031.28	876,697.29	32.1088784	-103.2502323
Tansill									
3,400.0	4.99	200.69	3,395.3	-103.8	-39.2	405,023.74	876,694.44	32.1088577	-103.2502417
3,500.0	4.99	200.69	3,494.9	-111.9	-42.3	405,015.60	876,691.37	32.1088354	-103.2502519
3,600.0	4.99	200.69	3,594.6	-120.1	-45.3	405,007.46	876,688.29	32.1088131	-103.2502621
3,700.0	4.99	200.69	3,694.2	-128.2	-48.4	404,999.32	876,685.22	32.1087909	-103.2502723
3,800.0	4.99	200.69	3,793.8	-136.4	-51.5	404,991.18	876,682.15	32.1087686	-103.2502825
3,900.0	4.99	200.69	3,893.4	-144.5	-54.6	404,983.04	876,679.07	32.1087463	-103.2502927
4,000.0	4.99	200.69	3,993.0	-152.6	-57.6	404,974.90	876,676.00	32.1087240	-103.2503029
4,032.1	4.99	200.69	4,025.0	-155.3	-58.6	404,972.29	876,675.01	32.1087168	-103.2503061
Capitan									
4,100.0	4.99	200.69	4,092.7	-160.8	-60.7	404,966.76	876,672.92	32.1087017	-103.2503131
4,200.0	4.99	200.69	4,192.3	-168.9	-63.8	404,958.62	876,669.85	32.1086794	-103.2503233

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,300.0	4.99	200.69	4,291.9	-177.1	-66.9	404,950.48	876,666.78	32.1086571	-103.2503334
4,400.0	4.99	200.69	4,391.5	-185.2	-69.9	404,942.35	876,663.70	32.1086348	-103.2503436
4,500.0	4.99	200.69	4,491.2	-193.3	-73.0	404,934.21	876,660.63	32.1086126	-103.2503538
4,564.0	4.99	200.69	4,554.9	-198.5	-75.0	404,929.00	876,658.66	32.1085983	-103.2503603
NMNM 136231 Exit at 4564.0 MD									
4,600.0	4.99	200.69	4,590.8	-201.5	-76.1	404,926.07	876,657.56	32.1085903	-103.2503640
4,700.0	4.99	200.69	4,690.4	-209.6	-79.2	404,917.93	876,654.48	32.1085680	-103.2503742
4,800.0	4.99	200.69	4,790.0	-217.8	-82.2	404,909.79	876,651.41	32.1085457	-103.2503844
4,900.0	4.99	200.69	4,889.6	-225.9	-85.3	404,901.65	876,648.34	32.1085234	-103.2503946
5,000.0	4.99	200.69	4,989.3	-234.0	-88.4	404,893.51	876,645.26	32.1085011	-103.2504048
5,082.1	4.99	200.69	5,071.0	-240.7	-90.9	404,886.83	876,642.74	32.1084828	-103.2504131
Lamar									
5,100.0	4.99	200.69	5,088.9	-242.2	-91.4	404,885.37	876,642.19	32.1084788	-103.2504150
5,200.0	4.99	200.69	5,188.5	-250.3	-94.5	404,877.23	876,639.11	32.1084566	-103.2504251
5,228.6	4.99	200.69	5,217.0	-252.6	-95.4	404,874.90	876,638.24	32.1084502	-103.2504281
Bell Canyon									
5,300.0	4.99	200.69	5,288.1	-258.5	-97.6	404,869.09	876,636.04	32.1084343	-103.2504353
5,400.0	4.99	200.69	5,387.7	-266.6	-100.7	404,860.95	876,632.97	32.1084120	-103.2504455
5,500.0	4.99	200.69	5,487.4	-274.7	-103.7	404,852.81	876,629.89	32.1083897	-103.2504557
5,600.0	4.99	200.69	5,587.0	-282.9	-106.8	404,844.67	876,626.82	32.1083674	-103.2504659
5,700.0	4.99	200.69	5,686.6	-291.0	-109.9	404,836.53	876,623.75	32.1083451	-103.2504761
5,800.0	4.99	200.69	5,786.2	-299.2	-113.0	404,828.39	876,620.67	32.1083228	-103.2504863
5,900.0	4.99	200.69	5,885.8	-307.3	-116.0	404,820.25	876,617.60	32.1083006	-103.2504965
6,000.0	4.99	200.69	5,985.5	-315.4	-119.1	404,812.11	876,614.53	32.1082783	-103.2505067
6,100.0	4.99	200.69	6,085.1	-323.6	-122.2	404,803.97	876,611.45	32.1082560	-103.2505169
6,200.0	4.99	200.69	6,184.7	-331.7	-125.3	404,795.83	876,608.38	32.1082337	-103.2505270
6,300.0	4.99	200.69	6,284.3	-339.8	-128.3	404,787.69	876,605.30	32.1082114	-103.2505372
6,400.0	4.99	200.69	6,383.9	-348.0	-131.4	404,779.56	876,602.23	32.1081891	-103.2505474
6,500.0	4.99	200.69	6,483.6	-356.1	-134.5	404,771.42	876,599.16	32.1081668	-103.2505576
6,600.0	4.99	200.69	6,583.2	-364.3	-137.6	404,763.28	876,596.08	32.1081446	-103.2505678
6,700.0	4.99	200.69	6,682.8	-372.4	-140.6	404,755.14	876,593.01	32.1081223	-103.2505780
6,753.4	4.99	200.69	6,736.0	-376.8	-142.3	404,750.79	876,591.37	32.1081104	-103.2505834
Brushy Canyon									
6,800.0	4.99	200.69	6,782.4	-380.5	-143.7	404,747.00	876,589.94	32.1081000	-103.2505882
6,900.0	4.99	200.69	6,882.0	-388.7	-146.8	404,738.86	876,586.86	32.1080777	-103.2505984
7,000.0	4.99	200.69	6,981.7	-396.8	-149.8	404,730.72	876,583.79	32.1080554	-103.2506086
7,100.0	4.99	200.69	7,081.3	-405.0	-152.9	404,722.58	876,580.72	32.1080331	-103.2506187
7,200.0	4.99	200.69	7,180.9	-413.1	-156.0	404,714.44	876,577.64	32.1080108	-103.2506289
7,300.0	4.99	200.69	7,280.5	-421.2	-159.1	404,706.30	876,574.57	32.1079885	-103.2506391
7,400.0	4.99	200.69	7,380.2	-429.4	-162.1	404,698.16	876,571.49	32.1079663	-103.2506493
7,479.1	4.99	200.69	7,459.0	-435.8	-164.6	404,691.72	876,569.06	32.1079486	-103.2506574
Bone Spring Lime									
7,500.0	4.99	200.69	7,479.8	-437.5	-165.2	404,690.02	876,568.42	32.1079440	-103.2506595
7,600.0	4.99	200.69	7,579.4	-445.7	-168.3	404,681.88	876,565.35	32.1079217	-103.2506697
7,700.0	4.99	200.69	7,679.0	-453.8	-171.4	404,673.74	876,562.27	32.1078994	-103.2506799
7,800.0	4.99	200.69	7,778.6	-461.9	-174.4	404,665.60	876,559.20	32.1078771	-103.2506901
7,900.0	4.99	200.69	7,878.3	-470.1	-177.5	404,657.46	876,556.13	32.1078548	-103.2507003
8,000.0	4.99	200.69	7,977.9	-478.2	-180.6	404,649.32	876,553.05	32.1078325	-103.2507104
8,100.0	4.99	200.69	8,077.5	-486.4	-183.7	404,641.18	876,549.98	32.1078103	-103.2507206
8,200.0	4.99	200.69	8,177.1	-494.5	-186.7	404,633.04	876,546.91	32.1077880	-103.2507308
8,300.0	4.99	200.69	8,276.7	-502.6	-189.8	404,624.91	876,543.83	32.1077657	-103.2507410
8,400.0	4.99	200.69	8,376.4	-510.8	-192.9	404,616.77	876,540.76	32.1077434	-103.2507512
8,500.0	4.99	200.69	8,476.0	-518.9	-196.0	404,608.63	876,537.68	32.1077211	-103.2507614
8,600.0	4.99	200.69	8,575.6	-527.1	-199.0	404,600.49	876,534.61	32.1076988	-103.2507716

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,700.0	4.99	200.69	8,675.2	-535.2	-202.1	404,592.35	876,531.54	32.1076765	-103.2507818
8,800.0	4.99	200.69	8,774.8	-543.3	-205.2	404,584.21	876,528.46	32.1076543	-103.2507920
8,900.0	4.99	200.69	8,874.5	-551.5	-208.2	404,576.07	876,525.39	32.1076320	-103.2508022
9,000.0	4.99	200.69	8,974.1	-559.6	-211.3	404,567.93	876,522.32	32.1076097	-103.2508123
9,100.0	4.99	200.69	9,073.7	-567.8	-214.4	404,559.79	876,519.24	32.1075874	-103.2508225
9,200.0	4.99	200.69	9,173.3	-575.9	-217.5	404,551.65	876,516.17	32.1075651	-103.2508327
9,225.8	4.99	200.69	9,199.1	-578.0	-218.3	404,549.55	876,515.37	32.1075594	-103.2508354
KOP-Start DLS 12.00 TFO 158.71									
9,250.0	2.52	225.38	9,223.2	-579.4	-219.0	404,548.19	876,514.63	32.1075556	-103.2508378
9,275.0	2.20	304.04	9,248.2	-579.5	-219.8	404,548.07	876,513.84	32.1075553	-103.2508404
9,300.0	4.62	336.43	9,273.1	-578.3	-220.6	404,549.26	876,513.04	32.1075586	-103.2508429
9,325.0	7.47	345.52	9,298.0	-575.8	-221.4	404,551.76	876,512.23	32.1075655	-103.2508454
9,326.0	7.59	345.75	9,299.0	-575.7	-221.4	404,551.89	876,512.19	32.1075659	-103.2508455
First Bone Spring									
9,350.0	10.40	349.56	9,322.7	-572.0	-222.2	404,555.55	876,511.41	32.1075760	-103.2508480
9,375.0	13.37	351.83	9,347.1	-566.9	-223.0	404,560.64	876,510.59	32.1075900	-103.2508504
9,400.0	16.35	353.28	9,371.3	-560.6	-223.9	404,566.99	876,509.77	32.1076075	-103.2508529
9,425.0	19.33	354.30	9,395.1	-552.9	-224.7	404,574.60	876,508.95	32.1076284	-103.2508553
9,450.0	22.32	355.05	9,418.5	-544.1	-225.5	404,583.45	876,508.13	32.1076527	-103.2508577
9,475.0	25.31	355.64	9,441.3	-534.0	-226.3	404,593.51	876,507.31	32.1076804	-103.2508600
9,500.0	28.30	356.10	9,463.6	-522.8	-227.1	404,604.75	876,506.50	32.1077113	-103.2508622
9,525.0	31.29	356.49	9,485.3	-510.4	-227.9	404,617.15	876,505.70	32.1077454	-103.2508644
9,550.0	34.29	356.81	9,506.3	-496.9	-228.7	404,630.67	876,504.91	32.1077826	-103.2508665
9,575.0	37.28	357.09	9,526.6	-482.3	-229.5	404,645.26	876,504.14	32.1078227	-103.2508685
9,600.0	40.28	357.33	9,546.1	-466.6	-230.3	404,660.90	876,503.38	32.1078657	-103.2508705
9,625.0	43.28	357.55	9,564.7	-450.0	-231.0	404,677.54	876,502.63	32.1079115	-103.2508723
9,650.0	46.27	357.74	9,582.5	-432.4	-231.7	404,695.13	876,501.91	32.1079599	-103.2508741
9,675.0	49.27	357.91	9,599.3	-413.9	-232.4	404,713.63	876,501.21	32.1080107	-103.2508758
9,700.0	52.27	358.07	9,615.1	-394.6	-233.1	404,732.98	876,500.53	32.1080639	-103.2508773
9,725.0	55.27	358.21	9,629.9	-374.4	-233.8	404,753.13	876,499.87	32.1081193	-103.2508788
9,750.0	58.27	358.35	9,643.6	-353.5	-234.4	404,774.03	876,499.25	32.1081768	-103.2508801
9,775.0	61.26	358.48	9,656.2	-331.9	-235.0	404,795.62	876,498.65	32.1082361	-103.2508814
9,800.0	64.26	358.60	9,667.6	-309.7	-235.6	404,817.84	876,498.08	32.1082972	-103.2508825
9,800.9	64.37	358.60	9,668.0	-308.9	-235.6	404,818.67	876,498.06	32.1082995	-103.2508825
Second Bone Spring									
9,825.0	67.26	358.71	9,677.9	-286.9	-236.1	404,840.62	876,497.55	32.1083599	-103.2508835
9,850.0	70.26	358.82	9,686.9	-263.6	-236.6	404,863.92	876,497.05	32.1084239	-103.2508843
9,875.0	73.26	358.93	9,694.7	-239.9	-237.1	404,887.65	876,496.58	32.1084891	-103.2508851
9,900.0	76.25	359.03	9,701.3	-215.8	-237.5	404,911.77	876,496.15	32.1085554	-103.2508857
9,917.0	78.29	359.09	9,705.1	-199.2	-237.8	404,928.33	876,495.88	32.1086010	-103.2508860
NMNM 136231 Entry at 9917.0 MD									
9,925.0	79.25	359.13	9,706.6	-191.3	-237.9	404,936.19	876,495.76	32.1086226	-103.2508862
9,950.0	82.25	359.22	9,710.6	-166.7	-238.2	404,960.86	876,495.40	32.1086904	-103.2508865
9,975.0	85.25	359.32	9,713.4	-141.8	-238.6	404,985.71	876,495.08	32.1087587	-103.2508867
10,000.0	88.25	359.41	9,714.8	-116.9	-238.8	405,010.66	876,494.81	32.1088273	-103.2508868
10,014.6	90.00	359.47	9,715.0	-102.3	-239.0	405,025.27	876,494.67	32.1088674	-103.2508868
LP-Start 10407.0 hold at 10014.6 MD - FTP (RCFC 085H)									
10,100.0	90.00	359.47	9,715.0	-16.9	-239.8	405,110.66	876,493.88	32.1091021	-103.2508866
10,200.0	90.00	359.47	9,715.0	83.1	-240.7	405,210.65	876,492.95	32.1093770	-103.2508863
10,300.0	90.00	359.47	9,715.0	183.1	-241.6	405,310.65	876,492.03	32.1096519	-103.2508861
10,400.0	90.00	359.47	9,715.0	283.1	-242.5	405,410.65	876,491.10	32.1099267	-103.2508858
10,500.0	90.00	359.47	9,715.0	383.1	-243.5	405,510.64	876,490.18	32.1102016	-103.2508855
10,600.0	90.00	359.47	9,715.0	483.1	-244.4	405,610.64	876,489.25	32.1104764	-103.2508853
10,700.0	90.00	359.47	9,715.0	583.1	-245.3	405,710.63	876,488.33	32.1107513	-103.2508850

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,800.0	90.00	359.47	9,715.0	683.1	-246.2	405,810.63	876,487.40	32.1110262	-103.2508848
10,900.0	90.00	359.47	9,715.0	783.1	-247.2	405,910.62	876,486.48	32.1113010	-103.2508845
11,000.0	90.00	359.47	9,715.0	883.1	-248.1	406,010.62	876,485.55	32.1115759	-103.2508843
11,100.0	90.00	359.47	9,715.0	983.1	-249.0	406,110.62	876,484.63	32.1118507	-103.2508840
11,200.0	90.00	359.47	9,715.0	1,083.1	-249.9	406,210.61	876,483.70	32.1121256	-103.2508838
11,300.0	90.00	359.47	9,715.0	1,183.1	-250.9	406,310.61	876,482.78	32.1124005	-103.2508835
11,400.0	90.00	359.47	9,715.0	1,283.1	-251.8	406,410.60	876,481.85	32.1126753	-103.2508832
11,500.0	90.00	359.47	9,715.0	1,383.1	-252.7	406,510.60	876,480.93	32.1129502	-103.2508830
11,600.0	90.00	359.47	9,715.0	1,483.1	-253.6	406,610.59	876,480.00	32.1132250	-103.2508827
11,700.0	90.00	359.47	9,715.0	1,583.0	-254.6	406,710.59	876,479.08	32.1134999	-103.2508825
11,800.0	90.00	359.47	9,715.0	1,683.0	-255.5	406,810.59	876,478.15	32.1137748	-103.2508822
11,900.0	90.00	359.47	9,715.0	1,783.0	-256.4	406,910.58	876,477.23	32.1140496	-103.2508820
12,000.0	90.00	359.47	9,715.0	1,883.0	-257.3	407,010.58	876,476.30	32.1143245	-103.2508817
12,100.0	90.00	359.47	9,715.0	1,983.0	-258.3	407,110.57	876,475.38	32.1145993	-103.2508814
12,200.0	90.00	359.47	9,715.0	2,083.0	-259.2	407,210.57	876,474.45	32.1148742	-103.2508812
12,300.0	90.00	359.47	9,715.0	2,183.0	-260.1	407,310.56	876,473.53	32.1151491	-103.2508809
12,400.0	90.00	359.47	9,715.0	2,283.0	-261.0	407,410.56	876,472.60	32.1154239	-103.2508807
12,500.0	90.00	359.47	9,715.0	2,383.0	-262.0	407,510.56	876,471.68	32.1156988	-103.2508804
12,600.0	90.00	359.47	9,715.0	2,483.0	-262.9	407,610.55	876,470.75	32.1159736	-103.2508802
12,700.0	90.00	359.47	9,715.0	2,583.0	-263.8	407,710.55	876,469.83	32.1162485	-103.2508799
12,800.0	90.00	359.47	9,715.0	2,683.0	-264.7	407,810.54	876,468.90	32.1165234	-103.2508796
12,900.0	90.00	359.47	9,715.0	2,783.0	-265.7	407,910.54	876,467.98	32.1167982	-103.2508794
13,000.0	90.00	359.47	9,715.0	2,883.0	-266.6	408,010.53	876,467.05	32.1170731	-103.2508791
13,100.0	90.00	359.47	9,715.0	2,983.0	-267.5	408,110.53	876,466.13	32.1173479	-103.2508789
13,200.0	90.00	359.47	9,715.0	3,083.0	-268.4	408,210.53	876,465.20	32.1176228	-103.2508786
13,300.0	90.00	359.47	9,715.0	3,183.0	-269.4	408,310.52	876,464.28	32.1178977	-103.2508784
13,400.0	90.00	359.47	9,715.0	3,283.0	-270.3	408,410.52	876,463.35	32.1181725	-103.2508781
13,500.0	90.00	359.47	9,715.0	3,383.0	-271.2	408,510.51	876,462.43	32.1184474	-103.2508778
13,600.0	90.00	359.47	9,715.0	3,483.0	-272.1	408,610.51	876,461.50	32.1187222	-103.2508776
13,700.0	90.00	359.47	9,715.0	3,583.0	-273.1	408,710.50	876,460.58	32.1189971	-103.2508773
13,800.0	90.00	359.47	9,715.0	3,683.0	-274.0	408,810.50	876,459.65	32.1192720	-103.2508771
13,900.0	90.00	359.47	9,715.0	3,783.0	-274.9	408,910.50	876,458.73	32.1195468	-103.2508768
14,000.0	90.00	359.47	9,715.0	3,882.9	-275.8	409,010.49	876,457.80	32.1198217	-103.2508766
14,100.0	90.00	359.47	9,715.0	3,982.9	-276.8	409,110.49	876,456.88	32.1200965	-103.2508763
14,200.0	90.00	359.47	9,715.0	4,082.9	-277.7	409,210.48	876,455.95	32.1203714	-103.2508760
14,300.0	90.00	359.47	9,715.0	4,182.9	-278.6	409,310.48	876,455.03	32.1206463	-103.2508758
14,400.0	90.00	359.47	9,715.0	4,282.9	-279.5	409,410.47	876,454.10	32.1209211	-103.2508755
14,500.0	90.00	359.47	9,715.0	4,382.9	-280.5	409,510.47	876,453.18	32.1211960	-103.2508753
14,600.0	90.00	359.47	9,715.0	4,482.9	-281.4	409,610.47	876,452.25	32.1214708	-103.2508750
14,700.0	90.00	359.47	9,715.0	4,582.9	-282.3	409,710.46	876,451.33	32.1217457	-103.2508748
14,800.0	90.00	359.47	9,715.0	4,682.9	-283.2	409,810.46	876,450.40	32.1220206	-103.2508745
14,900.0	90.00	359.47	9,715.0	4,782.9	-284.2	409,910.45	876,449.48	32.1222954	-103.2508742
15,000.0	90.00	359.47	9,715.0	4,882.9	-285.1	410,010.45	876,448.55	32.1225703	-103.2508740
15,100.0	90.00	359.47	9,715.0	4,982.9	-286.0	410,110.44	876,447.63	32.1228451	-103.2508737
15,200.0	90.00	359.47	9,715.0	5,082.9	-286.9	410,210.44	876,446.70	32.1231200	-103.2508735
15,300.0	90.00	359.47	9,715.0	5,182.9	-287.9	410,310.44	876,445.78	32.1233949	-103.2508732
15,400.0	90.00	359.47	9,715.0	5,282.9	-288.8	410,410.43	876,444.86	32.1236697	-103.2508730
15,500.0	90.00	359.47	9,715.0	5,382.9	-289.7	410,510.43	876,443.93	32.1239446	-103.2508727
15,600.0	90.00	359.47	9,715.0	5,482.9	-290.6	410,610.42	876,443.01	32.1242194	-103.2508724
15,700.0	90.00	359.47	9,715.0	5,582.9	-291.6	410,710.42	876,442.08	32.1244943	-103.2508722
15,800.0	90.00	359.47	9,715.0	5,682.9	-292.5	410,810.41	876,441.16	32.1247692	-103.2508719
15,900.0	90.00	359.47	9,715.0	5,782.9	-293.4	410,910.41	876,440.23	32.1250440	-103.2508717
16,000.0	90.00	359.47	9,715.0	5,882.9	-294.3	411,010.41	876,439.31	32.1253189	-103.2508714
16,100.0	90.00	359.47	9,715.0	5,982.9	-295.3	411,110.40	876,438.38	32.1255937	-103.2508712
16,200.0	90.00	359.47	9,715.0	6,082.9	-296.2	411,210.40	876,437.46	32.1258686	-103.2508709

AMEREDEV
American Resource Development LLC.

Planning Report - Geographic

Database:	AUS-COMPASS - EDM_15 - 32bit	**Local Co-ordinate Reference:**	Well Raes Creek Fed Com 25 36 22 085H
Company:	Ameredev Operating	**TVD Reference:**	KB=30' @ 3082.0usft
Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
16,300.0	90.00	359.47	9,715.0	6,182.9	-297.1	411,310.39	876,436.53	32.1261435	-103.2508706
16,400.0	90.00	359.47	9,715.0	6,282.8	-298.0	411,410.39	876,435.61	32.1264183	-103.2508704
16,500.0	90.00	359.47	9,715.0	6,382.8	-299.0	411,510.38	876,434.68	32.1266932	-103.2508701
16,600.0	90.00	359.47	9,715.0	6,482.8	-299.9	411,610.38	876,433.76	32.1269680	-103.2508699
16,700.0	90.00	359.47	9,715.0	6,582.8	-300.8	411,710.38	876,432.83	32.1272429	-103.2508696
16,800.0	90.00	359.47	9,715.0	6,682.8	-301.7	411,810.37	876,431.91	32.1275177	-103.2508694
16,900.0	90.00	359.47	9,715.0	6,782.8	-302.7	411,910.37	876,430.98	32.1277926	-103.2508691
17,000.0	90.00	359.47	9,715.0	6,882.8	-303.6	412,010.36	876,430.06	32.1280675	-103.2508688
17,100.0	90.00	359.47	9,715.0	6,982.8	-304.5	412,110.36	876,429.13	32.1283423	-103.2508686
17,200.0	90.00	359.47	9,715.0	7,082.8	-305.4	412,210.35	876,428.21	32.1286172	-103.2508683
17,300.0	90.00	359.47	9,715.0	7,182.8	-306.4	412,310.35	876,427.28	32.1288920	-103.2508681
17,400.0	90.00	359.47	9,715.0	7,282.8	-307.3	412,410.35	876,426.36	32.1291669	-103.2508678
17,500.0	90.00	359.47	9,715.0	7,382.8	-308.2	412,510.34	876,425.43	32.1294418	-103.2508675
17,600.0	90.00	359.47	9,715.0	7,482.8	-309.1	412,610.34	876,424.51	32.1297166	-103.2508673
17,700.0	90.00	359.47	9,715.0	7,582.8	-310.1	412,710.33	876,423.58	32.1299915	-103.2508670
17,800.0	90.00	359.47	9,715.0	7,682.8	-311.0	412,810.33	876,422.66	32.1302663	-103.2508668
17,900.0	90.00	359.47	9,715.0	7,782.8	-311.9	412,910.32	876,421.73	32.1305412	-103.2508665
18,000.0	90.00	359.47	9,715.0	7,882.8	-312.8	413,010.32	876,420.81	32.1308161	-103.2508663
18,100.0	90.00	359.47	9,715.0	7,982.8	-313.8	413,110.32	876,419.88	32.1310909	-103.2508660
18,200.0	90.00	359.47	9,715.0	8,082.8	-314.7	413,210.31	876,418.96	32.1313658	-103.2508657
18,300.0	90.00	359.47	9,715.0	8,182.8	-315.6	413,310.31	876,418.03	32.1316406	-103.2508655
18,400.0	90.00	359.47	9,715.0	8,282.8	-316.5	413,410.30	876,417.11	32.1319155	-103.2508652
18,500.0	90.00	359.47	9,715.0	8,382.8	-317.5	413,510.30	876,416.18	32.1321904	-103.2508650
18,600.0	90.00	359.47	9,715.0	8,482.8	-318.4	413,610.29	876,415.26	32.1324652	-103.2508647
18,700.0	90.00	359.47	9,715.0	8,582.7	-319.3	413,710.29	876,414.33	32.1327401	-103.2508644
18,800.0	90.00	359.47	9,715.0	8,682.7	-320.2	413,810.29	876,413.41	32.1330149	-103.2508642
18,900.0	90.00	359.47	9,715.0	8,782.7	-321.2	413,910.28	876,412.48	32.1332898	-103.2508639
19,000.0	90.00	359.47	9,715.0	8,882.7	-322.1	414,010.28	876,411.56	32.1335647	-103.2508637
19,100.0	90.00	359.47	9,715.0	8,982.7	-323.0	414,110.27	876,410.63	32.1338395	-103.2508634
19,200.0	90.00	359.47	9,715.0	9,082.7	-323.9	414,210.27	876,409.71	32.1341144	-103.2508632
19,300.0	90.00	359.47	9,715.0	9,182.7	-324.9	414,310.26	876,408.78	32.1343892	-103.2508629
19,400.0	90.00	359.47	9,715.0	9,282.7	-325.8	414,410.26	876,407.86	32.1346641	-103.2508626
19,500.0	90.00	359.47	9,715.0	9,382.7	-326.7	414,510.26	876,406.93	32.1349390	-103.2508624
19,600.0	90.00	359.47	9,715.0	9,482.7	-327.6	414,610.25	876,406.01	32.1352138	-103.2508621
19,700.0	90.00	359.47	9,715.0	9,582.7	-328.6	414,710.25	876,405.08	32.1354887	-103.2508619
19,800.0	90.00	359.47	9,715.0	9,682.7	-329.5	414,810.24	876,404.16	32.1357635	-103.2508616
19,900.0	90.00	359.47	9,715.0	9,782.7	-330.4	414,910.24	876,403.23	32.1360384	-103.2508613
20,000.0	90.00	359.47	9,715.0	9,882.7	-331.3	415,010.23	876,402.31	32.1363132	-103.2508611
20,100.0	90.00	359.47	9,715.0	9,982.7	-332.3	415,110.23	876,401.38	32.1365881	-103.2508608
20,200.0	90.00	359.47	9,715.0	10,082.7	-333.2	415,210.23	876,400.46	32.1368630	-103.2508606
20,300.0	90.00	359.47	9,715.0	10,182.7	-334.1	415,310.22	876,399.53	32.1371378	-103.2508603
20,371.9	90.00	359.47	9,715.0	10,254.5	-334.8	415,382.07	876,398.87	32.1373353	-103.2508601
LTP (RCFC 085H)									
20,400.0	90.00	359.47	9,715.0	10,282.7	-335.0	415,410.22	876,398.61	32.1374127	-103.2508600
20,421.6	90.00	359.47	9,715.0	10,304.3	-335.2	415,431.81	876,398.41	32.1374720	-103.2508600
Start 49.7 hold at 20421.6 MD - BHL (RCFC 085H)									
20,471.3	90.00	359.47	9,715.0	10,354.0	-335.7	415,481.54	876,397.95	32.1376087	-103.2508599
Start 49.7 hold at 20471.3 MD									
20,480.0	90.00	359.47	9,715.0	10,362.6	-335.8	415,490.17	876,397.87	32.1376325	-103.2508598
NMNM 136231 Exit at 20480.0 MD									
20,500.0	90.00	359.47	9,715.0	10,382.7	-336.0	415,510.21	876,397.68	32.1376875	-103.2508598
20,521.1	90.00	359.47	9,715.0	10,403.7	-336.1	415,531.27	876,397.49	32.1377454	-103.2508597
TD at 20521.1									

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Planning Report - Geographic

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Project:	Lea County, NM (N83-NME)	**MD Reference:**	KB=30' @ 3082.0usft
Site:	Raes Creek Fed Com	**North Reference:**	Grid
Well:	Raes Creek Fed Com 25 36 22 085H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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
FTP (RCFC 085H) - plan hits target center - Point	0.00	0.00	9,715.0	-102.3	-239.0	405,025.27	876,494.67	32.1088674	-103.2508868
LTP (RCFC 085H) - plan hits target center - Point	0.00	0.00	9,715.0	10,254.5	-334.8	415,382.07	876,398.88	32.1373353	-103.2508601
BHL (RCFC 085H) - plan hits target center - Point	0.00	0.00	9,715.0	10,304.3	-335.2	415,431.81	876,398.41	32.1374720	-103.2508600

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,297.0	1,297.0	Rustler		0.00	
1,776.0	1,776.0	Salado		0.00	
3,307.3	3,303.0	Tansill			
4,032.1	4,025.0	Capitan			
5,082.1	5,071.0	Lamar			
5,228.6	5,217.0	Bell Canyon			
6,753.4	6,736.0	Brushy Canyon			
7,479.1	7,459.0	Bone Spring Lime			
9,326.0	9,299.0	First Bone Spring			
9,800.9	9,668.0	Second Bone Spring			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,249.6	2,249.3	-10.2	-3.8	Start 6976.3 hold at 2249.6 MD
4,564.0	4,554.9	-198.5	-75.0	NMNM 136231 Exit at 4564.0 MD
9,225.8	9,199.1	-578.0	-218.3	KOP-Start DLS 12.00 TFO 158.71
9,917.0	9,705.1	-199.2	-237.8	NMNM 136231 Entry at 9917.0 MD
10,014.6	9,715.0	-102.3	-239.0	LP-Start 10407.0 hold at 10014.6 MD
20,421.6	9,715.0	10,304.3	-335.2	Start 49.7 hold at 20421.6 MD
20,471.3	9,715.0	10,354.0	-335.7	Start 49.7 hold at 20471.3 MD
20,480.0	9,715.0	10,362.6	-335.8	NMNM 136231 Exit at 20480.0 MD
20,521.1	9,715.0	10,403.7	-336.1	TD at 20521.1

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Ameredev Operating LLC
WELL NAME & NO.:	Rae's Creek 25 36 22 Fed Com 085H
LOCATION:	Sec 22-25S-36E-NMP
COUNTY:	Lea County, New Mexico

COA

H_2S	○ No		○ Yes	
Potash / WIPP	◉ None	○ Secretary	○ R-111-Q	☐ Open Annulus ☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☑ DV Tool
Special Req	☑ Capitan Reef	☐ Water Disposal	☑ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose ☐ Four-String	☐ Casing Clearance ☐ Offline Cementing	☐ Pilot Hole ☐ Fluid-Filled	☐ Break Testing

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1419** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

Approval Date: 12/11/2024

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 **7-5/8** inch intermediate casing is:

The operator has proposed utilize a DV tool. The selected depth is below the Salado and is an acceptable set point. Operator may adjust depth of DV tool if it remains below the Salado and cement volumes are adjusted accordingly. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool: Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
- Switch to freshwater mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

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

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

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

    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 3172 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 3171 and 3172.
- 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)

Contact Lea County Petroleum Engineering Inspection Staff:
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
        i. Notify the BLM when moving in and removing the Spudder Rig.
        ii. 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.
        iii. BOP/BOPE test to be conducted per **43 CFR 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 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-Q 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 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
    i. 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).
    ii. 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.)
    iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

iv. 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.

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

vi. 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.

vii. 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.

viii. 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 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.

H_2S Drilling Operation Plan

1. **All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:**
    a. Characteristics of H_2S
    b. Physical effects and hazards
    c. Principal and operation of H_2s detectors, warning system and briefing areas
    d. Evacuation procedure, routes and first aid
    e. Proper use of safety equipment and life support systems
    f. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

2. **Briefing Area:**
    a. Two perpendicular areas will be designated by signs and readily accessible.
    b. Upon location entry there will be a designated area to establish all safety compliance criteria (1.) has been met.

3. **H_2S Detection and Alarm Systems:**
    a. H_2S sensors/detectors shall be located on the drilling rig floor, in the base of the sub structure/cellar area, and on the mud pits in the shale shaker area. Additional H_2S detectors may be placed as deemed necessary. All detectors will be set to initiate visual alarm at 10 ppm and visual with audible at 14 ppm and all equipment will be calibrated every 30 days or as needed.
    b. An audio alarm will be installed on the derrick floor and in the top doghouse.

4. **Protective Equipment for Essential Personnel:**
    a. **Breathing Apparatus:**
        i. Rescue Packs (SCBA) - 1 Unit shall be placed at each briefing area.
        ii. Two (SCBA) Units will be stored in safety trailer on location.
        iii. Work/Escape packs - 1 Unit will be available on rig floor in doghouse for emergency evacuation for driller.
    b. **Auxiliary Rescue Equipment:**
        i. Stretcher
        ii. 2 - OSHA full body harnesses
        iii. 100 ft. 5/8” OSHA approved rope
        iv. 1 - 20# class ABC fire extinguisher

5. **Windsock and/or Wind Streamers:**
    a. Windsock at mud pit area should be high enough to be visible.
    b. Windsock on the rig floor should be high enough to be visible.

6. **Communication:**
    a. While working under mask scripting boards will be used for communication where applicable.
    b. Hand signals will be used when script boards are not applicable.

c. Two way radios will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at Drilling Foreman's Office.

7. **Drill Stem Testing:** - No Planned DST at this time.

8. **Mud program:**
   a. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

9. **Metallurgy:**

   a. All drill strings, casing, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.
   b. Drilling Contractor supervisor will be required to be familiar with the effect H_2S has on tubular goods and other mechanical equipment provided through contractor.

H_2S Contingency Plan

Emergency Procedures

In the event of a release of H_2S, the first responder(s) must:

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H_2S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response.
- Take precautions to avoid personal injury during this operation.
- Contact Operator and/or local officials the aid in operation. See list of phone numbers attached.
- Have received training in the:
    - Detection of H_2S and
    - Measures for protection against the gas,
    - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air=1	2 ppm	N/A	1000 ppm

Contacting Authorities

Ameredev Operating LLC personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including direction to site. The following call list of essential and potential responders has been prepared for use during a release. Ameredev Operating LLC's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER)

H_2S Contingency Plan

Ameredev Operating LLC – Emergency Phone 737-300-4799			
Key Personnel:			
Name	Title	Office	Mobile
Floyd Hammond	Chief Operating officer	737-300-4724	512-783-6810
Shane McNeely	Operations Engineer	737-300-4729	432-413-8593
Dayeed Khan	Construction Manager	737-300-4733	281-928-4692

Artesia	
Ambulance	911
State Police	575-748-9718
City Police	575-746-5000
Sheriff's Office	575-887-7551
Fire Department	575-746-5051
Artesia General Hospital	575-748-3333
New Mexico Oil Conservation Division	575-626-0830
Carlsbad	
Ambulance	911
State Police	575-885-3138
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-885-3125
Carlsbad Medical Center	575-887-4100
Hobbs Hospital	575-492-5000
BLM Hobbs Field Office	575-689-5981
BLM Carlsbad Field Office	575-361-2822
New Mexico Oil Conservation Division	575-626-0830
Santa Fe	
Department of Homeland Security and Emergency Management (Santa Fe)	505-476-9600
New Mexico State Emergency Operations Center	505-476-9635
National	
National Emergency Response Center (Washington, D.C.)	800-424-8802
Medical	
Aerocare - R3, Box 49F; Lubbock, TX	800-627-2376
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
Lifeguard Air Emergency Services- 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-243-2343

5M Annular Preventer Variance Request and Well Control Procedures

Note: A copy of the Well Control Plan must be available at multiple locations on the rig for review by rig personnel, as well as review by the BLM PET/PE, and a copy must be maintained on the rig floor.

Dual Isolation Design for 5M Annular Exception

Ameredev will utilize 13-5/8" 10M (5M Annular) BOPE System consisting of:

- 13-5/8" 5M Annular
- 13-5/8" 10M Upper Pipe Rams
  - 3-1/2" – 5-1/2" Variable Bore Ram
- 13-5/8" 10M Blind Rams
- 13-5/8" 10M Drilling Spool /w 2 - 4" 10M Outlets Double 10M Isolation Valves
- 13-5/8" 10M Lower Blind Rams
  - 3-1/2" – 5-1/2" Variable Bore Ram

All drilling components and casing associated to exposure > 5000 psi BHP requiring a 10M system will have a double isolation (secondary barrier) below the 5M Annular that would provide a barrier to flow. The mud system will always be primary barrier, it will be maintained by adjusting values based on tourly mud tests and monitoring a PVT System to maintain static wellbore conditions, displacement procedures will be followed and recorded on daily drilling reports during tripping operations. Surge and swab pressure values will be calculated and maintained and static flow check will be monitored at previous casing shoe and verified static well conditions prior to tripping out of hole and again prior to pulling last joint of drill pipe through BOPE. The below table, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Drill Components	Size	Primary Barrier	Secondary Barrier	Third Barrier
Drillpipe	3-1/2"-5-1/2"	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
HWDP Drillpipe	3-1/2"-5-1/2"	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
Drill Collars	3-1/2"-5-1/2"	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
Production Casing	3-1/2"-5-1/2"	Drilling Fluid	Upper Pipe Rams	Lower Pipe Rams
0pen Hole	13-5/8	Drilling Fluid	Blind Rams	
All Drilling Components in 10M Environment will have OD that will allow full Operational RATED WORKING PRESSURE for system design. Kill line with minimum 2" ID will be available outside substructure with 10M Check Valve for OOH Kill Operations				

Well Control Procedures

Proper well control procedures are dependent to differentiating well conditions, to cover the basic well control operations there are will be standard drilling ahead, tripping pipe, tripping BHA, running casing, and pipe out of the hole/open hole scenarios that will be defined by procedures below. Initial Shut In Pressure can be taken against the Uppermost BOPE component the 5M Annular, pressure control can be transferred from the lesser 5M Annular to the 10M Upper Pipe Rams if needed. Shut In Pressures may be equal to or less than the Rated Working Pressure but at no time will the pressure on the annular preventer exceed the Rated Working Pressure of the annular. The annular will be tested to 5,000 psi. This will be the Rated Working Pressure of the annular preventer. All scenarios will be written such as shut in will be performed by closing the 10,000 psi Upper Pipe Rams for faster Accumulator pressure recovery to allow safer reaction to controlling wellbore pressure.

Shutting In While Drilling

1. Sound alarm signaling well control event to Rig Crew
2. Space out drill string to allow FOSV installation
3. Shut down pumps
4. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
5. Install open, full open safety valve and close valve, Close Chokes
6. Verify well is shut-in and flow has stopped
7. Notify supervisory personnel
8. Record data (SIDP, SICP, Pit Gain, and Time)
9. Hold pre-job safety meeting and discuss kill procedure

Shutting In While Tripping

1. Sound alarm signaling well control event to Rig Crew
2. Space out drill string to allow FOSV installation
3. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
4. Install open, full open safety valve and close valve, Close Chokes
5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold pre-job safety meeting and discuss kill procedure

Shutting In While Running Casing

1. Sound alarm signaling well control event to Rig Crew
2. Space out casing to allow circulating swedge installation
3. Shut in Upper Pipe Rams and open HCR against Open Chokes and Valves Open to working pressure gauge
4. Install circulating swedge, Close high pressure, low torque valves, Close Chokes
5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold Pre-job safety meeting and discuss kill procedure

Shutting in while out of hole

1. Sound alarm signaling well control event to Rig Crew
2. Shut-in well: close blind rams and open HCR against Open Chokes and Valves Open to working pressure gauge
3. Close Chokes, Verify well is shut-in and monitor pressures
4. Notify supervisory personnel
5. Record data (SIDP, SICP, Pit Gain, and Time)
6. Hold Pre-job safety meeting and discuss kill procedure

Shutting in prior to pulling BHA through stack

Prior to pulling last joint of drill pipe thru the stack space out and check flow
If flowing see steps below.

1. Sound alarm signaling well control event to Rig Crew
2. Shut in upper pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
3. Install open, full open safety valve and close valve, Close Chokes
4. Verify well is shut-in and flow has stopped
5. Notify supervisory personnel
6. Record data (SIDP, SICP, Pit Gain, and Time)
7. Hold pre-job safety meeting and discuss kill procedure

Shutting in while BHA is in the stack and ram preventer and combo immediately available

1. Sound alarm signaling well control event to Rig Crew
2. Space out BHA with upset just beneath the compatible pipe ram
3. Shut in upper compatible pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
4. Install open, full open safety valve and close valve, Close Chokes
5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold pre-job safety meeting and discuss kill procedure

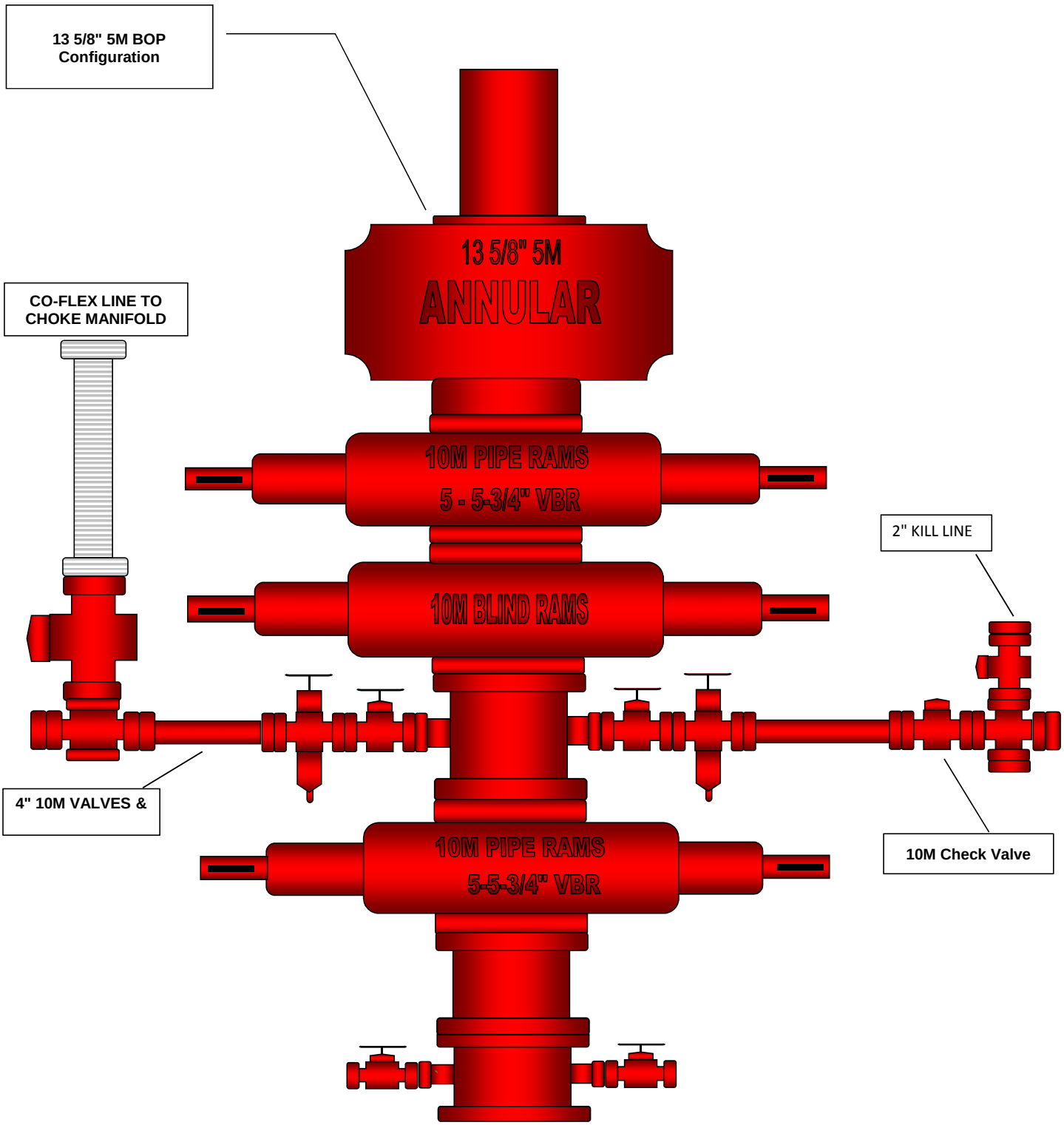
*FOSV will be on rig floor in open position with operating handle for each type of connection utilized and tested to 10,000 psi

Shutting in while BHA is in the stack and no ram preventer or combo immediately available

1. Sound alarm signaling well control event to Rig Crew
2. If possible pick up high enough, to pull string clear and follow “Open Hole” scenario

If not possible to pick up high enough:

3. Stab Crossover, make up one joint/stand of drill pipe, and install open, full open safety valve (Leave Open)
4. Space out drill string with upset just beneath the compatible pipe ram.
5. Shut in upper compatible pipe ram and open HCR against Open Chokes and Valves Open to working pressure gauge
6. Close FOSV, Close Chokes, Verify well is shut-in and flow has stopped
7. Notify supervisory personnel
8. Record data (SIDP, SICP, Pit Gain, and Time)
9. Hold pre-job safety meeting and discuss kill procedure


13 5/8" 5M BOP Configuration
13 5/8" 5M
ANNULAR
CO-FLEX LINE TO CHOKE MANIFOLD
10M PIPE RAMS
5 - 5-3/4" VBR
2" KILL LINE
10M BLIND RAMS
4" 10M VALVES &
10M PIPE RAMS
5-5-3/4" VBR
10M Check Valve

Pressure Control Plan

Pressure Control Equipment

- Following setting of 13-3/8” Surface Casing Ameredev will install 13-5/8 MB4 Multi Bowl Casing Head by welding on a 13-5/8 SOW x 13-5/8” 5M in combination with 13-5/8 5M x 13-5/8 10M B-Sec to Land Intm #1 and a 13-5/8 10M x 13-5/8 10M shouldered to land C-Sec to Land Intm #2 (Installation procedure witnessed and verified by a manufacturer’s representative).

- Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Ameredev will install a 5M System Blowout Preventer (BOPE) with a 5M Annular Preventer and related equipment (BOPE). Full testing will be performed utilizing a full isolation test plug and limited to 5,000 psi MOP of MB4 Multi Bowl Casing Head. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 50% of approved working pressure (2,500 psi). Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Setting of 9-5/8” (7-5/8" as applicable) Intermediate will be done by landing a wellhead hanger in the 13-5/8” 5M Bowl, Cementing and setting Well Head Packing seals and testing same. (Installation procedure witnessed and verified by a manufacturer’s representative) Casing will be tested to 1500 psi or .22 psi/ft whichever is greater for 30 minutes with <10% leak off, but will not exceed 70% of the burst rating per Onshore Order No. 2.

- Full testing will be performed utilizing a full isolation test plug to 10,000 psi MOP of MB4 Multi Bowl B-Section. Pressure will be held for 10 min or until provisions of test are met on all valves and rams. The 5M Annular Preventer will be tested to 100% of approved working pressure (5,000 psi).

- Before drilling >20ft of new formation under the 9-5/8” (7-5/8" as applicable) Casing Shoe a pressure integrity test of the Casing Shoe will be performed to minimum of the MWE anticipated to control formation pressure to the next casing depth.

- Following setting of 5-1/2” Production Casing and adequate WOC time Ameredev will break 10M System Blowout Preventer (BOP) from 10M DOL-2 Casing Head, install annulus casing slips and test same (Installation procedure witnessed and verified by a manufacturer’s representative) and install 11” 10M x 5-1/8” 15M Tubing Head (Installation procedure witnessed and verified by a manufacturer’s representative). Ameredev will test head to 70% casing design and install Dry Hole cap with needle valve and pressure gauge to monitor well awaiting completion.

AMEREDEV
American Resource Development LLC

Pressure Control Plan

- Slow pump speeds will be taken daily by each crew and recorded on Daily Drilling Report after mudding up.
- A choke manifold and accumulator with floor and remote operating stations will be functional and in place after installation of BOPE, as well as full functioning mud gas separator.
- Weekly BOPE pit level drills will be conducted by each crew and recorded on Daily Drilling Report.
- BOP will be fully operated when out of hole and will be documented on the daily drilling log.
- All B.O.P.s and associated equipment will be tested in accordance with Onshore Order #2
- All B.O.P. testing will be done by an independent service company.
- The B.O.P. will be tested within 21 days of the original test if drilling takes more time than planned.
- Ameredev requests a variance to connect the B.O.P. choke outlet to the choke manifold using a co-flex hose with a 10,000 psi working pressure that has been tested to 15,000psi and is built to API Spec 16C. Once the flex line is installed it will be tied down with safety clamps. (certifications will be sent to Carlsbad BLM Office prior to install)
- Ameredev requests a variance to install a 5M Annular Preventer on the 10M System to drill the Production Hole below the 9-5/8” (7-5/8" as applicable) Intermediate Section. 5M Annular will be tested to 100% working pressure (5,000 psi). A full well control procedure will be included to isolate well bore.

Sante Fe Main Office
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General Information
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Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: MATADOR PRODUCTION COMPANY One Lincoln Centre Dallas, TX 75240	OGRID: 228937
	Action Number: 425323
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
nfitzgerald	Cement is required to circulate on both surface and intermediate1 strings of casing.	1/27/2025
nfitzgerald	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	1/27/2025
pkautz	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/6/2025
pkautz	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.	2/6/2025
pkautz	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.	2/6/2025