

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

HOBBS OCD
MAR 11 2020
RECEIVED

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM137470
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator AMEREDEV OPERATING LLC (372224)		8. Lease Name and Well No. HOLLY FED COM 26 36 05 103H (726326)
3a. Address 5707 Southwest Parkway, Building 1, Suite 275 Austin TX	3b. Phone No. (include area code) (737)300-4700	9. API Well No. 30-025-46980
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface LOT C / 230 FNL / 1710 FWL / LAT 32.0789464 / LONG -103.2901537 At proposed prod. zone LOT N / 50 FSL / 1672 FWL / LAT 32.05068 / LONG -103.2944049		10. Field and Pool, or Exploratory JATY WOLFCAMP WEST 98234
11. Sec., T. R. M. or Blk. and Survey or Area SEC 5 / T26S / R36E / NMP		12. County or Parish LEA
13. State NM		14. Distance in miles and direction from nearest town or post office* 6.5 miles
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 230 feet	16. No of acres in lease 440	17. Spacing Unit dedicated to this well 640
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1347 feet	19. Proposed Depth 11667 feet / 22253 feet	20. BLM/BIA Bond No. in file FED: NMB001478
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3001 feet	22. Approximate date work will start* 10/01/2019	23. Estimated duration 90 days

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Christie Hanna / Ph: (737)300-4723	Date 02/10/2019
Title Senior Engineering Technician		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 03/06/2020
Title Assistant Field Manager Lands & Minerals CARLSBAD		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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

GCP Rec 03/11/2020

APPROVED WITH CONDITIONS

K2
03/11/2020

SL
(Continued on page 2)

*(Instructions on page 2)

Approval Date: 03/06/2020

Approval Date: 03/06/2020



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

Application Data Report

03/09/2020

APD ID: 10400037357

Submission Date: 02/10/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - General

APD ID: 10400037357

Tie to previous NOS? N

Submission Date: 02/10/2019

BLM Office: CARLSBAD

User: Christie Hanna

Title: Senior Engineering Technician

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM137470

Lease Acres: 440

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: AMEREDEV OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: AMEREDEV OPERATING LLC

Operator Address: 5707 Southwest Parkway, Building 1, Suite 275

Zip: 78735

Operator PO Box:

Operator City: Austin

State: TX

Operator Phone: (737)300-4700

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: JAL

Pool Name: WOLFCAMP
WEST

Is the proposed well in an area containing other mineral resources? USEABLE WATER NATURAL GAS CO2 OIL

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,CO2,OIL

Is the proposed well in a Helium production area? N Use Existing Well Pad? NO New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:

Number: 103H

Well Class: HORIZONTAL

HOLLY

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 6.5 Miles

Distance to nearest well: 1347 FT

Distance to lease line: 230 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: HOLLY_FED_COM_26_36_05_103H__BLM_LEASE_MAP_20190210141147.pdf

HOLLY_FED_COM_26_36_05_103H__C_102_20190210141156.pdf

HOLLY_FED_COM_26_36_05_103H__EXH_2AB_20190210141206.pdf

HOLLY_FED_COM_26_36_05_103H__VICINITY_MAP_20190210141239.pdf

HOLLY_FED_COM_26_36_05_103H__GAS_CAPTURE_PLAN_20190210141302.pdf

Well work start Date: 10/01/2019

Duration: 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 18329

Reference Datum:

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #4	230	FNL	171 0	FW L	26S	36E	5	Lot C	32.07894 64	- 103.2901 537	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137470	300 1	0	0	

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
KOP Leg #1	225	FSL	190 3	FW L	25S	36E	32	Aliquot SESW	32.08019	- 103.2895 1	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 812 4	111 50	111 25	
PPP Leg #1-1	0	FNL	172 6	FW L	26S	36E	8	Aliquot NENW	32.06503	- 103.2902 5	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137473	- 866 6	170 30	116 67	
PPP Leg #1-2	132 0	FSL	171 1	FW L	26S	36E	5	Aliquot SESW	32.06869	- 103.2902 6	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 006727	- 866 6	157 00	116 67	
EXIT Leg #1	50	FSL	167 2	FW L	26S	36E	8	Aliquot SESW	32.05068	- 103.2944	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137473	- 866 6	222 53	116 67	
BHL Leg #1	50	FSL	167 2	FW L	26S	36E	8	Lot N	32.05068	- 103.2944 049	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 137473	- 866 6	222 53	116 67	



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

Drilling Plan Data Report

03/09/2020

APD ID: 10400037357

Submission Date: 02/10/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
394470	RUSTLER ANHYDRITE	3001	1175	1175	ANHYDRITE	NONE	N
394471	SALADO	1387	1614	1614	ANHYDRITE, SALT	NONE	N
394473	TANSILL	-406	3407	3407	LIMESTONE	NONE	N
394474	CAPITAN REEF	-879	3880	3880	LIMESTONE	USEABLE WATER	N
394472	LAMAR	-2082	5083	5083	LIMESTONE	NONE	N
394475	BELL CANYON	-2206	5207	5207	SANDSTONE	NATURAL GAS, OIL	N
394476	BRUSHY CANYON	-4148	7149	7149	SANDSTONE	NATURAL GAS, OIL	N
394477	BONE SPRING LIME	-5175	8176	8176	LIMESTONE	NONE	N
394478	BONE SPRING 1ST	-6563	9564	9564	SANDSTONE	NATURAL GAS, OIL	N
394479	BONE SPRING 2ND	-7084	10085	10085	SANDSTONE	NATURAL GAS, OIL	N
394480	BONE SPRING 3RD	-7639	10640	10640	LIMESTONE	NONE	N
394481	BONE SPRING 3RD	-8238	11239	11239	SANDSTONE	NATURAL GAS, OIL	N
394482	WOLFCAMP	-8516	11517	11517	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Pressure Rating (PSI): 10M

Rating Depth: 15000

Equipment: 10M BOPE SYSTEM WILL BE USED AFTER THE SURFACE CASING IS SET. A KELLY COCK WILL BE KEPT IN THE DRILL STRING AT ALL TIMES. A FULL OPENING DRILL PIPE STABBING VALVE WITH PROPER DRILL PIPE CONNECTIONS WILL BE ON THE RIG FLOOR AT ALL TIMES.

Requesting Variance? YES

Variance request: Co-Flex Choke Line, 5M Annular Preventer

Testing Procedure: See attached

Choke Diagram Attachment:

10M_Choke_Manifold_REV_20190210150953.pdf

BOP Diagram Attachment:

5M_Annular_Preventer_Variance_and_Well_Control_Plan_20190210151032.pdf

5M_BOP_System_20190210151036.pdf

Pressure_Control_Plan_Single_Well_MB4_3String_Big_Hole_BLM_20190210151037.pdf

4_String_MB_Ameredev_Wellhead_Drawing_net_REV_20190210151102.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1300	0	1300	3001		1300	J-55	54.5	OTHER - BTC	7.06	0.52	DRY	12.91	DRY	12.04
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	10765	0	10765			10765	HCL-80	40	OTHER - BTC	1.27	1.11	DRY	2.17	DRY	2.18
3	PRODUCTION	8.5	5.5	NEW	API	N	0	22253	0	11667			22253	OTHER	20	OTHER - BTC	1.58	1.69	DRY	2.81	DRY	3.12

Casing Attachments

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

13.375_54.50_J55_SEAH_20190210152910.pdf

Holly_Fed_Com_26_36_05_103H_Wellbore_Diagram_and_CDA_20190210152942.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Holly_Fed_Com_26_36_05_103H_Wellbore_Diagram_and_CDA_20190210153428.pdf

9625_40_SeAH80HC_4100_Collapse_20190210153455.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

5.50_20_USS_P110_HC_BTC_API_20190210153903.pdf

Holly_Fed_Com_26_36_05_103H_Wellbore_Diagram_and_CDA_20190210153936.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead					1.76					
SURFACE	Tail										
INTERMEDIATE	Lead					2.47					
INTERMEDIATE	Tail										
INTERMEDIATE	Lead					2.47					
INTERMEDIATE	Tail										
PRODUCTION	Lead					1.34					

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: All necessary supplies (e.g. bentonite, cedar bark) for fluid control will be on site.

Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the circulating system to monitor pit volume, flow rate, pump pressure, and pump rate.

Circulating Medium Table

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1300	WATER-BASED MUD	8.4	8.6							
1300	1076 5	OTHER : DIESEL BRINE EMULSION	8.5	9.4							
1076 5	1166 7	OIL-BASED MUD	10.5	14							

Section 6 - Test, Logging, Coring

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

A directional survey, measurement while drilling and a mudlog/geologic lithology log will all be run from surface to TD.

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

DS,MWD,MUDLOG

Coring operation description for the well:

No coring will be done on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5000

Anticipated Surface Pressure: 2433.25

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20190210162929.pdf

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Hol103_DR_20190210163134.pdf

Hol103_LLRR_20190210163136.pdf

5M_Annular_Preventer_Variance_and_Well_Control_Plan_20190210163252.pdf

Pressure_Control_Plan_Single_Well_MB4_3String_Big_Hole_BLM_20190210163254.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Other Variance attachment:

R616__CoC_for_hoses_12_18_17_20190210163529.pdf

Requested_Exceptions__3_String_Revised_01312019_20190210163531.pdf

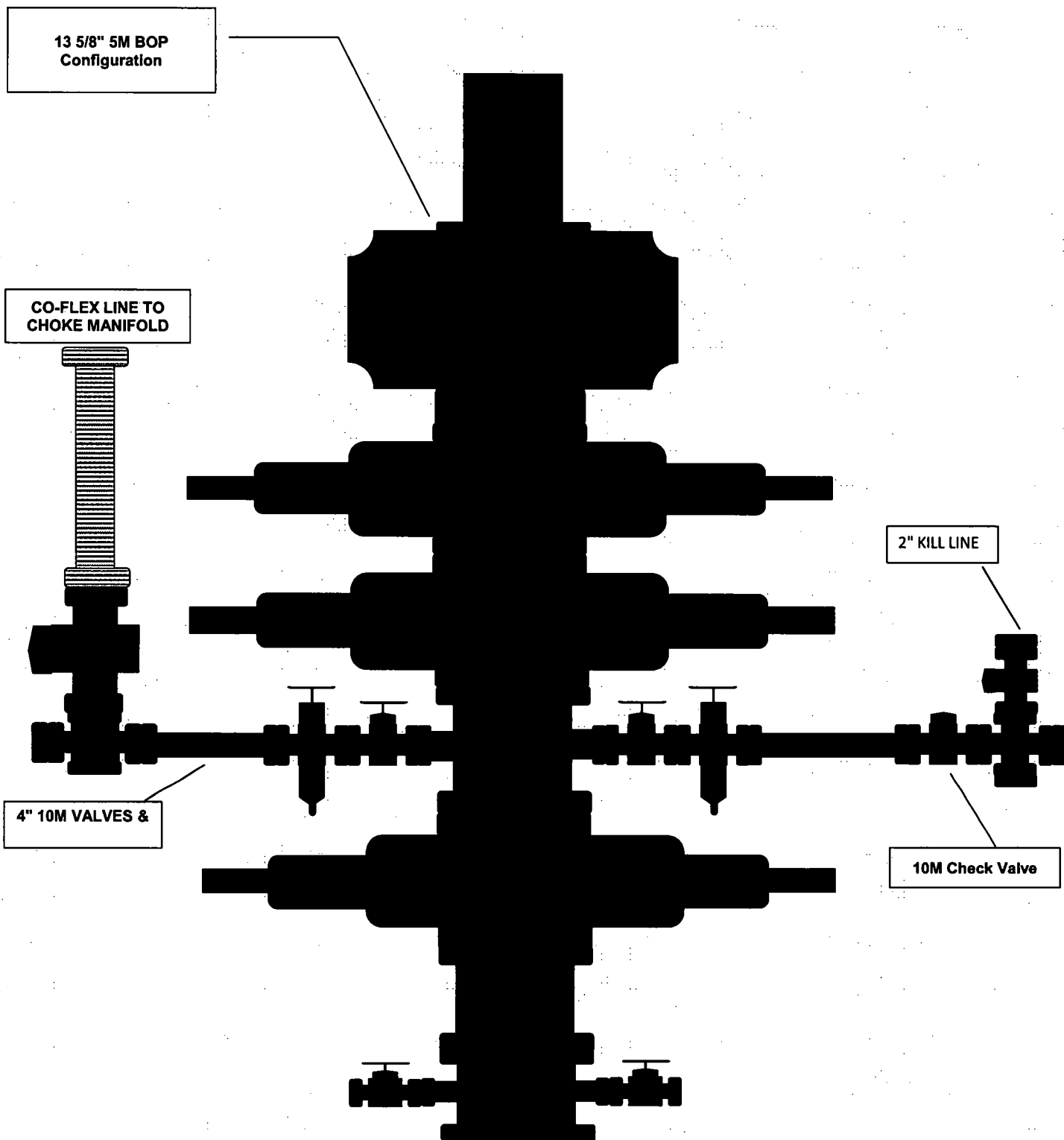
13 5/8" 5M BOP
Configuration

CO-FLEX LINE TO
CHOKE MANIFOLD

2" KILL LINE

4" 10M VALVES &

10M Check Valve



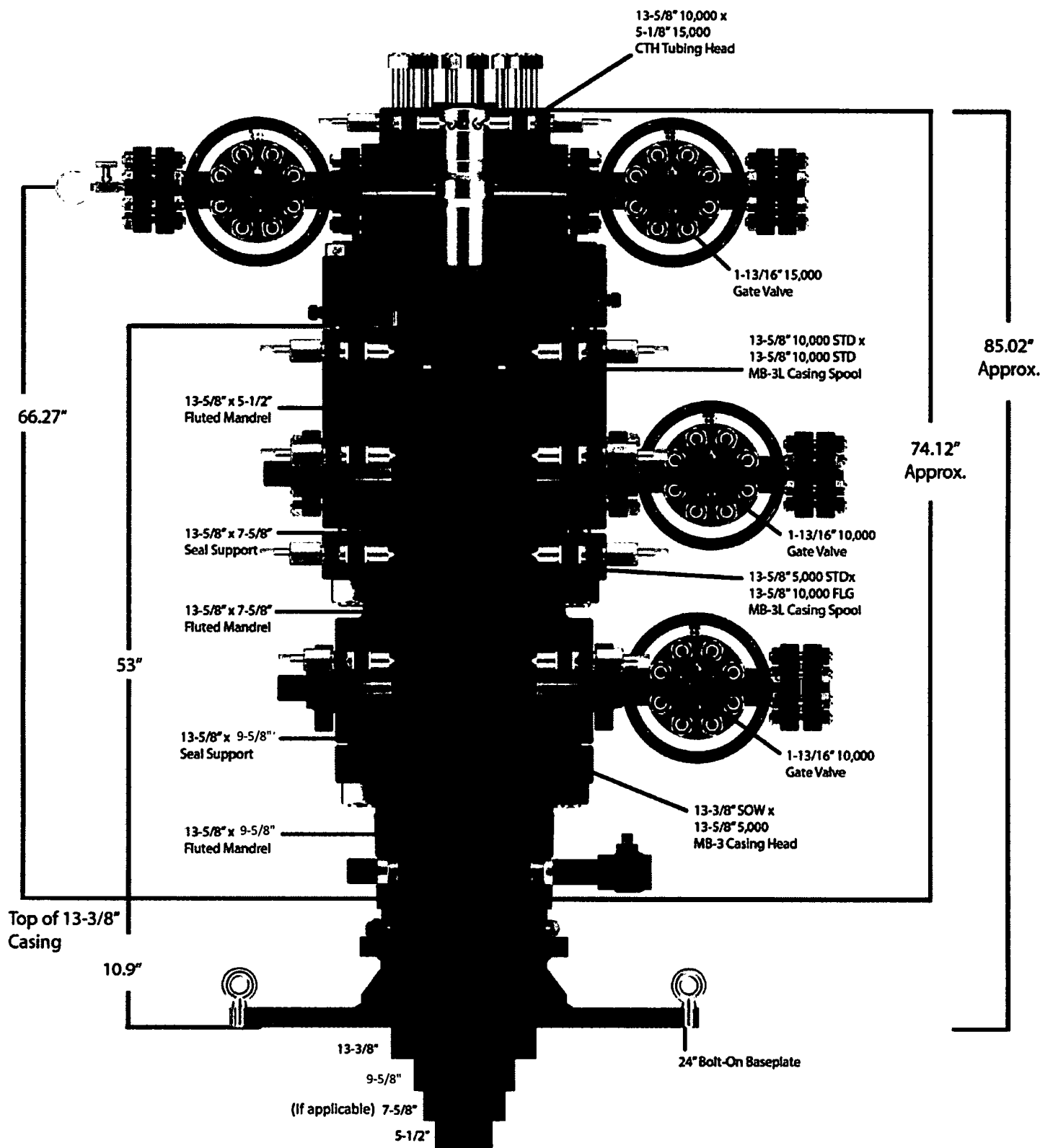
Pressure Control Plan

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" 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" 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.

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" 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.



Quotation

Downing Wellhead Equipment

Oklahoma City,
Oklahoma - USA

Reference Data:

16925 AMEREDEV

Proprietary and Confidential

The information contained in this drawing is the sole property of Downing Wellhead Equipment, any reproduction in part or in whole without the written permission of Downing Wellhead Equipment is prohibited.

TITLE:

AMEREDEV

DRAWN

CHECKED

APPROVED

SIZE

A

Scale:

DWG. NO.

Weight:

REV

Sheet:

Wellbore Schematic

Well: Holly Fed Com 26-36-05 103H
SHL: Sec. 05 26S-36E 230' FNL & 1710' FWL
BHL: Sec. 08 26S-36E 50' FSL & 1672' FWL
 Lea, NM
Wellhead: A - 13-5/8" 10M x 13-5/8" SOW
 B - 13-5/8" 10M x 13-5/8" 10M
 C - 13-5/8" 10M x 13-5/8" 10M
 Tubing Spool - 5-1/8" 15M x 13-3/8" 10M
Xmas Tree: 2-9/16" 10M
Tubing: 2-7/8" L-80 6.5# 8rd EUE

Co. Well ID: xxxxxx
AFE No.: xxxx-xxx
API No.: xxxxxxxxxxxx
GL: 3,001'
Field: Delaware
Objective: Wolfcamp A
TVD: 11,667'
MD: 22,253'
Rig: TBD **KB:** 27'
E-Mail: Wellsite2@ameredev.com

Hole Size	Formation Tops		Logs Cement		Mud Weight
17.5"		Rustler 1,175'		817 Sacks TOC 0' 100% Excess	8.4-8.6 ppg WBM
		13.375" 54.5# J-55 BTC 1,300'			
12.25"		Salado 1,614'		905 Sacks TOC 0' 50% Excess	8.5 - 9.4 ppg Diesel Brine Emulsion
		Tansill 3,407'			
		Capitan Reef 3,880'			
		Lamar 5,083'			
		DV Tool 5,133'			
		Bell Canyon 5,207'		1,723 Sacks TOC 0' 50% Excess	
		Brushy Canyon 7,149'			
		Bone Spring Lime 8,176'			
		First Bone Spring 9,564'			
		Second Bone Spring 10,085'			
		Third Bone Spring Upper 10,640'			
		9.625" 40# L-80HC BTC 10,765'			
8.5"		Third Bone Spring 11,239'		4,751 Sacks TOC 0' 25% Excess	10.5 - 14 ppg OBM
		Wolfcamp A 11,517'			
		5.5" 20# P-110CYHP BTC 22,253'			
12° Build @ 11,150' MD thru 12,040' MD		Target Wolfcamp A 11667 TVD // 22253 MD			

Casing Design and Safety Factor Check

Casing Specifications						
Segment	Hole ID	Depth	OD	Weight	Grade	Coupling
Surface	17.5	1,300'	13.375	54.5	J-55	BTC
Intermediate	12.25	10,765'	9.625	40	HCL-80	BTC
Prod Segment A	8.5	11,150'	5.5	20	CYHP-110	BTC
Prod Segment B	8.5	22,253'	5.5	20	CYHP-110	BTC

Check Surface Casing				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
14.375	853	915	4,100	2,730
Safety Factors				
1.56	12.04	12.91	7.06	0.52
Check Intermediate Casing				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
7.625	940	558	6700	9460
Safety Factors				
2.31	2.18	2.23	1.27	1.11
Check Prod Casing, Segment A				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
5.777	728	655	12780	14360
Safety Factors				
1.36	3.12	2.81	1.58	1.69
Check Prod Casing, Segment B				
OD Cplg	Body	Joint	Collapse	Burst
<i>inches</i>	<i>1000 lbs</i>	<i>1000 lbs</i>	<i>psi</i>	<i>psi</i>
5.777	728	655	12780	14360
Safety Factors				
1.36	70.41	63.35	1.51	1.69

H₂S Drilling Operation Plan

1. **All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:**
 - a. Characteristics of H₂S
 - b. Physical effects and hazards
 - c. Principal and operation of H₂S 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. **H₂S Detection and Alarm Systems:**
 - a. H₂S 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 H₂S 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/Escapes 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.

H₂S Drilling Operation Plan

- 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 H₂S service.
- b. Drilling Contractor supervisor will be required to be familiar with the effect H₂S has on tubular goods and other mechanical equipment provided through contractor.

H₂S Contingency Plan

Emergency Procedures

In the event of a release of H₂S, 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 H₂S 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 H₂S 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	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)

H₂S 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
Zachary Boyd	Operations Superintendent	737-300-4725	432-385-6996
Blake Estrada	Construction Foreman		432-385-5831

Artesia

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

Carlsbad

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

Santa Fe

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

National

National Emergency Response Center (Washington, D.C.)	800-424-8802
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Medical

Flight for Life - 4000 24th St.; Lubbock, TX	806-743-9911
Aerocare - R3, Box 49F; Lubbock, TX	806-747-8923
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949



Ameredev Operating, LLC.

RB/HOL

RB/HOL #4S

Holly 103H

Wellbore #1

Plan: FTP2

Standard Planning Report

06 February, 2019

Database:	EDM5000	Local Co-ordinate Reference:	Well Holly 103H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3028.0usft
Project:	RB/HOL	MD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	North Reference:	Grid
Well:	Holly 103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	FTP2		

Project	RB/HOL		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		RB/HOL #4S			
Site Position:		Northing:	394,020.11 usft	Latitude:	32° 4' 44.207 N
From:	Lat/Long	Easting:	864,441.19 usft	Longitude:	103° 17' 24.553 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55

Well	Holly 103H					
Well Position	+N/-S	0.0 usft	Northing:	394,020.11 usft	Latitude:	32° 4' 44.207 N
	+E/-W	0.0 usft	Easting:	864,441.19 usft	Longitude:	103° 17' 24.553 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,001.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/13/2018	6.65	59.95	47,753.14815967

Design	FTP2			
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	179.59

Plan Survey Tool Program	Date 2/6/2019			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,253.2 FTP2 (Wellbore #1)	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	
2,300.0	6.00	23.00	2,299.5	14.4	6.1	2.00	2.00	0.00	23.00	
6,724.8	6.00	23.00	6,700.0	440.2	186.9	0.00	0.00	0.00	0.00	
7,024.8	0.00	0.00	6,999.5	454.6	193.0	2.00	-2.00	0.00	180.00	
11,150.3	0.00	0.00	11,125.0	454.6	193.0	0.00	0.00	0.00	0.00	
11,531.9	44.90	223.91	11,468.7	352.3	94.5	11.77	11.77	0.00	223.91	
12,040.1	90.00	179.36	11,667.0	-70.0	-39.4	11.77	8.87	-8.77	-54.26	Hol103 FTP2
22,253.2	90.00	179.36	11,667.0	-10,282.5	74.1	0.00	0.00	0.00	0.00	Hol103 BHL

Database:	EDM5000	Local Co-ordinate Reference:	Well Holly 103H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3028.0usft
Project:	RB/HOL	MD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	North Reference:	Grid
Well:	Holly 103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	FTP2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	2.00	23.00	2,100.0	1.6	0.7	-1.6	2.00	2.00	0.00
2,200.0	4.00	23.00	2,199.8	6.4	2.7	-6.4	2.00	2.00	0.00
2,300.0	6.00	23.00	2,299.5	14.4	6.1	-14.4	2.00	2.00	0.00
2,400.0	6.00	23.00	2,398.9	24.1	10.2	-24.0	0.00	0.00	0.00
2,500.0	6.00	23.00	2,498.4	33.7	14.3	-33.6	0.00	0.00	0.00
2,600.0	6.00	23.00	2,597.8	43.3	18.4	-43.2	0.00	0.00	0.00
2,700.0	6.00	23.00	2,697.3	52.9	22.5	-52.8	0.00	0.00	0.00
2,800.0	6.00	23.00	2,796.7	62.6	26.6	-62.4	0.00	0.00	0.00
2,900.0	6.00	23.00	2,896.2	72.2	30.6	-72.0	0.00	0.00	0.00
3,000.0	6.00	23.00	2,995.6	81.8	34.7	-81.5	0.00	0.00	0.00
3,100.0	6.00	23.00	3,095.1	91.4	38.8	-91.1	0.00	0.00	0.00
3,200.0	6.00	23.00	3,194.5	101.0	42.9	-100.7	0.00	0.00	0.00
3,300.0	6.00	23.00	3,294.0	110.7	47.0	-110.3	0.00	0.00	0.00
3,400.0	6.00	23.00	3,393.4	120.3	51.1	-119.9	0.00	0.00	0.00
3,500.0	6.00	23.00	3,492.9	129.9	55.1	-129.5	0.00	0.00	0.00
3,600.0	6.00	23.00	3,592.3	139.5	59.2	-139.1	0.00	0.00	0.00
3,700.0	6.00	23.00	3,691.8	149.2	63.3	-148.7	0.00	0.00	0.00
3,800.0	6.00	23.00	3,791.2	158.8	67.4	-158.3	0.00	0.00	0.00
3,900.0	6.00	23.00	3,890.7	168.4	71.5	-167.9	0.00	0.00	0.00
4,000.0	6.00	23.00	3,990.1	178.0	75.6	-177.5	0.00	0.00	0.00
4,100.0	6.00	23.00	4,089.6	187.6	79.6	-187.1	0.00	0.00	0.00
4,200.0	6.00	23.00	4,189.0	197.3	83.7	-196.7	0.00	0.00	0.00
4,300.0	6.00	23.00	4,288.5	206.9	87.8	-206.2	0.00	0.00	0.00
4,400.0	6.00	23.00	4,387.9	216.5	91.9	-215.8	0.00	0.00	0.00
4,500.0	6.00	23.00	4,487.4	226.1	96.0	-225.4	0.00	0.00	0.00
4,600.0	6.00	23.00	4,586.9	235.7	100.1	-235.0	0.00	0.00	0.00
4,700.0	6.00	23.00	4,686.3	245.4	104.2	-244.6	0.00	0.00	0.00
4,800.0	6.00	23.00	4,785.8	255.0	108.2	-254.2	0.00	0.00	0.00
4,900.0	6.00	23.00	4,885.2	264.6	112.3	-263.8	0.00	0.00	0.00
5,000.0	6.00	23.00	4,984.7	274.2	116.4	-273.4	0.00	0.00	0.00
5,100.0	6.00	23.00	5,084.1	283.9	120.5	-283.0	0.00	0.00	0.00
5,200.0	6.00	23.00	5,183.6	293.5	124.6	-292.6	0.00	0.00	0.00
5,300.0	6.00	23.00	5,283.0	303.1	128.7	-302.2	0.00	0.00	0.00

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: RB/HOL
Site: RB/HOL #4S
Well: Holly 103H
Wellbore: Wellbore #1
Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
TVD Reference: KB @ 3028.0usft
MD Reference: KB @ 3028.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	6.00	23.00	5,382.5	312.7	132.7	-311.8	0.00	0.00	0.00
5,500.0	6.00	23.00	5,481.9	322.3	136.8	-321.4	0.00	0.00	0.00
5,600.0	6.00	23.00	5,581.4	332.0	140.9	-330.9	0.00	0.00	0.00
5,700.0	6.00	23.00	5,680.8	341.6	145.0	-340.5	0.00	0.00	0.00
5,800.0	6.00	23.00	5,780.3	351.2	149.1	-350.1	0.00	0.00	0.00
5,900.0	6.00	23.00	5,879.7	360.8	153.2	-359.7	0.00	0.00	0.00
6,000.0	6.00	23.00	5,979.2	370.5	157.2	-369.3	0.00	0.00	0.00
6,100.0	6.00	23.00	6,078.6	380.1	161.3	-378.9	0.00	0.00	0.00
6,200.0	6.00	23.00	6,178.1	389.7	165.4	-388.5	0.00	0.00	0.00
6,300.0	6.00	23.00	6,277.5	399.3	169.5	-398.1	0.00	0.00	0.00
6,400.0	6.00	23.00	6,377.0	408.9	173.6	-407.7	0.00	0.00	0.00
6,500.0	6.00	23.00	6,476.4	418.6	177.7	-417.3	0.00	0.00	0.00
6,600.0	6.00	23.00	6,575.9	428.2	181.8	-426.9	0.00	0.00	0.00
6,700.0	6.00	23.00	6,675.3	437.8	185.8	-436.5	0.00	0.00	0.00
6,724.8	6.00	23.00	6,700.0	440.2	186.9	-438.8	0.00	0.00	0.00
6,800.0	4.50	23.00	6,774.9	446.5	189.5	-445.1	2.00	-2.00	0.00
6,900.0	2.50	23.00	6,874.7	452.1	191.9	-450.7	2.00	-2.00	0.00
7,000.0	0.50	23.00	6,974.7	454.5	192.9	-453.1	2.00	-2.00	0.00
7,024.8	0.00	0.00	6,999.5	454.6	193.0	-453.2	2.00	-2.00	0.00
7,100.0	0.00	0.00	7,074.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,174.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,300.0	0.00	0.00	7,274.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,400.0	0.00	0.00	7,374.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,500.0	0.00	0.00	7,474.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,600.0	0.00	0.00	7,574.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,700.0	0.00	0.00	7,674.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,800.0	0.00	0.00	7,774.7	454.6	193.0	-453.2	0.00	0.00	0.00
7,900.0	0.00	0.00	7,874.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,000.0	0.00	0.00	7,974.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,100.0	0.00	0.00	8,074.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,200.0	0.00	0.00	8,174.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,300.0	0.00	0.00	8,274.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,400.0	0.00	0.00	8,374.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,500.0	0.00	0.00	8,474.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,600.0	0.00	0.00	8,574.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,700.0	0.00	0.00	8,674.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,800.0	0.00	0.00	8,774.7	454.6	193.0	-453.2	0.00	0.00	0.00
8,900.0	0.00	0.00	8,874.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,000.0	0.00	0.00	8,974.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,100.0	0.00	0.00	9,074.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,200.0	0.00	0.00	9,174.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,300.0	0.00	0.00	9,274.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,400.0	0.00	0.00	9,374.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,500.0	0.00	0.00	9,474.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,600.0	0.00	0.00	9,574.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,700.0	0.00	0.00	9,674.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,800.0	0.00	0.00	9,774.7	454.6	193.0	-453.2	0.00	0.00	0.00
9,900.0	0.00	0.00	9,874.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,000.0	0.00	0.00	9,974.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,100.0	0.00	0.00	10,074.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,200.0	0.00	0.00	10,174.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,300.0	0.00	0.00	10,274.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,400.0	0.00	0.00	10,374.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,500.0	0.00	0.00	10,474.7	454.6	193.0	-453.2	0.00	0.00	0.00

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: RB/HOL
Site: RB/HOL #4S
Well: Holly 103H
Wellbore: Wellbore #1
Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
TVD Reference: KB @ 3028.0usft
MD Reference: KB @ 3028.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,600.0	0.00	0.00	10,574.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,700.0	0.00	0.00	10,674.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,800.0	0.00	0.00	10,774.7	454.6	193.0	-453.2	0.00	0.00	0.00
10,900.0	0.00	0.00	10,874.7	454.6	193.0	-453.2	0.00	0.00	0.00
11,000.0	0.00	0.00	10,974.7	454.6	193.0	-453.2	0.00	0.00	0.00
11,100.0	0.00	0.00	11,074.7	454.6	193.0	-453.2	0.00	0.00	0.00
11,150.3	0.00	0.00	11,125.0	454.6	193.0	-453.2	0.00	0.00	0.00
Hol103 KOP									
11,200.0	5.84	223.91	11,174.6	452.8	191.2	-451.4	11.77	11.77	0.00
11,300.0	17.61	223.91	11,272.3	438.2	177.2	-436.9	11.77	11.77	0.00
11,400.0	29.38	223.91	11,363.9	409.5	149.6	-408.4	11.77	11.77	0.00
11,500.0	41.15	223.91	11,445.4	368.0	109.6	-367.2	11.77	11.77	0.00
11,531.9	44.90	223.91	11,468.7	352.3	94.5	-351.6	11.77	11.77	0.00
11,600.0	49.91	215.41	11,514.8	313.7	62.7	-313.3	11.77	7.36	-12.49
11,700.0	58.20	205.05	11,573.6	243.8	22.4	-243.6	11.77	8.28	-10.35
11,800.0	67.18	196.47	11,619.5	160.8	-8.8	-160.9	11.77	8.98	-8.58
11,850.2	71.85	192.61	11,637.0	115.3	-20.6	-115.5	11.77	9.31	-7.69
Hol103 FTP									
11,900.0	76.55	188.98	11,650.6	68.3	-29.5	-68.5	11.77	9.45	-7.29
12,000.0	86.14	182.07	11,665.6	-30.0	-38.9	29.7	11.77	9.58	-6.92
12,040.1	90.00	179.36	11,667.0	-70.0	-39.4	69.7	11.77	9.64	-6.75
Hol103 FTP2									
12,100.0	90.00	179.36	11,667.0	-129.9	-38.8	129.6	0.00	0.00	0.00
12,200.0	90.00	179.36	11,667.0	-229.9	-37.7	229.6	0.00	0.00	0.00
12,300.0	90.00	179.36	11,667.0	-329.9	-36.6	329.6	0.00	0.00	0.00
12,400.0	90.00	179.36	11,667.0	-429.9	-35.4	429.6	0.00	0.00	0.00
12,500.0	90.00	179.36	11,667.0	-529.9	-34.3	529.6	0.00	0.00	0.00
12,600.0	90.00	179.36	11,667.0	-629.9	-33.2	629.6	0.00	0.00	0.00
12,700.0	90.00	179.36	11,667.0	-729.9	-32.1	729.6	0.00	0.00	0.00
12,800.0	90.00	179.36	11,667.0	-829.9	-31.0	829.6	0.00	0.00	0.00
12,900.0	90.00	179.36	11,667.0	-929.9	-29.9	929.6	0.00	0.00	0.00
13,000.0	90.00	179.36	11,667.0	-1,029.9	-28.8	1,029.6	0.00	0.00	0.00
13,100.0	90.00	179.36	11,667.0	-1,129.9	-27.7	1,129.6	0.00	0.00	0.00
13,200.0	90.00	179.36	11,667.0	-1,229.9	-26.5	1,229.6	0.00	0.00	0.00
13,300.0	90.00	179.36	11,667.0	-1,329.9	-25.4	1,329.6	0.00	0.00	0.00
13,400.0	90.00	179.36	11,667.0	-1,429.9	-24.3	1,429.6	0.00	0.00	0.00
13,500.0	90.00	179.36	11,667.0	-1,529.8	-23.2	1,529.6	0.00	0.00	0.00
13,600.0	90.00	179.36	11,667.0	-1,629.8	-22.1	1,629.6	0.00	0.00	0.00
13,700.0	90.00	179.36	11,667.0	-1,729.8	-21.0	1,729.6	0.00	0.00	0.00
13,800.0	90.00	179.36	11,667.0	-1,829.8	-19.9	1,829.6	0.00	0.00	0.00
13,900.0	90.00	179.36	11,667.0	-1,929.8	-18.8	1,929.6	0.00	0.00	0.00
14,000.0	90.00	179.36	11,667.0	-2,029.8	-17.6	2,029.6	0.00	0.00	0.00
14,100.0	90.00	179.36	11,667.0	-2,129.8	-16.5	2,129.6	0.00	0.00	0.00
14,200.0	90.00	179.36	11,667.0	-2,229.8	-15.4	2,229.6	0.00	0.00	0.00
14,300.0	90.00	179.36	11,667.0	-2,329.8	-14.3	2,329.6	0.00	0.00	0.00
14,400.0	90.00	179.36	11,667.0	-2,429.8	-13.2	2,429.6	0.00	0.00	0.00
14,500.0	90.00	179.36	11,667.0	-2,529.8	-12.1	2,529.6	0.00	0.00	0.00
14,600.0	90.00	179.36	11,667.0	-2,629.8	-11.0	2,629.6	0.00	0.00	0.00
14,700.0	90.00	179.36	11,667.0	-2,729.8	-9.9	2,729.6	0.00	0.00	0.00
14,800.0	90.00	179.36	11,667.0	-2,829.8	-8.8	2,829.6	0.00	0.00	0.00
14,900.0	90.00	179.36	11,667.0	-2,929.8	-7.6	2,929.6	0.00	0.00	0.00
15,000.0	90.00	179.36	11,667.0	-3,029.8	-6.5	3,029.6	0.00	0.00	0.00
15,100.0	90.00	179.36	11,667.0	-3,129.7	-5.4	3,129.6	0.00	0.00	0.00

Database:	EDM5000	Local Co-ordinate Reference:	Well Holly 103H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3028.0usft
Project:	RB/HOL	MD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	North Reference:	Grid
Well:	Holly 103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	FTP2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,200.0	90.00	179.36	11,667.0	-3,229.7	-4.3	3,229.6	0.00	0.00	0.00	
15,300.0	90.00	179.36	11,667.0	-3,329.7	-3.2	3,329.6	0.00	0.00	0.00	
15,400.0	90.00	179.36	11,667.0	-3,429.7	-2.1	3,429.6	0.00	0.00	0.00	
15,500.0	90.00	179.36	11,667.0	-3,529.7	-1.0	3,529.6	0.00	0.00	0.00	
15,600.0	90.00	179.36	11,667.0	-3,629.7	0.1	3,629.6	0.00	0.00	0.00	
15,700.0	90.00	179.36	11,667.0	-3,729.7	1.3	3,729.6	0.00	0.00	0.00	
Hol103 Into NMNM006727										
15,800.0	90.00	179.36	11,667.0	-3,829.7	2.4	3,829.6	0.00	0.00	0.00	
15,900.0	90.00	179.36	11,667.0	-3,929.7	3.5	3,929.6	0.00	0.00	0.00	
16,000.0	90.00	179.36	11,667.0	-4,029.7	4.6	4,029.6	0.00	0.00	0.00	
16,100.0	90.00	179.36	11,667.0	-4,129.7	5.7	4,129.6	0.00	0.00	0.00	
16,200.0	90.00	179.36	11,667.0	-4,229.7	6.8	4,229.6	0.00	0.00	0.00	
16,300.0	90.00	179.36	11,667.0	-4,329.7	7.9	4,329.6	0.00	0.00	0.00	
16,400.0	90.00	179.36	11,667.0	-4,429.7	9.0	4,429.6	0.00	0.00	0.00	
16,500.0	90.00	179.36	11,667.0	-4,529.7	10.2	4,529.6	0.00	0.00	0.00	
16,600.0	90.00	179.36	11,667.0	-4,629.7	11.3	4,629.6	0.00	0.00	0.00	
16,700.0	90.00	179.36	11,667.0	-4,729.6	12.4	4,729.6	0.00	0.00	0.00	
16,800.0	90.00	179.36	11,667.0	-4,829.6	13.5	4,829.6	0.00	0.00	0.00	
16,900.0	90.00	179.36	11,667.0	-4,929.6	14.6	4,929.6	0.00	0.00	0.00	
17,000.0	90.00	179.36	11,667.0	-5,029.6	15.7	5,029.6	0.00	0.00	0.00	
17,030.0	90.00	179.36	11,667.0	-5,059.6	16.1	5,059.6	0.00	0.00	0.00	
Hol103 Into NMNM137473										
17,100.0	90.00	179.36	11,667.0	-5,129.6	16.8	5,129.6	0.00	0.00	0.00	
17,200.0	90.00	179.36	11,667.0	-5,229.6	17.9	5,229.6	0.00	0.00	0.00	
17,300.0	90.00	179.36	11,667.0	-5,329.6	19.1	5,329.6	0.00	0.00	0.00	
17,400.0	90.00	179.36	11,667.0	-5,429.6	20.2	5,429.6	0.00	0.00	0.00	
17,500.0	90.00	179.36	11,667.0	-5,529.6	21.3	5,529.6	0.00	0.00	0.00	
17,600.0	90.00	179.36	11,667.0	-5,629.6	22.4	5,629.6	0.00	0.00	0.00	
17,700.0	90.00	179.36	11,667.0	-5,729.6	23.5	5,729.6	0.00	0.00	0.00	
17,800.0	90.00	179.36	11,667.0	-5,829.6	24.6	5,829.6	0.00	0.00	0.00	
17,900.0	90.00	179.36	11,667.0	-5,929.6	25.7	5,929.6	0.00	0.00	0.00	
18,000.0	90.00	179.36	11,667.0	-6,029.6	26.8	6,029.6	0.00	0.00	0.00	
18,100.0	90.00	179.36	11,667.0	-6,129.6	28.0	6,129.6	0.00	0.00	0.00	
18,200.0	90.00	179.36	11,667.0	-6,229.6	29.1	6,229.6	0.00	0.00	0.00	
18,300.0	90.00	179.36	11,667.0	-6,329.5	30.2	6,329.6	0.00	0.00	0.00	
18,400.0	90.00	179.36	11,667.0	-6,429.5	31.3	6,429.6	0.00	0.00	0.00	
18,500.0	90.00	179.36	11,667.0	-6,529.5	32.4	6,529.6	0.00	0.00	0.00	
18,600.0	90.00	179.36	11,667.0	-6,629.5	33.5	6,629.6	0.00	0.00	0.00	
18,700.0	90.00	179.36	11,667.0	-6,729.5	34.6	6,729.6	0.00	0.00	0.00	
18,800.0	90.00	179.36	11,667.0	-6,829.5	35.7	6,829.6	0.00	0.00	0.00	
18,900.0	90.00	179.36	11,667.0	-6,929.5	36.8	6,929.6	0.00	0.00	0.00	
19,000.0	90.00	179.36	11,667.0	-7,029.5	38.0	7,029.6	0.00	0.00	0.00	
19,100.0	90.00	179.36	11,667.0	-7,129.5	39.1	7,129.6	0.00	0.00	0.00	
19,200.0	90.00	179.36	11,667.0	-7,229.5	40.2	7,229.6	0.00	0.00	0.00	
19,300.0	90.00	179.36	11,667.0	-7,329.5	41.3	7,329.6	0.00	0.00	0.00	
19,400.0	90.00	179.36	11,667.0	-7,429.5	42.4	7,429.6	0.00	0.00	0.00	
19,500.0	90.00	179.36	11,667.0	-7,529.5	43.5	7,529.6	0.00	0.00	0.00	
19,600.0	90.00	179.36	11,667.0	-7,629.5	44.6	7,629.6	0.00	0.00	0.00	
19,700.0	90.00	179.36	11,667.0	-7,729.5	45.7	7,729.6	0.00	0.00	0.00	
19,800.0	90.00	179.36	11,667.0	-7,829.5	46.9	7,829.6	0.00	0.00	0.00	
19,900.0	90.00	179.36	11,667.0	-7,929.4	48.0	7,929.6	0.00	0.00	0.00	
20,000.0	90.00	179.36	11,667.0	-8,029.4	49.1	8,029.6	0.00	0.00	0.00	
20,100.0	90.00	179.36	11,667.0	-8,129.4	50.2	8,129.6	0.00	0.00	0.00	
20,200.0	90.00	179.36	11,667.0	-8,229.4	51.3	8,229.6	0.00	0.00	0.00	

Database:	EDM5000	Local Co-ordinate Reference:	Well Holly 103H
Company:	Ameredev Operating, LLC.	TVD Reference:	KB @ 3028.0usft
Project:	RB/HOL	MD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	North Reference:	Grid
Well:	Holly 103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	FTP2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,300.0	90.00	179.36	11,667.0	-8,329.4	52.4	8,329.6	0.00	0.00	0.00
20,400.0	90.00	179.36	11,667.0	-8,429.4	53.5	8,429.6	0.00	0.00	0.00
20,500.0	90.00	179.36	11,667.0	-8,529.4	54.6	8,529.6	0.00	0.00	0.00
20,600.0	90.00	179.36	11,667.0	-8,629.4	55.8	8,629.6	0.00	0.00	0.00
20,700.0	90.00	179.36	11,667.0	-8,729.4	56.9	8,729.6	0.00	0.00	0.00
20,800.0	90.00	179.36	11,667.0	-8,829.4	58.0	8,829.6	0.00	0.00	0.00
20,900.0	90.00	179.36	11,667.0	-8,929.4	59.1	8,929.6	0.00	0.00	0.00
21,000.0	90.00	179.36	11,667.0	-9,029.4	60.2	9,029.6	0.00	0.00	0.00
21,100.0	90.00	179.36	11,667.0	-9,129.4	61.3	9,129.6	0.00	0.00	0.00
21,200.0	90.00	179.36	11,667.0	-9,229.4	62.4	9,229.6	0.00	0.00	0.00
21,300.0	90.00	179.36	11,667.0	-9,329.4	63.5	9,329.6	0.00	0.00	0.00
21,400.0	90.00	179.36	11,667.0	-9,429.4	64.7	9,429.6	0.00	0.00	0.00
21,500.0	90.00	179.36	11,667.0	-9,529.3	65.8	9,529.6	0.00	0.00	0.00
21,600.0	90.00	179.36	11,667.0	-9,629.3	66.9	9,629.6	0.00	0.00	0.00
21,700.0	90.00	179.36	11,667.0	-9,729.3	68.0	9,729.6	0.00	0.00	0.00
21,800.0	90.00	179.36	11,667.0	-9,829.3	69.1	9,829.6	0.00	0.00	0.00
21,900.0	90.00	179.36	11,667.0	-9,929.3	70.2	9,929.6	0.00	0.00	0.00
22,000.0	90.00	179.36	11,667.0	-10,029.3	71.3	10,029.6	0.00	0.00	0.00
22,100.0	90.00	179.36	11,667.0	-10,129.3	72.4	10,129.6	0.00	0.00	0.00
22,200.0	90.00	179.36	11,667.0	-10,229.3	73.6	10,229.6	0.00	0.00	0.00
Hol103 LTP									
22,253.2	90.00	179.36	11,667.0	-10,282.5	74.1	10,282.8	0.00	0.00	0.00
Hol103 BHL									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Hol103 KOP	0.00	0.00	11,125.0	454.6	193.0	394,474.75	864,634.18	32° 4' 48.687 N	103° 17' 22.259 W
- plan hits target center									
- Point									
Hol103 LTP	0.00	0.00	11,667.0	-10,232.5	73.6	383,787.61	864,514.79	32° 3' 2.953 N	103° 17' 24.847 W
- plan misses target center by 3.2usft at 22200.0usft MD (11667.0 TVD, -10229.3 N, 73.6 E)									
- Point									
Hol103 FTP2	0.00	0.00	11,667.0	-70.0	-39.4	393,950.11	864,401.74	32° 4' 43.518 N	103° 17' 25.020 W
- plan hits target center									
- Point									
Hol103 FTP	0.00	0.00	11,667.0	129.6	-39.4	394,149.73	864,401.74	32° 4' 45.493 N	103° 17' 24.997 W
- plan misses target center by 38.2usft at 11850.2usft MD (11637.0 TVD, 115.3 N, -20.6 E)									
- Point									
Hol103 BHL	0.00	0.00	11,667.0	-10,282.5	74.1	383,737.62	864,515.34	32° 3' 2.458 N	103° 17' 24.847 W
- plan hits target center									
- Point									

Database: EDM5000
Company: Ameredev Operating, LLC.
Project: RB/HOL
Site: RB/HOL #4S
Well: Holly 103H
Wellbore: Wellbore #1
Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
TVD Reference: KB @ 3028.0usft
MD Reference: KB @ 3028.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,700.0	11,667.0	-3,729.7	1.3	Hol103 into NMNM006727
17,030.0	11,667.0	-5,059.6	16.1	Hol103 into NMNM137473

AMEREDEV

Ameredev Operating, LLC.

RB/HOL

RB/HOL #4S

Holly 103H

Wellbore #1

Plan: FTP2

Lease Penetration Section Line Foot

06 February, 2019

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Holly 103H
Project:	RB/HOL	TVD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	MD Reference:	KB @ 3028.0usft
Well:	Holly 103H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FTP2	Database:	EDM5000

Project	RB/HOL		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	RB/HOL #4S				
Site Position:		Northing:	394,020.12 usft	Latitude:	32° 4' 44.207 N
From:	Lat/Long	Easting:	864,441.19 usft	Longitude:	103° 17' 24.553 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.55 °

Well	Holly 103H					
Well Position	+N/-S	0.0 usft	Northing:	394,020.12 usft	Latitude:	32° 4' 44.207 N
	+E/-W	0.0 usft	Easting:	864,441.19 usft	Longitude:	103° 17' 24.553 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,001.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/13/2018	6.65	59.95	47,753.14815967

Design	FTP2			
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	179.59

Survey Tool Program	Date 2/6/2019			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	22,253.2	FTP2 (Wellbore #1)	MWD	OWSG MWD - Standard

Planned Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
100.0	0.00	0.00	100.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
200.0	0.00	0.00	200.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
300.0	0.00	0.00	300.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
400.0	0.00	0.00	400.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
500.0	0.00	0.00	500.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
600.0	0.00	0.00	600.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
700.0	0.00	0.00	700.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
800.0	0.00	0.00	800.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
900.0	0.00	0.00	900.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,000.0	0.00	0.00	1,000.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,100.0	0.00	0.00	1,100.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W

Company:	Ameredev Operating, LLC.	Local Co-ordinate Reference:	Well Holly 103H
Project:	RB/HOL	TVD Reference:	KB @ 3028.0usft
Site:	RB/HOL #4S	MD Reference:	KB @ 3028.0usft
Well:	Holly 103H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	FTP2	Database:	EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
1,200.0	0.00	0.00	1,200.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,300.0	0.00	0.00	1,300.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,400.0	0.00	0.00	1,400.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,500.0	0.00	0.00	1,500.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,600.0	0.00	0.00	1,600.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,700.0	0.00	0.00	1,700.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,800.0	0.00	0.00	1,800.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
1,900.0	0.00	0.00	1,900.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
2,000.0	0.00	0.00	2,000.0	-230.0	1,710.0	32° 4' 44.207 N	103° 17' 24.553 W
2,100.0	2.00	23.00	2,100.0	-228.4	1,710.7	32° 4' 44.223 N	103° 17' 24.545 W
2,200.0	4.00	23.00	2,199.8	-223.6	1,712.7	32° 4' 44.270 N	103° 17' 24.521 W
2,300.0	6.00	23.00	2,299.5	-215.6	1,716.1	32° 4' 44.349 N	103° 17' 24.480 W
2,400.0	6.00	23.00	2,398.9	-205.9	1,720.2	32° 4' 44.444 N	103° 17' 24.432 W
2,500.0	6.00	23.00	2,498.4	-196.3	1,724.3	32° 4' 44.539 N	103° 17' 24.383 W
2,600.0	6.00	23.00	2,597.8	-186.7	1,728.4	32° 4' 44.634 N	103° 17' 24.335 W
2,700.0	6.00	23.00	2,697.3	-177.1	1,732.5	32° 4' 44.729 N	103° 17' 24.286 W
2,800.0	6.00	23.00	2,796.7	-167.4	1,736.6	32° 4' 44.823 N	103° 17' 24.238 W
2,900.0	6.00	23.00	2,896.2	-157.8	1,740.6	32° 4' 44.918 N	103° 17' 24.189 W
3,000.0	6.00	23.00	2,995.6	-148.2	1,744.7	32° 4' 45.013 N	103° 17' 24.141 W
3,100.0	6.00	23.00	3,095.1	-138.6	1,748.8	32° 4' 45.108 N	103° 17' 24.092 W
3,200.0	6.00	23.00	3,194.5	-129.0	1,752.9	32° 4' 45.203 N	103° 17' 24.044 W
3,300.0	6.00	23.00	3,294.0	-119.3	1,757.0	32° 4' 45.298 N	103° 17' 23.995 W
3,400.0	6.00	23.00	3,393.4	-109.7	1,761.1	32° 4' 45.392 N	103° 17' 23.946 W
3,500.0	6.00	23.00	3,492.9	-100.1	1,765.1	32° 4' 45.487 N	103° 17' 23.898 W
3,600.0	6.00	23.00	3,592.3	-90.5	1,769.2	32° 4' 45.582 N	103° 17' 23.849 W
3,700.0	6.00	23.00	3,691.8	-80.8	1,773.3	32° 4' 45.677 N	103° 17' 23.801 W
3,800.0	6.00	23.00	3,791.2	-71.2	1,777.4	32° 4' 45.772 N	103° 17' 23.752 W
3,900.0	6.00	23.00	3,890.7	-61.6	1,781.5	32° 4' 45.866 N	103° 17' 23.704 W
4,000.0	6.00	23.00	3,990.1	-52.0	1,785.6	32° 4' 45.961 N	103° 17' 23.655 W
4,100.0	6.00	23.00	4,089.6	-42.4	1,789.6	32° 4' 46.056 N	103° 17' 23.607 W
4,200.0	6.00	23.00	4,189.0	-32.7	1,793.7	32° 4' 46.151 N	103° 17' 23.558 W
4,300.0	6.00	23.00	4,288.5	-23.1	1,797.8	32° 4' 46.246 N	103° 17' 23.510 W
4,400.0	6.00	23.00	4,387.9	-13.5	1,801.9	32° 4' 46.340 N	103° 17' 23.461 W
4,500.0	6.00	23.00	4,487.4	-3.9	1,806.0	32° 4' 46.435 N	103° 17' 23.412 W
4,600.0	6.00	23.00	4,586.9	5.7	1,810.1	32° 4' 46.530 N	103° 17' 23.364 W
4,700.0	6.00	23.00	4,686.3	15.4	1,814.2	32° 4' 46.625 N	103° 17' 23.315 W
4,800.0	6.00	23.00	4,785.8	25.0	1,818.2	32° 4' 46.720 N	103° 17' 23.267 W
4,900.0	6.00	23.00	4,885.2	34.6	1,822.3	32° 4' 46.815 N	103° 17' 23.218 W
5,000.0	6.00	23.00	4,984.7	44.2	1,826.4	32° 4' 46.909 N	103° 17' 23.170 W
5,100.0	6.00	23.00	5,084.1	53.9	1,830.5	32° 4' 47.004 N	103° 17' 23.121 W
5,200.0	6.00	23.00	5,183.6	63.5	1,834.6	32° 4' 47.099 N	103° 17' 23.073 W
5,300.0	6.00	23.00	5,283.0	73.1	1,838.7	32° 4' 47.194 N	103° 17' 23.024 W
5,400.0	6.00	23.00	5,382.5	82.7	1,842.7	32° 4' 47.289 N	103° 17' 22.975 W
5,500.0	6.00	23.00	5,481.9	92.3	1,846.8	32° 4' 47.383 N	103° 17' 22.927 W

Company: Ameredev Operating, LLC.
Project: RB/HOL
Site: RB/HOL #4S
Well: Holly 103H
Wellbore: Wellbore #1
Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
TVD Reference: KB @ 3028.0usft
MD Reference: KB @ 3028.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
5,600.0	6.00	23.00	5,581.4	102.0	1,850.9	32° 4' 47.478 N	103° 17' 22.878 W
5,700.0	6.00	23.00	5,680.8	111.6	1,855.0	32° 4' 47.573 N	103° 17' 22.830 W
5,800.0	6.00	23.00	5,780.3	121.2	1,859.1	32° 4' 47.668 N	103° 17' 22.781 W
5,900.0	6.00	23.00	5,879.7	130.8	1,863.2	32° 4' 47.763 N	103° 17' 22.733 W
6,000.0	6.00	23.00	5,979.2	140.5	1,867.2	32° 4' 47.858 N	103° 17' 22.684 W
6,100.0	6.00	23.00	6,078.6	150.1	1,871.3	32° 4' 47.952 N	103° 17' 22.636 W
6,200.0	6.00	23.00	6,178.1	159.7	1,875.4	32° 4' 48.047 N	103° 17' 22.587 W
6,300.0	6.00	23.00	6,277.5	169.3	1,879.5	32° 4' 48.142 N	103° 17' 22.539 W
6,400.0	6.00	23.00	6,377.0	178.9	1,883.6	32° 4' 48.237 N	103° 17' 22.490 W
6,500.0	6.00	23.00	6,476.4	188.6	1,887.7	32° 4' 48.332 N	103° 17' 22.441 W
6,600.0	6.00	23.00	6,575.9	198.2	1,891.8	32° 4' 48.426 N	103° 17' 22.393 W
6,700.0	6.00	23.00	6,675.3	207.8	1,895.8	32° 4' 48.521 N	103° 17' 22.344 W
6,724.8	6.00	23.00	6,700.0	210.2	1,896.9	32° 4' 48.545 N	103° 17' 22.332 W
6,800.0	4.50	23.00	6,774.9	216.5	1,899.5	32° 4' 48.607 N	103° 17' 22.300 W
6,900.0	2.50	23.00	6,874.7	222.1	1,901.9	32° 4' 48.662 N	103° 17' 22.272 W
7,000.0	0.50	23.00	6,974.7	224.5	1,902.9	32° 4' 48.686 N	103° 17' 22.260 W
7,024.8	0.00	0.00	6,999.5	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,100.0	0.00	0.00	7,074.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,200.0	0.00	0.00	7,174.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,300.0	0.00	0.00	7,274.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,400.0	0.00	0.00	7,374.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,500.0	0.00	0.00	7,474.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,600.0	0.00	0.00	7,574.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,700.0	0.00	0.00	7,674.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,800.0	0.00	0.00	7,774.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
7,900.0	0.00	0.00	7,874.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,000.0	0.00	0.00	7,974.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,100.0	0.00	0.00	8,074.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,200.0	0.00	0.00	8,174.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,300.0	0.00	0.00	8,274.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,400.0	0.00	0.00	8,374.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,500.0	0.00	0.00	8,474.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,600.0	0.00	0.00	8,574.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,700.0	0.00	0.00	8,674.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,800.0	0.00	0.00	8,774.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
8,900.0	0.00	0.00	8,874.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,000.0	0.00	0.00	8,974.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,100.0	0.00	0.00	9,074.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,200.0	0.00	0.00	9,174.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,300.0	0.00	0.00	9,274.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,400.0	0.00	0.00	9,374.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,500.0	0.00	0.00	9,474.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,600.0	0.00	0.00	9,574.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,700.0	0.00	0.00	9,674.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W

Company: Ameredev Operating, LLC.
 Project: RB/HOL
 Site: RB/HOL #4S
 Well: Holly 103H
 Wellbore: Wellbore #1
 Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
 TVD Reference: KB @ 3028.0usft
 MD Reference: KB @ 3028.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
9,800.0	0.00	0.00	9,774.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
9,900.0	0.00	0.00	9,874.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,000.0	0.00	0.00	9,974.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,100.0	0.00	0.00	10,074.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,200.0	0.00	0.00	10,174.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,300.0	0.00	0.00	10,274.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,400.0	0.00	0.00	10,374.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,500.0	0.00	0.00	10,474.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,600.0	0.00	0.00	10,574.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,700.0	0.00	0.00	10,674.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,800.0	0.00	0.00	10,774.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
10,900.0	0.00	0.00	10,874.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
11,000.0	0.00	0.00	10,974.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
11,100.0	0.00	0.00	11,074.7	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
11,150.3	0.00	0.00	11,125.0	224.6	1,903.0	32° 4' 48.687 N	103° 17' 22.259 W
Hol103 KOP							
11,200.0	5.84	223.91	11,174.6	222.8	1,901.2	32° 4' 48.669 N	103° 17' 22.280 W
11,300.0	17.61	223.91	11,272.3	208.2	1,887.2	32° 4' 48.526 N	103° 17' 22.445 W
11,400.0	29.38	223.91	11,363.9	179.5	1,859.6	32° 4' 48.245 N	103° 17' 22.769 W
11,500.0	41.15	223.91	11,445.4	138.0	1,819.6	32° 4' 47.838 N	103° 17' 23.238 W
11,531.9	44.90	223.91	11,468.7	122.3	1,804.5	32° 4' 47.684 N	103° 17' 23.416 W
11,600.0	49.91	215.41	11,514.8	83.7	1,772.7	32° 4' 47.305 N	103° 17' 23.790 W
11,700.0	58.20	205.05	11,573.6	13.8	1,732.4	32° 4' 46.617 N	103° 17' 24.266 W
11,800.0	67.18	196.47	11,619.5	-69.2	1,701.2	32° 4' 45.799 N	103° 17' 24.637 W
11,850.2	71.85	192.61	11,637.0	-114.7	1,689.4	32° 4' 45.350 N	103° 17' 24.779 W
Hol103 FTP							
11,900.0	76.55	188.98	11,650.6	-161.7	1,680.5	32° 4' 44.885 N	103° 17' 24.889 W
12,000.0	86.14	182.07	11,665.6	-260.0	1,671.1	32° 4' 43.914 N	103° 17' 25.009 W
12,040.1	90.00	179.36	11,667.0	-300.0	1,670.6	32° 4' 43.518 N	103° 17' 25.020 W
Hol103 FTP2							
12,100.0	90.00	179.36	11,667.0	-359.9	1,671.2	32° 4' 42.925 N	103° 17' 25.019 W
12,200.0	90.00	179.36	11,667.0	-459.9	1,672.3	32° 4' 41.936 N	103° 17' 25.017 W
12,300.0	90.00	179.36	11,667.0	-559.9	1,673.4	32° 4' 40.946 N	103° 17' 25.015 W
12,400.0	90.00	179.36	11,667.0	-659.9	1,674.6	32° 4' 39.957 N	103° 17' 25.014 W
12,500.0	90.00	179.36	11,667.0	-759.9	1,675.7	32° 4' 38.967 N	103° 17' 25.012 W
12,600.0	90.00	179.36	11,667.0	-859.9	1,676.8	32° 4' 37.978 N	103° 17' 25.010 W
12,700.0	90.00	179.36	11,667.0	-959.9	1,677.9	32° 4' 36.988 N	103° 17' 25.008 W
12,800.0	90.00	179.36	11,667.0	-1,059.9	1,679.0	32° 4' 35.999 N	103° 17' 25.007 W
12,900.0	90.00	179.36	11,667.0	-1,159.9	1,680.1	32° 4' 35.009 N	103° 17' 25.005 W
13,000.0	90.00	179.36	11,667.0	-1,259.9	1,681.2	32° 4' 34.020 N	103° 17' 25.003 W
13,100.0	90.00	179.36	11,667.0	-1,359.9	1,682.3	32° 4' 33.030 N	103° 17' 25.002 W
13,200.0	90.00	179.36	11,667.0	-1,459.9	1,683.5	32° 4' 32.041 N	103° 17' 25.000 W
13,300.0	90.00	179.36	11,667.0	-1,559.9	1,684.6	32° 4' 31.051 N	103° 17' 24.998 W
13,400.0	90.00	179.36	11,667.0	-1,659.9	1,685.7	32° 4' 30.062 N	103° 17' 24.997 W
13,500.0	90.00	179.36	11,667.0	-1,759.8	1,686.8	32° 4' 29.072 N	103° 17' 24.995 W

Company: Ameredev Operating, LLC.
 Project: RB/HOL
 Site: RB/HOL #4S
 Well: Holly 103H
 Wellbore: Wellbore #1
 Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
 TVD Reference: KB @ 3028.0usft
 MD Reference: KB @ 3028.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL-FNL (usft)	+FWL-FEL (usft)	Latitude	Longitude
13,600.0	90.00	179.36	11,667.0	-1,859.8	1,687.9	32° 4' 28.082 N	103° 17' 24.993 W
13,700.0	90.00	179.36	11,667.0	-1,959.8	1,689.0	32° 4' 27.093 N	103° 17' 24.992 W
13,800.0	90.00	179.36	11,667.0	-2,059.8	1,690.1	32° 4' 26.103 N	103° 17' 24.990 W
13,900.0	90.00	179.36	11,667.0	-2,159.8	1,691.2	32° 4' 25.114 N	103° 17' 24.988 W
14,000.0	90.00	179.36	11,667.0	-2,259.8	1,692.4	32° 4' 24.124 N	103° 17' 24.987 W
14,100.0	90.00	179.36	11,667.0	-2,359.8	1,693.5	32° 4' 23.135 N	103° 17' 24.985 W
14,200.0	90.00	179.36	11,667.0	-2,459.8	1,694.6	32° 4' 22.145 N	103° 17' 24.983 W
14,300.0	90.00	179.36	11,667.0	-2,559.8	1,695.7	32° 4' 21.156 N	103° 17' 24.981 W
14,400.0	90.00	179.36	11,667.0	-2,659.8	1,696.8	32° 4' 20.166 N	103° 17' 24.980 W
14,500.0	90.00	179.36	11,667.0	-2,759.8	1,697.9	32° 4' 19.177 N	103° 17' 24.978 W
14,600.0	90.00	179.36	11,667.0	-2,859.8	1,699.0	32° 4' 18.187 N	103° 17' 24.976 W
14,700.0	90.00	179.36	11,667.0	-2,959.8	1,700.1	32° 4' 17.198 N	103° 17' 24.975 W
14,800.0	90.00	179.36	11,667.0	-3,059.8	1,701.2	32° 4' 16.208 N	103° 17' 24.973 W
14,900.0	90.00	179.36	11,667.0	-3,159.8	1,702.4	32° 4' 15.219 N	103° 17' 24.971 W
15,000.0	90.00	179.36	11,667.0	-3,259.8	1,703.5	32° 4' 14.229 N	103° 17' 24.970 W
15,100.0	90.00	179.36	11,667.0	-3,359.7	1,704.6	32° 4' 13.240 N	103° 17' 24.968 W
15,200.0	90.00	179.36	11,667.0	-3,459.7	1,705.7	32° 4' 12.250 N	103° 17' 24.966 W
15,300.0	90.00	179.36	11,667.0	-3,559.7	1,706.8	32° 4' 11.261 N	103° 17' 24.965 W
15,400.0	90.00	179.36	11,667.0	-3,659.7	1,707.9	32° 4' 10.271 N	103° 17' 24.963 W
15,500.0	90.00	179.36	11,667.0	-3,759.7	1,709.0	32° 4' 9.282 N	103° 17' 24.961 W
15,600.0	90.00	179.36	11,667.0	-3,859.7	1,710.1	32° 4' 8.292 N	103° 17' 24.959 W
15,700.0	90.00	179.36	11,667.0	-3,959.7	1,711.3	32° 4' 7.303 N	103° 17' 24.958 W
Hol103 Into NMNM006727							
15,800.0	90.00	179.36	11,667.0	-4,059.7	1,712.4	32° 4' 6.313 N	103° 17' 24.956 W
15,900.0	90.00	179.36	11,667.0	-4,159.7	1,713.5	32° 4' 5.324 N	103° 17' 24.954 W
16,000.0	90.00	179.36	11,667.0	-4,259.7	1,714.6	32° 4' 4.334 N	103° 17' 24.953 W
16,100.0	90.00	179.36	11,667.0	-4,359.7	1,715.7	32° 4' 3.345 N	103° 17' 24.951 W
16,200.0	90.00	179.36	11,667.0	-4,459.7	1,716.8	32° 4' 2.355 N	103° 17' 24.949 W
16,300.0	90.00	179.36	11,667.0	-4,559.7	1,717.9	32° 4' 1.366 N	103° 17' 24.948 W
16,400.0	90.00	179.36	11,667.0	-4,659.7	1,719.0	32° 4' 0.376 N	103° 17' 24.946 W
16,500.0	90.00	179.36	11,667.0	-4,759.7	1,720.2	32° 3' 59.387 N	103° 17' 24.944 W
16,600.0	90.00	179.36	11,667.0	-4,859.7	1,721.3	32° 3' 58.397 N	103° 17' 24.943 W
16,700.0	90.00	179.36	11,667.0	-4,959.6	1,722.4	32° 3' 57.408 N	103° 17' 24.941 W
16,800.0	90.00	179.36	11,667.0	-5,059.6	1,723.5	32° 3' 56.418 N	103° 17' 24.939 W
16,900.0	90.00	179.36	11,667.0	-5,159.6	1,724.6	32° 3' 55.429 N	103° 17' 24.937 W
17,000.0	90.00	179.36	11,667.0	-5,259.6	1,725.7	32° 3' 54.439 N	103° 17' 24.936 W
17,030.0	90.00	179.36	11,667.0	-5,289.6	1,726.1	32° 3' 54.142 N	103° 17' 24.935 W
Hol103 Into NMNM137473							
17,100.0	90.00	179.36	11,667.0	-5,359.6	1,726.8	32° 3' 53.450 N	103° 17' 24.934 W
17,200.0	90.00	179.36	11,667.0	-5,459.6	1,727.9	32° 3' 52.460 N	103° 17' 24.932 W
17,300.0	90.00	179.36	11,667.0	-5,559.6	1,729.1	32° 3' 51.471 N	103° 17' 24.931 W
17,400.0	90.00	179.36	11,667.0	-5,659.6	1,730.2	32° 3' 50.481 N	103° 17' 24.929 W
17,500.0	90.00	179.36	11,667.0	-5,759.6	1,731.3	32° 3' 49.492 N	103° 17' 24.927 W
17,600.0	90.00	179.36	11,667.0	-5,859.6	1,732.4	32° 3' 48.502 N	103° 17' 24.926 W
17,700.0	90.00	179.36	11,667.0	-5,959.6	1,733.5	32° 3' 47.513 N	103° 17' 24.924 W

Company: Ameredev Operating, LLC.
 Project: RB/HOL
 Site: RB/HOL #4S
 Well: Holly 103H
 Wellbore: Wellbore #1
 Design: FTP2

Local Co-ordinate Reference: Well Holly 103H
 TVD Reference: KB @ 3028.0usft
 MD Reference: KB @ 3028.0usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	+FSL/-FNL (usft)	+FWL/-FEL (usft)	Latitude	Longitude
17,800.0	90.00	179.36	11,667.0	-6,059.6	1,734.6	32° 3' 46.523 N	103° 17' 24.922 W
17,900.0	90.00	179.36	11,667.0	-6,159.6	1,735.7	32° 3' 45.533 N	103° 17' 24.921 W
18,000.0	90.00	179.36	11,667.0	-6,259.6	1,736.8	32° 3' 44.544 N	103° 17' 24.919 W
18,100.0	90.00	179.36	11,667.0	-6,359.6	1,738.0	32° 3' 43.554 N	103° 17' 24.917 W
18,200.0	90.00	179.36	11,667.0	-6,459.6	1,739.1	32° 3' 42.565 N	103° 17' 24.915 W
18,300.0	90.00	179.36	11,667.0	-6,559.5	1,740.2	32° 3' 41.575 N	103° 17' 24.914 W
18,400.0	90.00	179.36	11,667.0	-6,659.5	1,741.3	32° 3' 40.586 N	103° 17' 24.912 W
18,500.0	90.00	179.36	11,667.0	-6,759.5	1,742.4	32° 3' 39.596 N	103° 17' 24.910 W
18,600.0	90.00	179.36	11,667.0	-6,859.5	1,743.5	32° 3' 38.607 N	103° 17' 24.909 W
18,700.0	90.00	179.36	11,667.0	-6,959.5	1,744.6	32° 3' 37.617 N	103° 17' 24.907 W
18,800.0	90.00	179.36	11,667.0	-7,059.5	1,745.7	32° 3' 36.628 N	103° 17' 24.905 W
18,900.0	90.00	179.36	11,667.0	-7,159.5	1,746.8	32° 3' 35.638 N	103° 17' 24.904 W
19,000.0	90.00	179.36	11,667.0	-7,259.5	1,748.0	32° 3' 34.649 N	103° 17' 24.902 W
19,100.0	90.00	179.36	11,667.0	-7,359.5	1,749.1	32° 3' 33.659 N	103° 17' 24.900 W
19,200.0	90.00	179.36	11,667.0	-7,459.5	1,750.2	32° 3' 32.670 N	103° 17' 24.898 W
19,300.0	90.00	179.36	11,667.0	-7,559.5	1,751.3	32° 3' 31.680 N	103° 17' 24.897 W
19,400.0	90.00	179.36	11,667.0	-7,659.5	1,752.4	32° 3' 30.691 N	103° 17' 24.895 W
19,500.0	90.00	179.36	11,667.0	-7,759.5	1,753.5	32° 3' 29.701 N	103° 17' 24.893 W
19,600.0	90.00	179.36	11,667.0	-7,859.5	1,754.6	32° 3' 28.712 N	103° 17' 24.892 W
19,700.0	90.00	179.36	11,667.0	-7,959.5	1,755.7	32° 3' 27.722 N	103° 17' 24.890 W
19,800.0	90.00	179.36	11,667.0	-8,059.5	1,756.9	32° 3' 26.733 N	103° 17' 24.888 W
19,900.0	90.00	179.36	11,667.0	-8,159.4	1,758.0	32° 3' 25.743 N	103° 17' 24.887 W
20,000.0	90.00	179.36	11,667.0	-8,259.4	1,759.1	32° 3' 24.754 N	103° 17' 24.885 W
20,100.0	90.00	179.36	11,667.0	-8,359.4	1,760.2	32° 3' 23.764 N	103° 17' 24.883 W
20,200.0	90.00	179.36	11,667.0	-8,459.4	1,761.3	32° 3' 22.775 N	103° 17' 24.882 W
20,300.0	90.00	179.36	11,667.0	-8,559.4	1,762.4	32° 3' 21.785 N	103° 17' 24.880 W
20,400.0	90.00	179.36	11,667.0	-8,659.4	1,763.5	32° 3' 20.796 N	103° 17' 24.878 W
20,500.0	90.00	179.36	11,667.0	-8,759.4	1,764.6	32° 3' 19.806 N	103° 17' 24.876 W
20,600.0	90.00	179.36	11,667.0	-8,859.4	1,765.8	32° 3' 18.817 N	103° 17' 24.875 W
20,700.0	90.00	179.36	11,667.0	-8,959.4	1,766.9	32° 3' 17.827 N	103° 17' 24.873 W
20,800.0	90.00	179.36	11,667.0	-9,059.4	1,768.0	32° 3' 16.838 N	103° 17' 24.871 W
20,900.0	90.00	179.36	11,667.0	-9,159.4	1,769.1	32° 3' 15.848 N	103° 17' 24.870 W
21,000.0	90.00	179.36	11,667.0	-9,259.4	1,770.2	32° 3' 14.859 N	103° 17' 24.868 W
21,100.0	90.00	179.36	11,667.0	-9,359.4	1,771.3	32° 3' 13.869 N	103° 17' 24.866 W
21,200.0	90.00	179.36	11,667.0	-9,459.4	1,772.4	32° 3' 12.880 N	103° 17' 24.865 W
21,300.0	90.00	179.36	11,667.0	-9,559.4	1,773.5	32° 3' 11.890 N	103° 17' 24.863 W
21,400.0	90.00	179.36	11,667.0	-9,659.4	1,774.7	32° 3' 10.901 N	103° 17' 24.861 W
21,500.0	90.00	179.36	11,667.0	-9,759.3	1,775.8	32° 3' 9.911 N	103° 17' 24.859 W
21,600.0	90.00	179.36	11,667.0	-9,859.3	1,776.9	32° 3' 8.921 N	103° 17' 24.858 W
21,700.0	90.00	179.36	11,667.0	-9,959.3	1,778.0	32° 3' 7.932 N	103° 17' 24.856 W
21,800.0	90.00	179.36	11,667.0	-10,059.3	1,779.1	32° 3' 6.942 N	103° 17' 24.854 W
21,900.0	90.00	179.36	11,667.0	-10,159.3	1,780.2	32° 3' 5.953 N	103° 17' 24.853 W
22,000.0	90.00	179.36	11,667.0	-10,259.3	1,781.3	32° 3' 4.963 N	103° 17' 24.851 W
22,100.0	90.00	179.36	11,667.0	-10,359.3	1,782.4	32° 3' 3.974 N	103° 17' 24.849 W

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22,200.0	90.00	179.36	11,667.0	-10,459.3	1,783.6	32° 3' 2.984 N	103° 17' 24.848 W
Hol103 LTP							
22,253.2	90.00	179.36	11,667.0	-10,512.5	1,784.1	32° 3' 2.458 N	103° 17' 24.847 W
Hol103 BHL							

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
15,700.0	11,667.0	-3,729.7	1.3	Hol103 Into NMNM006727
17,030.0	11,667.0	-5,059.6	16.1	Hol103 Into NMNM137473



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

PWD Data Report

03/09/2020

APD ID: 10400037357

Submission Date: 02/10/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

03/09/2020

APD ID: 10400037357

Submission Date: 02/10/2019

Operator Name: AMEREDEV OPERATING LLC

Well Name: HOLLY FED COM 26 36 05

Well Number: 103H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001478

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: