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.: NMNM014155

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.: MARGARITA FEDERAL COM 13 21H [328246]

2. Name of Operator: ADVANCE ENERGY PARTNERS HAT MESA LLC [372417]

9. API Well No.: 30-025-48248

3a. Address: 11490 Westheimer Rd, Suite 950, Houston, TX 77707

3b. Phone No. *(include area code)*: (346) 444-9739

10. Field and Pool, or Exploratory [98033]: WC-025 G-10 S2133280;WOLFCAMP

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

At surface: NWNW / 1046 FNL / 711 FWL / LAT 32.483292 / LONG -103.634637

At proposed prod. zone: SWNW / 2540 FNL / 660 FWL / LAT 32.45014 / LONG -103.634864

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 13/T21S/R32E/NMP

14. Distance in miles and direction from nearest town or post office*: 23 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 1046 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 360.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 33 feet

19. Proposed Depth: 12100 feet / 23866 feet

20. BLM/BIA Bond No. in file: FED: NMB001444

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3916 feet

22. Approximate date work will start*: 09/01/2020

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRIAN WOOD / Ph: (346) 444-9739	06/16/2020

Title: President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	12/09/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

GCP Rec 12/16/2020

SL

APPROVED WITH CONDITIONS

KZ

12/29/2020

Approval Date: 12/09/2020

(Continued on page 2)

*(Instructions on page 2)

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 4, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025- 48248	98033	WC-025 G-10 S213328O; WOLFCAMP

Property Code	Property Name	Well Number
328246	MARGARITA 13 FEDERAL COM	21H

OGRID No.	Operator Name	Elevation
372417	Advance Energy Partners Hat Mesa, LLC	3916'

Surface Location

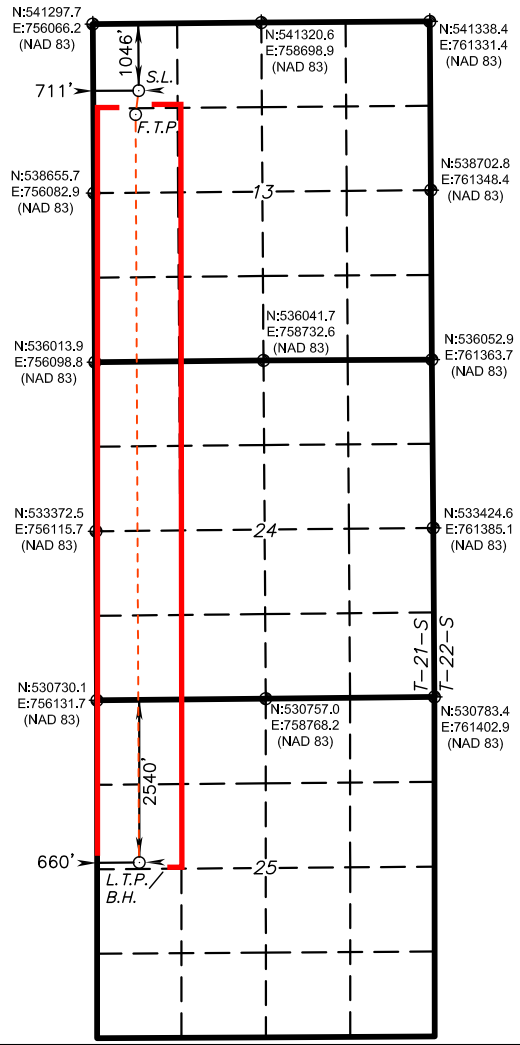
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
D	13	21 S	32 E		1046	NORTH	711	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
E	25	21 S	32 E		2540	NORTH	660	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
360.00		C	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



SURFACE LOCATION
Lat – N 32.483292°
Long – W 103.634637°
NMSPCE– N 540257.9
E 756783.5
(NAD-83)

FIRST TAKE POINT
1420 FNL & 660 FWL
Lat – N 32.482264°
Long – W 103.634803°
NMSPCE– N 539883.5
E 756734.7
(NAD-83)

LAST TAKE POINT/
BOTTOM HOLE
Lat – N 32.450140°
Long – W 103.634864°
NMSPCE– N 528196.8
E 756792.4
(NAD-83)

OPERATOR CERTIFICATION

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

Cory Walk 10-06-20
Signature Date

Cory Walk
Printed Name

cory@permitswest.com
Email Address

SURVEYOR CERTIFICATION

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

MARCH 5, 2020
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 1500' 3000' 4500' 6000' N
SCALE: 1" = 3000'
WO Num.: 35070

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District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 6-13-20

X Original
□ Amended - Reason for Amendment:

Operator & OGRID No.: Advance Energy Partners Hat Mesa, LLC (372417)

This Gas Capture Plan outlines actions to be taken by the Advance Energy Partners Hat Mesa, LLC to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Margarita Federal Com 13 1H	30-025-47195	D-13-21s-32e	1046' FNL & 645' FWL	500	≈30 days	flare until well clean, then connect
Margarita Federal Com 13 2H	30-025-47196	D-13-21s-32e	1046' FNL & 675' FWL	500	≈30 days	flare until well clean, then connect
Margarita Federal Com 13 9H	30-025-	D-13-21s-32e	1046' FNL & 744' FWL	500	≈30 days	flare until well clean, then connect
Margarita Federal Com 13 13H	30-025-	D-13-21s-32e	1046' FNL & 645' FWL	500	≈30 days	flare until well clean, then connect
Margarita Federal Com 13 17H	30-025-	D-13-21s-32e	1046' FNL & 777' FWL	500	≈30 days	flare until well clean, then connect
Margarita Federal Com 13 21H	30-025-48248	D-13-21s-32e	1046' FNL & 711' FWL	500	≈30 days	flare until well clean, then connect

Gathering System and Pipeline Notification

Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. Gas produced from this production facility has not yet been dedicated. One possible outlet is DCP. DCP has an existing pipeline ≈250 yards southeast and connects an Advance well ¼ mile east. Advance Energy Partners Hat Mesa, LLC will provide (periodically) to DCP or other transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Advance Energy Partners Hat Mesa, LLC and DCP or other transporter will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at a DCP or other transporter processing plant at an as yet undetermined location. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, fluids and sand content will be monitored. When produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP or other transporter system at that time. Based on current information, it is Advance Energy Partners Hat Mesa, LLC 's belief the system ultimately can take this gas upon completion of the well.

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

AFMSS

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

Drilling Plan Data Report

12/10/2020

APD ID: 10400058078 **Submission Date:** 06/16/2020

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
760067	QUATERNARY	3916	0	0	OTHER : Caliche	USEABLE WATER	N
760057	RUSTLER ANHYDRITE	2267	1649	1649	ANHYDRITE	NONE	N
760058	TANSILL	598	3318	3318	DOLOMITE	NONE	N
760059	YATES	555	3361	3361	SANDSTONE	NONE	N
760060	SEVEN RIVERS	351	3565	3565	GYPSUM	NONE	N
760061	CAPITAN REEF	210	3706	3706	LIMESTONE	USEABLE WATER	N
760062	CAPITAN REEF	-1701	5617	5617	LIMESTONE, OTHER : Limestone base	USEABLE WATER	N
760063	LOWER BRUSHY CANYON 8A	-4692	8608	8608	SANDSTONE	NATURAL GAS, OIL	N
760064	AVALON SAND	-5147	9063	9063	SHALE	NATURAL GAS, OIL	N
760065	BONE SPRING 1ST	-6034	9950	9950	SANDSTONE	NATURAL GAS, OIL	N
760066	BONE SPRING 2ND	-6555	10471	10471	SANDSTONE	NATURAL GAS, OIL	N
760055	BONE SPRING 3RD	-7110	11026	11026	OTHER : Carbonate	NATURAL GAS, OIL	N
760056	BONE SPRING 3RD	-7653	11569	11570	SANDSTONE	NATURAL GAS, OIL	N
913810	WOLFCAMP	-7849	11765	11773	OTHER : A Carbonate	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Pressure Rating (PSI): 5M **Rating Depth:** 13000

Equipment: See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures.

Requesting Variance? YES

Variance request: Variance is requested to use a co-flex hose between the BOP and choke instead of a steel line. See attached 3" I. D. x 10K test certificate. If this hose is unavailable, then a hose of equal or higher-pressure rating will be used. Variance is requested to use a speed head (aka, multi-bowl wellhead) after setting intermediate 1. Advance has drilled >50 wells in immediate area to depths >5,000' and never encountered any type of flows. This will allow Advance to land the intermediate 1 and use the current proposed wellhead design. Advance will then NU BOPE on the 13.375" and continue using the BOPE to the completion of the well. Variance is requested to use a sacrificial wellhead instead of a diverter. Advance will run surface casing with a sacrificial head so BOPE can be nippled up and tested as required by Onshore Order 2 before drilling out the surface casing. Once the intermediate 1 hole is drilled, cased, and cemented; then the sacrificial wellhead will be cut off and the 13.625" 5K MN-DS WH will be installed. BOPE will then be nippled up and tested as required by Onshore Order 2 before drilling out the intermediate 1 casing.
Testing Procedure: See attached Helmerich & Payne BOP Testing BLM manual for equipment and procedures.

Choke Diagram Attachment:

Margarita_21H_Choke_20200616100716.pdf

BOP Diagram Attachment:

Margarita_21H_BOP_20200616100743.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	24	20.0	NEW	API	N	0	1674	0	1674	3916	2242	1674	K-55	133	BUTT	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4000	0	4000	0	-84	4000	J-55	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	17.5	13.375	NEW	API	N	0	5582	0	5582	0	-1666	5582	HCL-80	68	BUTT	1.125	99.99	DRY	1.6	DRY	1.6
4	INTERMEDIATE	12.25	9.625	NEW	API	N	4000	10511	4000	10500	-4000	-6584	6511	HCP-110	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
5	PRODUCTION	8.75	5.5	NEW	NON API	N	0	12428	0	12100	0	-8184	12428	HCP-110	20	OTHER - GBCD	1.125	1.125	DRY	1.6	DRY	1.6
6	PRODUCTION	8.5	5.5	NEW	NON API	Y	12428	23866	12100	12100	-8184	-8184	11438	HCP-110	20	OTHER - GBCD	1.125	1.125	DRY	1.6	DRY	1.6

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144243.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144335.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144256.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144308.pdf

Casing ID: 5 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

5.5in_Casing_Specs_P110_HC_GBCD_20201015143956.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144321.pdf

Casing ID: 6 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

5.5in_Casing_Specs_P110_HC_GBCD_20201015144046.pdf

Tapered String Spec:

5.5in_Casing_Specs_P110_HC_GBCD_20201015144050.pdf

Casing Design Assumptions and Worksheet(s):

Margarita_21H_Casing_Design_Assumptions_20201015144227.pdf

Section 4 - Cement

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	None	None
INTERMEDIATE	Lead		0	0	0	0	0	0	0	None	None
SURFACE	Lead		0	1339	1000	1.99	12.8	1990	50	Class C	2% Gypsum + 2% SMS + 0.25PPS Pol-EFlake + 0.005GPS NoFoam V1A
SURFACE	Tail		1339	1674	350	1.34	14.8	468	20	Class C	1% CaCl2 + 0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	0	2610	910	3.13	11	2848	96	PowerCem	5PPS Plexcrete STE + 8% Gypsum + 1.5% SMS + 0.25% R-1300 + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		2610	2800	100	1.33	14.8	133	20	Class C	0.005GPS NoFoam V1A
INTERMEDIATE	Lead	2800	2800	4465	1310	1.83	12.8	2397	107	DI Poz + c	2% Gel + 5% SALT + 0.25PPS Pol-EFlake + 0.005GPS NoFoam V1A
INTERMEDIATE	Tail		4465	5582	730	1.33	14.8	971	20	Class C	0.005GPS NoFoam V1A
INTERMEDIATE	Lead		0	8408	840	3.81	10.6	3200	50	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam
INTERMEDIATE	Tail		8408	10511	670	1.21	14.5	811	20	Di Poz + H	5% SALT + 0.2% C-20 + 0.2% C-47B + 0.005GPS NoFoam
PRODUCTION	Lead		10011	11528	275	1.76	12.8	484	35	Di Poz + H	3% Gel + 5% SALT + 0.25% SMS + 0.5% C-20 + 0.005GPS NoFoam V1A
PRODUCTION	Tail		11528	23866	2570	1.33	14.8	3418	20	Class H	0.1% SuspendaCem 6302 + 0.3% C-20 + 0.4% C-47B + 0.005GPS NoFoam

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

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 additives (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase needs will be on site at all times. Mud program may change due to hole conditions.
Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1674	OTHER : FW Spud Mud	8.4	10							
1674	5582	OTHER : Brine water	10	10.5							
5582	10511	OTHER : Cut Brine	8.9	9.1							
10511	12428	OTHER : Cut Brine	9	9.2							
12428	23866	OIL-BASED MUD	9	9.5							

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Section 6 - Test, Logging, Coring

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

None

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

OTHER,

Other log type(s):

None

Coring operation description for the well:

No core, drill stem test, or open hole log is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5610 **Anticipated Surface Pressure:** 2947

Anticipated Bottom Hole Temperature(F): 135

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Margarita_21H_H2S_Plan_20200616101559.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Margarita_21H_Horizontal_Plan_20200616100823.pdf

Other proposed operations facets description:

Bow spring centralizers will be installed on the surface (13 centralizers), intermediate 1 (36.2), and intermediate 2 (32) casing strings.

Approximately 9 single bow centralizers will be installed on the production casing from 10,411' to 11,328' (TVD). Approximately 31 double bow centralizers will be installed from 11,328' to 12,628'. Approximately 136 solid body centralizers will be installed from 12,628' to TD.

Other proposed operations facets attachment:

CoFlex_Certs_20200616100901.pdf

Margarita_21H_Anti_Collision_Report_20200616100913.pdf

Margarita_21H_Speedhead_Specs_20200616100927.pdf

Margarita_21H_Sacrificial_Wellhead_20200616100937.pdf

Margarita_21H_Drill_Plan_v2_20201015144141.pdf

Operator Name: ADVANCE ENERGY PARTNERS HAT MESA LLC

Well Name: MARGARITA FEDERAL COM 13 **Well Number:** 21H

Other Variance attachment:

Margarita_21H_Casing_Cementing_Variance_Request_20200616100959.pdf

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 1
Margarita Federal Com 13 21H
SHL 1046' FNL & 711' FWL Section 13
BHL 2540' FNL & 660' FWL Section 25
T. 21 S., R. 32 E., Lea County, NM "pad D"

Drilling Program

1. ESTIMATED TOPS

Formation Name	TVD	MD	Bearing
Quaternary caliche	000'	000'	water
Rustler anhydrite	1649'	1649'	N/A
Tansill dolomite	3318'	3318'	N/A
Yates sandstone	3361'	3361'	N/A
Seven Rivers gypsum	3565'	3565'	N/A
Capitan Reef limestone	3706'	3706'	water
Capitan Reef limestone base	5617'	5617'	water
Lower Brushy Canyon sandstone	8608'	8608'	hydrocarbons
Avalon shale	9063'	9063'	hydrocarbons
1st Bone Spring sandstone	9950'	9950'	hydrocarbons
2nd Bone Spring sandstone	10471'	10471'	hydrocarbons
3rd Bone Spring carbonate	11026'	11026'	hydrocarbons
(KOP	11527'	11528'	hydrocarbons
3rd Bone Spring sandstone	11569'	11570'	hydrocarbons
Wolfcamp A carbonate	11765'	11773'	
TD	12100'	23866'	hydrocarbons

2. NOTABLE ZONES

Wolfcamp is the goal. Closest water well (CP 00794 PD 1) is 1.05 miles east. Depth to water was not reported in the 160' deep water well.

3. PRESSURE CONTROL

See attached Helmerich & Payne BOP Testing – BLM manual for equipment and procedures.

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 2
Margarita Federal Com 13 21H
SHL 1046' FNL & 711' FWL Section 13
BHL 2540' FNL & 660' FWL Section 25
T. 21 S., R. 32 E., Lea County, NM "pad D"

Variance is requested to use a co-flex hose between the BOP and choke instead of a steel line. See attached 3" I. D. x 10K test certificate. If this hose is unavailable, then a hose of equal or higher-pressure rating will be used.

Variance is requested to use a speed head (aka, multi-bowl wellhead) after setting intermediate 1. Advance has drilled >50 wells in immediate area to depths >5,000' and never encountered any type of flows. This will allow Advance to land the intermediate 1 and use the current proposed wellhead design. Advance will then NU BOPE on the 13.375" and continue using the BOPE to the completion of the well.

Variance is requested to use a sacrificial wellhead instead of a diverter. Advance will run surface casing with a sacrificial head so BOPE can be nippled up and tested as required by Onshore Order 2 before drilling out the surface casing. Once the intermediate 1 hole is drilled, cased, and cemented; then the sacrificial wellhead will be cut off and the 13.625" 5K MN-DS WH will be installed. BOPE will then be nippled up and tested as required by Onshore Order 2 before drilling out the intermediate 1 casing.

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption worksheet.

Name	Hole OD	Casing OD	Tapered	Top MD	Bottom MD	Top TVD	BTM TVD	Grade	Weight	Thread	Collapse	Burst	Tension
Surface	24"	20"	No	0	1674	0	1674	K-55	133	BTC	1.125	1.125	1.6
1st Intermediate	17.5"	13.375"	No	0	5582	0	5582	HCL-80	68	BTC	1.125	1.125	1.6
2nd Intermediate	12.25"	9.625"	No	0	4000	0	4000	J-55	40	LTC	1.125	1.125	1.6
2nd Intermediate	12.25"	9.625"	No	4000	10511	4000	10500	HCP-110	40	LTC	1.125	1.125	1.6
Production	8.75"	5.5"	No	0	12428	0	12100	HCP-110	20	GBCD	1.125	1.125	1.6
Production	8.5"	5.5"	No	12428	23866	12100	12100	HCP-110	20	GBCD	1.125	1.125	1.6

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 3
Margarita Federal Com 13 21H
SHL 1046' FNL & 711' FWL Section 13
BHL 2540' FNL & 660' FWL Section 25
T. 21 S., R. 32 E., Lea County, NM "pad D"

Bow spring centralizers will be installed on the surface (≈13 centralizers), intermediate 1 (≈36.2), and intermediate 2 (≈32) casing strings.

Approximately 9 single bow centralizers will be installed on the production casing from 10,411' to 11,328' (TVD). Approximately 31 double bow centralizers will be installed from 11,328' to 12,628'. Approximately 136 solid body centralizers will be installed from 12,628' to TD.

Variance is requested for an option to use a surface rig to drill the surface hole and set and cement the surface casing. If time between rigs would not be allow presetting the surface casing, then the primary rig will drill all of the well.

Cement additive names in following table are West Texas Cementers trade names. They, or equivalent, products will be used.

Name	Type	Top MD	Sacks	Yield	Cu. Ft	Weight	Excess	Cement	Additives
Surface	Lead	0	1000	1.99	1990	12.8	50%	C	2% Gypsum + 2% SMS + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	1339	350	1.34	469	14.8	20%	C	1% CaCl2 + 0.005GPS NoFoam V1A
1st Intermediate (stage 1)	Lead	2800	1310	1.83	2397	12.8	107%	Di Poz + C	2% Gel + 5% SALT + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	4465	730	1.33	971	14.8	20%	C	0.005GPS NoFoam V1A
1st Intermediate (stage 2)	Lead	0	910	3.13	2848	11	96%	PowerCem	5PPS Plexcrete STE + 8% Gypsum + 1.5% SMS + 0.25% R-1300 + 0.25PPS Pol-E-Flake + 0.005GPS NoFoam V1A
	Tail	2610	100	1.33	133	14.8	0%	C	0.005GPS NoFoam V1A
2nd Intermediate	Lead	0	840	3.81	3200	10.6	50%	PowerCem	5PPS Plexcrete STE + 11% Gypsum + 3% SMS + 0.1% SuspendaCem 6302 + 0.4% R-1300 + 0.005GPS NoFoam V1A
	Tail	8408	670	1.21	811	14.5	20%	Di Poz + H	5% SALT + 0.2% C-20 + 0.2% C-47B + 0.005GPS NoFoam V1A
Production	Lead	10011	275	1.76	484	12.8	35%	Di Poz + H	3% Gel + 5% SALT + 0.25% SMS + 0.5% C-20 + 0.005GPS NoFoam V1A
	Tail	11528	2570	1.33	3418	14.8	20%	H	0.1% SuspendaCem 6302 + 0.3% C-20 + 0.4% C-47B + 0.005GPS NoFoam V1A

Note: Intermediate 1 is a two-stage cement job. DVT will be set at approximately 2,800'.

Advance Energy Partners Hat Mesa, LLC DRILL PLAN PAGE 4
Margarita Federal Com 13 21H
SHL 1046' FNL & 711' FWL Section 13
BHL 2540' FNL & 660' FWL Section 25
T. 21 S., R. 32 E., Lea County, NM "pad D"

5. MUD PROGRAM

An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate. All necessary additives (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase needs will be on site at all times. Mud program may change due to hole conditions. A closed loop system will be used.

Name	Top	Bottom	Type	Mud Weight (ppg)	Visc	Fluid Loss
Surface	0	1674	FW Spud Mud	8.4 - 10.0	28 - 36	NC
Intermediate 1	1674	5582	Brine Water	10.0 - 10.5	28 - 32	NC
Intermediate 2	5582	10511	Cut Brine	8.9 - 9.1	28 - 30	NC
Production	10511	12428	Cut Brine	9.0 - 9.2	28 - 30	NC
Production	12428	23866	Oil Based Mud	9.0 - 9.5	55 - 65	6 - 8

6. CORES, TESTS, & LOGS

No core, drill stem test, or open hole log is planned.

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈5610 psi. Expected bottom hole temperature is ≈135˚ F.

H2S monitoring and detection equipment will be used from surface casing point to TD.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈3-4 months to drill and complete the well.

ADVANCE ENERGY PARTNERS

WELL DETAILS: Margarita Federal Com 21H

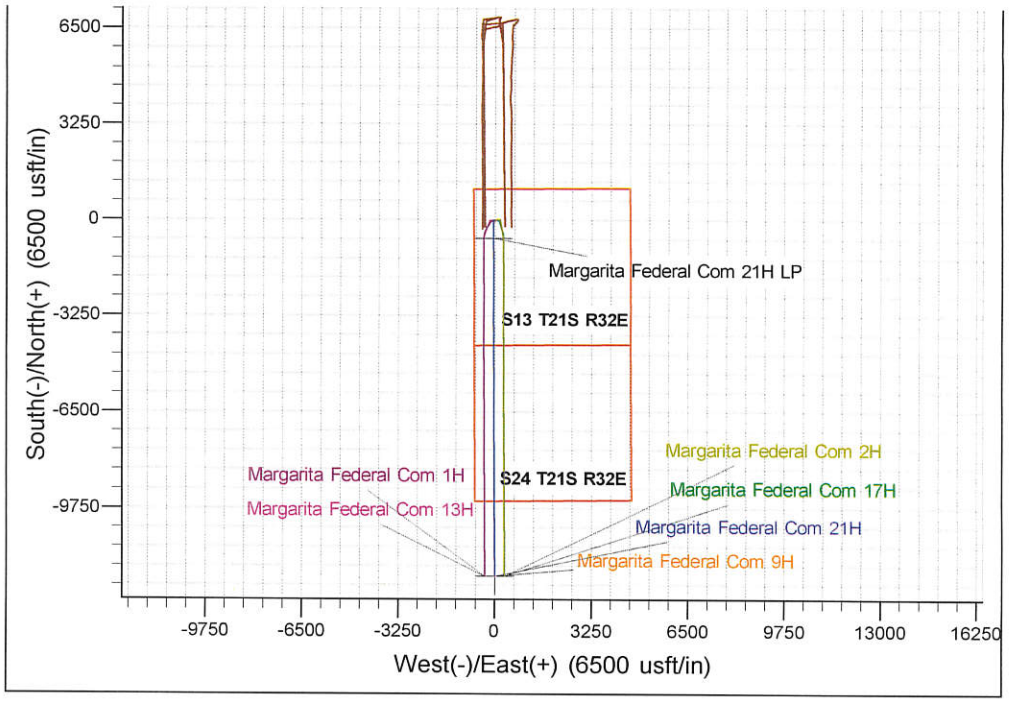
Ground Elev: 3916.0 KB: 3941.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	540257.96	756783.52	32° 28' 59.851 N	103° 38' 4.693 W

PROJECT DETAILS: Hat Mesa

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

System Datum: Mean Sea Level

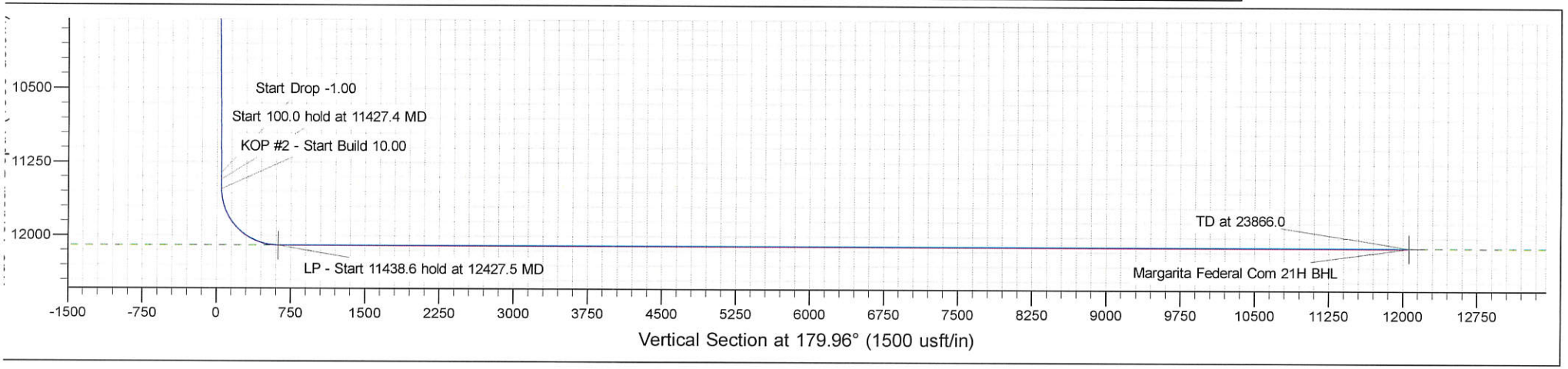


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5600.0	0.00	0.00	5600.0	0.0	0.0	0.00	0.00	0.0	KOP - Start Build 1.00
3	5671.1	0.71	225.57	5671.1	-0.3	-0.3	1.00	225.57	0.3	Start 5685.3 hold at 5671.1 MD
4	11356.4	0.71	225.57	11355.9	-49.7	-50.7	0.00	0.00	49.7	Start Drop -1.00
5	11427.4	0.00	0.00	11427.0	-50.0	-51.0	1.00	180.00	50.0	Start 100.0 hold at 11427.4 MD
6	11527.5	0.00	0.00	11527.0	-50.0	-51.0	0.00	0.00	50.0	KOP #2 - Start Build 10.00
7	12427.5	90.00	179.71	12100.0	-623.0	-48.1	10.00	179.71	622.9	LP - Start 11438.6 hold at 12427.5 MD
8	23866.0	90.00	179.71	12100.0	-12061.4	8.9	0.00	0.00	12061.4	TD at 23866.0

Azimuths to Grid North
True North: -0.38°
Magnetic North: 6.32°

Magnetic Field
Strength: 47793.2nT
Dip Angle: 60.25°
Date: 4/3/2020
Model: IGRF2015



ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

Project Hat Mesa, Lea County, NM

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

Site Margarita Federal Com - Pad D

Site Position:		**Northing:**	540,257.17 usft	**Latitude:**	32° 28' 59.848 N
From:	Lat/Long	**Easting:**	756,717.53 usft	**Longitude:**	103° 38' 5.464 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Margarita Federal Com 21H

Well Position	**+N/-S**	0.0 usft	**Northing:**	540,257.97 usft	**Latitude:**	32° 28' 59.851 N
	+E/-W	0.0 usft	**Easting:**	756,783.52 usft	**Longitude:**	103° 38' 4.693 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,916.0 usft
Grid Convergence:		0.38 °				

Wellbore Margarita Federal Com 21H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/3/2020	6.70	60.25	47,793.21301735

Design Margarita Federal Com 21H - Prelim 2

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	179.96

Plan Survey Tool Program **Date** 4/15/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	23,866.0	Margarita Federal Com 21H - Pre	MWD+HRGM	
				OWSG MWD + HRGM	

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	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,671.1	0.71	225.57	5,671.1	-0.3	-0.3	1.00	1.00	0.00	225.57	
11,356.4	0.71	225.57	11,355.9	-49.7	-50.7	0.00	0.00	0.00	0.00	
11,427.4	0.00	0.00	11,427.0	-50.0	-51.0	1.00	-1.00	0.00	180.00	
11,527.5	0.00	0.00	11,527.0	-50.0	-51.0	0.00	0.00	0.00	0.00	
12,427.5	90.00	179.71	12,100.0	-623.0	-48.1	10.00	10.00	0.00	179.71	
23,866.0	90.00	179.71	12,100.0	-12,061.4	8.9	0.00	0.00	0.00	0.00	Margarita Federal Coi

ADVANCE ENERGY PARTNERS

Planning Report

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Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

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	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

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	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 1.00									
5,671.1	0.71	225.57	5,671.1	-0.3	-0.3	0.3	1.00	1.00	0.00
Start 5685.3 hold at 5671.1 MD									
5,700.0	0.71	225.57	5,700.0	-0.6	-0.6	0.6	0.00	0.00	0.00
5,800.0	0.71	225.57	5,800.0	-1.4	-1.5	1.4	0.00	0.00	0.00
5,900.0	0.71	225.57	5,900.0	-2.3	-2.3	2.3	0.00	0.00	0.00
6,000.0	0.71	225.57	6,000.0	-3.2	-3.2	3.2	0.00	0.00	0.00
6,100.0	0.71	225.57	6,100.0	-4.0	-4.1	4.0	0.00	0.00	0.00
6,200.0	0.71	225.57	6,200.0	-4.9	-5.0	4.9	0.00	0.00	0.00
6,300.0	0.71	225.57	6,299.9	-5.8	-5.9	5.8	0.00	0.00	0.00
6,400.0	0.71	225.57	6,399.9	-6.6	-6.8	6.6	0.00	0.00	0.00
6,500.0	0.71	225.57	6,499.9	-7.5	-7.7	7.5	0.00	0.00	0.00
6,600.0	0.71	225.57	6,599.9	-8.4	-8.5	8.4	0.00	0.00	0.00
6,700.0	0.71	225.57	6,699.9	-9.2	-9.4	9.2	0.00	0.00	0.00
6,800.0	0.71	225.57	6,799.9	-10.1	-10.3	10.1	0.00	0.00	0.00
6,900.0	0.71	225.57	6,899.9	-11.0	-11.2	11.0	0.00	0.00	0.00
7,000.0	0.71	225.57	6,999.9	-11.9	-12.1	11.8	0.00	0.00	0.00
7,100.0	0.71	225.57	7,099.9	-12.7	-13.0	12.7	0.00	0.00	0.00
7,200.0	0.71	225.57	7,199.9	-13.6	-13.9	13.6	0.00	0.00	0.00
7,300.0	0.71	225.57	7,299.9	-14.5	-14.7	14.4	0.00	0.00	0.00
7,400.0	0.71	225.57	7,399.9	-15.3	-15.6	15.3	0.00	0.00	0.00
7,500.0	0.71	225.57	7,499.9	-16.2	-16.5	16.2	0.00	0.00	0.00
7,600.0	0.71	225.57	7,599.8	-17.1	-17.4	17.1	0.00	0.00	0.00
7,700.0	0.71	225.57	7,699.8	-17.9	-18.3	17.9	0.00	0.00	0.00
7,800.0	0.71	225.57	7,799.8	-18.8	-19.2	18.8	0.00	0.00	0.00
7,900.0	0.71	225.57	7,899.8	-19.7	-20.1	19.7	0.00	0.00	0.00
8,000.0	0.71	225.57	7,999.8	-20.5	-20.9	20.5	0.00	0.00	0.00
8,100.0	0.71	225.57	8,099.8	-21.4	-21.8	21.4	0.00	0.00	0.00
8,200.0	0.71	225.57	8,199.8	-22.3	-22.7	22.3	0.00	0.00	0.00
8,300.0	0.71	225.57	8,299.8	-23.1	-23.6	23.1	0.00	0.00	0.00
8,400.0	0.71	225.57	8,399.8	-24.0	-24.5	24.0	0.00	0.00	0.00
8,500.0	0.71	225.57	8,499.8	-24.9	-25.4	24.9	0.00	0.00	0.00
8,600.0	0.71	225.57	8,599.8	-25.7	-26.3	25.7	0.00	0.00	0.00
8,700.0	0.71	225.57	8,699.8	-26.6	-27.2	26.6	0.00	0.00	0.00
8,800.0	0.71	225.57	8,799.8	-27.5	-28.0	27.5	0.00	0.00	0.00
8,900.0	0.71	225.57	8,899.7	-28.4	-28.9	28.3	0.00	0.00	0.00
9,000.0	0.71	225.57	8,999.7	-29.2	-29.8	29.2	0.00	0.00	0.00
9,100.0	0.71	225.57	9,099.7	-30.1	-30.7	30.1	0.00	0.00	0.00
9,200.0	0.71	225.57	9,199.7	-31.0	-31.6	30.9	0.00	0.00	0.00
9,300.0	0.71	225.57	9,299.7	-31.8	-32.5	31.8	0.00	0.00	0.00
9,400.0	0.71	225.57	9,399.7	-32.7	-33.4	32.7	0.00	0.00	0.00
9,500.0	0.71	225.57	9,499.7	-33.6	-34.2	33.5	0.00	0.00	0.00
9,600.0	0.71	225.57	9,599.7	-34.4	-35.1	34.4	0.00	0.00	0.00
9,700.0	0.71	225.57	9,699.7	-35.3	-36.0	35.3	0.00	0.00	0.00
9,800.0	0.71	225.57	9,799.7	-36.2	-36.9	36.1	0.00	0.00	0.00
9,900.0	0.71	225.57	9,899.7	-37.0	-37.8	37.0	0.00	0.00	0.00
10,000.0	0.71	225.57	9,999.7	-37.9	-38.7	37.9	0.00	0.00	0.00
10,100.0	0.71	225.57	10,099.7	-38.8	-39.6	38.7	0.00	0.00	0.00
10,200.0	0.71	225.57	10,199.6	-39.6	-40.4	39.6	0.00	0.00	0.00
10,300.0	0.71	225.57	10,299.6	-40.5	-41.3	40.5	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

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)
10,400.0	0.71	225.57	10,399.6	-41.4	-42.2	41.4	0.00	0.00	0.00
10,500.0	0.71	225.57	10,499.6	-42.3	-43.1	42.2	0.00	0.00	0.00
10,600.0	0.71	225.57	10,599.6	-43.1	-44.0	43.1	0.00	0.00	0.00
10,700.0	0.71	225.57	10,699.6	-44.0	-44.9	44.0	0.00	0.00	0.00
10,800.0	0.71	225.57	10,799.6	-44.9	-45.8	44.8	0.00	0.00	0.00
10,900.0	0.71	225.57	10,899.6	-45.7	-46.6	45.7	0.00	0.00	0.00
11,000.0	0.71	225.57	10,999.6	-46.6	-47.5	46.6	0.00	0.00	0.00
11,100.0	0.71	225.57	11,099.6	-47.5	-48.4	47.4	0.00	0.00	0.00
11,200.0	0.71	225.57	11,199.6	-48.3	-49.3	48.3	0.00	0.00	0.00
11,300.0	0.71	225.57	11,299.6	-49.2	-50.2	49.2	0.00	0.00	0.00
11,356.4	0.71	225.57	11,355.9	-49.7	-50.7	49.7	0.00	0.00	0.00
Start Drop -1.00									
11,400.0	0.27	225.57	11,399.6	-50.0	-51.0	49.9	1.00	-1.00	0.00
11,427.4	0.00	0.00	11,427.0	-50.0	-51.0	50.0	1.00	-1.00	0.00
Start 100.0 hold at 11427.4 MD									
11,500.0	0.00	0.00	11,499.6	-50.0	-51.0	50.0	0.00	0.00	0.00
11,527.5	0.00	0.00	11,527.0	-50.0	-51.0	50.0	0.00	0.00	0.00
KOP #2 - Start Build 10.00									
11,600.0	7.25	179.71	11,599.4	-54.6	-51.0	54.5	10.00	10.00	0.00
11,700.0	17.25	179.71	11,697.0	-75.8	-50.9	75.7	10.00	10.00	0.00
11,800.0	27.25	179.71	11,789.4	-113.6	-50.7	113.6	10.00	10.00	0.00
11,900.0	37.25	179.71	11,873.9	-166.9	-50.4	166.9	10.00	10.00	0.00
12,000.0	47.25	179.71	11,947.8	-234.0	-50.1	234.0	10.00	10.00	0.00
12,100.0	57.25	179.71	12,008.9	-313.0	-49.7	313.0	10.00	10.00	0.00
12,200.0	67.25	179.71	12,055.4	-401.4	-49.2	401.4	10.00	10.00	0.00
12,300.0	77.25	179.71	12,085.9	-496.5	-48.8	496.5	10.00	10.00	0.00
12,400.0	87.25	179.71	12,099.3	-595.5	-48.3	595.4	10.00	10.00	0.00
12,427.5	90.00	179.71	12,100.0	-623.0	-48.1	622.9	10.00	10.00	0.00
LP - Start 11438.6 hold at 12427.5 MD - Formation 2 - Margarita Federal Com 21H LP									
12,500.0	90.00	179.71	12,100.0	-695.5	-47.8	695.4	0.00	0.00	0.00
12,600.0	90.00	179.71	12,100.0	-795.5	-47.3	795.4	0.00	0.00	0.00
12,700.0	90.00	179.71	12,100.0	-895.5	-46.8	895.4	0.00	0.00	0.00
12,800.0	90.00	179.71	12,100.0	-995.5	-46.3	995.4	0.00	0.00	0.00
12,900.0	90.00	179.71	12,100.0	-1,095.5	-45.8	1,095.4	0.00	0.00	0.00
13,000.0	90.00	179.71	12,100.0	-1,195.5	-45.3	1,195.4	0.00	0.00	0.00
13,100.0	90.00	179.71	12,100.0	-1,295.5	-44.8	1,295.4	0.00	0.00	0.00
13,200.0	90.00	179.71	12,100.0	-1,395.5	-44.3	1,395.4	0.00	0.00	0.00
13,300.0	90.00	179.71	12,100.0	-1,495.5	-43.8	1,495.4	0.00	0.00	0.00
13,400.0	90.00	179.71	12,100.0	-1,595.5	-43.3	1,595.4	0.00	0.00	0.00
13,500.0	90.00	179.71	12,100.0	-1,695.5	-42.8	1,695.4	0.00	0.00	0.00
13,600.0	90.00	179.71	12,100.0	-1,795.5	-42.3	1,795.4	0.00	0.00	0.00
13,700.0	90.00	179.71	12,100.0	-1,895.5	-41.8	1,895.4	0.00	0.00	0.00
13,800.0	90.00	179.71	12,100.0	-1,995.5	-41.3	1,995.4	0.00	0.00	0.00
13,900.0	90.00	179.71	12,100.0	-2,095.4	-40.8	2,095.4	0.00	0.00	0.00
14,000.0	90.00	179.71	12,100.0	-2,195.4	-40.3	2,195.4	0.00	0.00	0.00
14,100.0	90.00	179.71	12,100.0	-2,295.4	-39.8	2,295.4	0.00	0.00	0.00
14,200.0	90.00	179.71	12,100.0	-2,395.4	-39.3	2,395.4	0.00	0.00	0.00
14,300.0	90.00	179.71	12,100.0	-2,495.4	-38.8	2,495.4	0.00	0.00	0.00
14,400.0	90.00	179.71	12,100.0	-2,595.4	-38.3	2,595.4	0.00	0.00	0.00
14,500.0	90.00	179.71	12,100.0	-2,695.4	-37.8	2,695.4	0.00	0.00	0.00
14,600.0	90.00	179.71	12,100.0	-2,795.4	-37.3	2,795.4	0.00	0.00	0.00
14,700.0	90.00	179.71	12,100.0	-2,895.4	-36.8	2,895.4	0.00	0.00	0.00
14,800.0	90.00	179.71	12,100.0	-2,995.4	-36.3	2,995.4	0.00	0.00	0.00
14,900.0	90.00	179.71	12,100.0	-3,095.4	-35.8	3,095.4	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

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)
15,000.0	90.00	179.71	12,100.0	-3,195.4	-35.3	3,195.4	0.00	0.00	0.00
15,100.0	90.00	179.71	12,100.0	-3,295.4	-34.8	3,295.4	0.00	0.00	0.00
15,200.0	90.00	179.71	12,100.0	-3,395.4	-34.3	3,395.4	0.00	0.00	0.00
15,300.0	90.00	179.71	12,100.0	-3,495.4	-33.8	3,495.4	0.00	0.00	0.00
15,400.0	90.00	179.71	12,100.0	-3,595.4	-33.3	3,595.4	0.00	0.00	0.00
15,500.0	90.00	179.71	12,100.0	-3,695.4	-32.8	3,695.4	0.00	0.00	0.00
15,600.0	90.00	179.71	12,100.0	-3,795.4	-32.3	3,795.4	0.00	0.00	0.00
15,700.0	90.00	179.71	12,100.0	-3,895.4	-31.8	3,895.4	0.00	0.00	0.00
15,800.0	90.00	179.71	12,100.0	-3,995.4	-31.3	3,995.4	0.00	0.00	0.00
15,900.0	90.00	179.71	12,100.0	-4,095.4	-30.8	4,095.4	0.00	0.00	0.00
16,000.0	90.00	179.71	12,100.0	-4,195.4	-30.3	4,195.4	0.00	0.00	0.00
16,100.0	90.00	179.71	12,100.0	-4,295.4	-29.8	4,295.4	0.00	0.00	0.00
16,200.0	90.00	179.71	12,100.0	-4,395.4	-29.3	4,395.4	0.00	0.00	0.00
16,300.0	90.00	179.71	12,100.0	-4,495.4	-28.8	4,495.4	0.00	0.00	0.00
16,400.0	90.00	179.71	12,100.0	-4,595.4	-28.3	4,595.4	0.00	0.00	0.00
16,500.0	90.00	179.71	12,100.0	-4,695.4	-27.8	4,695.4	0.00	0.00	0.00
16,600.0	90.00	179.71	12,100.0	-4,795.4	-27.3	4,795.4	0.00	0.00	0.00
16,700.0	90.00	179.71	12,100.0	-4,895.4	-26.8	4,895.4	0.00	0.00	0.00
16,800.0	90.00	179.71	12,100.0	-4,995.4	-26.3	4,995.4	0.00	0.00	0.00
16,900.0	90.00	179.71	12,100.0	-5,095.4	-25.8	5,095.4	0.00	0.00	0.00
17,000.0	90.00	179.71	12,100.0	-5,195.4	-25.3	5,195.4	0.00	0.00	0.00
17,100.0	90.00	179.71	12,100.0	-5,295.4	-24.8	5,295.4	0.00	0.00	0.00
17,200.0	90.00	179.71	12,100.0	-5,395.4	-24.3	5,395.4	0.00	0.00	0.00
17,300.0	90.00	179.71	12,100.0	-5,495.4	-23.8	5,495.4	0.00	0.00	0.00
17,400.0	90.00	179.71	12,100.0	-5,595.4	-23.3	5,595.4	0.00	0.00	0.00
17,500.0	90.00	179.71	12,100.0	-5,695.4	-22.8	5,695.4	0.00	0.00	0.00
17,600.0	90.00	179.71	12,100.0	-5,795.4	-22.3	5,795.4	0.00	0.00	0.00
17,700.0	90.00	179.71	12,100.0	-5,895.4	-21.8	5,895.4	0.00	0.00	0.00
17,800.0	90.00	179.71	12,100.0	-5,995.4	-21.3	5,995.4	0.00	0.00	0.00
17,900.0	90.00	179.71	12,100.0	-6,095.4	-20.8	6,095.4	0.00	0.00	0.00
18,000.0	90.00	179.71	12,100.0	-6,195.4	-20.3	6,195.4	0.00	0.00	0.00
18,100.0	90.00	179.71	12,100.0	-6,295.4	-19.8	6,295.4	0.00	0.00	0.00
18,200.0	90.00	179.71	12,100.0	-6,395.4	-19.3	6,395.4	0.00	0.00	0.00
18,300.0	90.00	179.71	12,100.0	-6,495.4	-18.8	6,495.4	0.00	0.00	0.00
18,400.0	90.00	179.71	12,100.0	-6,595.4	-18.3	6,595.4	0.00	0.00	0.00
18,500.0	90.00	179.71	12,100.0	-6,695.4	-17.8	6,695.4	0.00	0.00	0.00
18,600.0	90.00	179.71	12,100.0	-6,795.4	-17.3	6,795.4	0.00	0.00	0.00
18,700.0	90.00	179.71	12,100.0	-6,895.4	-16.8	6,895.4	0.00	0.00	0.00
18,800.0	90.00	179.71	12,100.0	-6,995.4	-16.3	6,995.4	0.00	0.00	0.00
18,900.0	90.00	179.71	12,100.0	-7,095.4	-15.8	7,095.4	0.00	0.00	0.00
19,000.0	90.00	179.71	12,100.0	-7,195.4	-15.3	7,195.4	0.00	0.00	0.00
19,100.0	90.00	179.71	12,100.0	-7,295.4	-14.8	7,295.4	0.00	0.00	0.00
19,200.0	90.00	179.71	12,100.0	-7,395.4	-14.3	7,395.4	0.00	0.00	0.00
19,300.0	90.00	179.71	12,100.0	-7,495.4	-13.8	7,495.4	0.00	0.00	0.00
19,400.0	90.00	179.71	12,100.0	-7,595.4	-13.4	7,595.4	0.00	0.00	0.00
19,500.0	90.00	179.71	12,100.0	-7,695.4	-12.9	7,695.4	0.00	0.00	0.00
19,600.0	90.00	179.71	12,100.0	-7,795.4	-12.4	7,795.4	0.00	0.00	0.00
19,700.0	90.00	179.71	12,100.0	-7,895.4	-11.9	7,895.4	0.00	0.00	0.00
19,800.0	90.00	179.71	12,100.0	-7,995.4	-11.4	7,995.4	0.00	0.00	0.00
19,900.0	90.00	179.71	12,100.0	-8,095.4	-10.9	8,095.4	0.00	0.00	0.00
20,000.0	90.00	179.71	12,100.0	-8,195.4	-10.4	8,195.4	0.00	0.00	0.00
20,100.0	90.00	179.71	12,100.0	-8,295.4	-9.9	8,295.4	0.00	0.00	0.00
20,200.0	90.00	179.71	12,100.0	-8,395.4	-9.4	8,395.4	0.00	0.00	0.00
20,300.0	90.00	179.71	12,100.0	-8,495.4	-8.9	8,495.4	0.00	0.00	0.00

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

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)
20,400.0	90.00	179.71	12,100.0	-8,595.4	-8.4	8,595.4	0.00	0.00	0.00
20,500.0	90.00	179.71	12,100.0	-8,695.4	-7.9	8,695.4	0.00	0.00	0.00
20,600.0	90.00	179.71	12,100.0	-8,795.4	-7.4	8,795.4	0.00	0.00	0.00
20,700.0	90.00	179.71	12,100.0	-8,895.4	-6.9	8,895.4	0.00	0.00	0.00
20,800.0	90.00	179.71	12,100.0	-8,995.4	-6.4	8,995.4	0.00	0.00	0.00
20,900.0	90.00	179.71	12,100.0	-9,095.4	-5.9	9,095.4	0.00	0.00	0.00
21,000.0	90.00	179.71	12,100.0	-9,195.4	-5.4	9,195.4	0.00	0.00	0.00
21,100.0	90.00	179.71	12,100.0	-9,295.4	-4.9	9,295.4	0.00	0.00	0.00
21,200.0	90.00	179.71	12,100.0	-9,395.4	-4.4	9,395.4	0.00	0.00	0.00
21,300.0	90.00	179.71	12,100.0	-9,495.4	-3.9	9,495.4	0.00	0.00	0.00
21,400.0	90.00	179.71	12,100.0	-9,595.4	-3.4	9,595.4	0.00	0.00	0.00
21,500.0	90.00	179.71	12,100.0	-9,695.4	-2.9	9,695.3	0.00	0.00	0.00
21,600.0	90.00	179.71	12,100.0	-9,795.4	-2.4	9,795.3	0.00	0.00	0.00
21,700.0	90.00	179.71	12,100.0	-9,895.4	-1.9	9,895.3	0.00	0.00	0.00
21,800.0	90.00	179.71	12,100.0	-9,995.4	-1.4	9,995.3	0.00	0.00	0.00
21,900.0	90.00	179.71	12,100.0	-10,095.3	-0.9	10,095.3	0.00	0.00	0.00
22,000.0	90.00	179.71	12,100.0	-10,195.3	-0.4	10,195.3	0.00	0.00	0.00
22,100.0	90.00	179.71	12,100.0	-10,295.3	0.1	10,295.3	0.00	0.00	0.00
22,200.0	90.00	179.71	12,100.0	-10,395.3	0.6	10,395.3	0.00	0.00	0.00
22,300.0	90.00	179.71	12,100.0	-10,495.3	1.1	10,495.3	0.00	0.00	0.00
22,400.0	90.00	179.71	12,100.0	-10,595.3	1.6	10,595.3	0.00	0.00	0.00
22,500.0	90.00	179.71	12,100.0	-10,695.3	2.1	10,695.3	0.00	0.00	0.00
22,600.0	90.00	179.71	12,100.0	-10,795.3	2.6	10,795.3	0.00	0.00	0.00
22,700.0	90.00	179.71	12,100.0	-10,895.3	3.1	10,895.3	0.00	0.00	0.00
22,800.0	90.00	179.71	12,100.0	-10,995.3	3.6	10,995.3	0.00	0.00	0.00
22,900.0	90.00	179.71	12,100.0	-11,095.3	4.1	11,095.3	0.00	0.00	0.00
23,000.0	90.00	179.71	12,100.0	-11,195.3	4.6	11,195.3	0.00	0.00	0.00
23,100.0	90.00	179.71	12,100.0	-11,295.3	5.1	11,295.3	0.00	0.00	0.00
23,200.0	90.00	179.71	12,100.0	-11,395.3	5.6	11,395.3	0.00	0.00	0.00
23,300.0	90.00	179.71	12,100.0	-11,495.3	6.1	11,495.3	0.00	0.00	0.00
23,400.0	90.00	179.71	12,100.0	-11,595.3	6.6	11,595.3	0.00	0.00	0.00
23,500.0	90.00	179.71	12,100.0	-11,695.3	7.1	11,695.3	0.00	0.00	0.00
23,600.0	90.00	179.71	12,100.0	-11,795.3	7.6	11,795.3	0.00	0.00	0.00
23,700.0	90.00	179.71	12,100.0	-11,895.3	8.1	11,895.3	0.00	0.00	0.00
23,800.0	90.00	179.71	12,100.0	-11,995.3	8.6	11,995.3	0.00	0.00	0.00
23,866.0	90.00	179.71	12,100.0	-12,061.4	8.9	12,061.4	0.00	0.00	0.00

TD at 23866.0 - Margarita Federal Com 21H BHL

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
Margarita Federal Com : - plan hits target center - Point	0.00	0.00	12,100.0	-12,061.4	8.9	528,196.59	756,792.45	32° 27' 0.504 N	103° 38' 5.510 W
Margarita Federal Com : - plan hits target center - Point	0.00	0.00	12,100.0	-623.0	-48.1	539,635.02	756,735.38	32° 28' 53.690 N	103° 38' 5.303 W

ADVANCE ENERGY PARTNERS

Planning Report

Database:	EDM 5000.16 Single User Db	**Local Co-ordinate Reference:**	Well Margarita Federal Com 21H
Company:	Advance Energy Partners	**TVD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Project:	Hat Mesa	**MD Reference:**	WELL @ 3941.0usft (Original Well Elev)
Site:	Margarita Federal Com - Pad D	**North Reference:**	Grid
Well:	Margarita Federal Com 21H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Margarita Federal Com 21H		
Design:	Margarita Federal Com 21H - Prelim 2		

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
12,427.5	12,100.0	LP	5-1/2	6

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
12,427.5	12,100.0	Formation 2		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
5,600.0	5,600.0	0.0	0.0	KOP - Start Build 1.00
5,671.1	5,671.1	-0.3	-0.3	Start 5685.3 hold at 5671.1 MD
11,356.4	11,355.9	-49.7	-50.7	Start Drop -1.00
11,427.4	11,427.0	-50.0	-51.0	Start 100.0 hold at 11427.4 MD
11,527.5	11,527.0	-50.0	-51.0	KOP #2 - Start Build 10.00
12,427.5	12,100.0	-623.0	-48.1	LP - Start 11438.6 hold at 12427.5 MD
23,866.0	12,100.0	-12,061.4	8.9	TD at 23866.0

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Advance Energy Partners
Margarita Federal Com 1H
Lease Number: 14155
Sundry Notice for Pad Expansion and Four Horizontal wells

OPERATOR'S NAME:	Advance Energy Partners
WELL NAME & NO.:	Margarita Federal Com 9H
SURFACE HOLE FOOTAGE:	1046'/N & 744'/W
BOTTOM HOLE FOOTAGE	2540'/N & 660'/W
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico
OPERATOR'S NAME:	Advance Energy Partners
WELL NAME & NO.:	Margarita Federal Com 13H
SURFACE HOLE FOOTAGE:	1046'/N & 645'/W
BOTTOM HOLE FOOTAGE	2540'/N & 330'/W
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico
OPERATOR'S NAME:	Advance Energy Partners
WELL NAME & NO.:	Margarita Federal Com 17H
SURFACE HOLE FOOTAGE:	1046'/N & 777'/W
BOTTOM HOLE FOOTAGE	2540'/N & 990'/W
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico
OPERATOR'S NAME:	Advance Energy Partners
WELL NAME & NO.:	Margarita Federal Com 21H
SURFACE HOLE FOOTAGE:	1046'/N & 711'/W
BOTTOM HOLE FOOTAGE	2540'/N & 660'/W
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

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

 Approval Date: 12/09/2020

☒ **Special Requirements**
- Lesser Prairie-Chicken Timing Stipulations
- Ground-level Abandoned Well Marker
- Hydrology
- Potash

☐ **Construction**
- Notification
- Topsoil
- Closed Loop System
- Federal Mineral Material Pits
- Well Pads
- Roads

☐ **Road Section Diagram**

☐ **Production (Post Drilling)**
- Well Structures & Facilities

☐ **Interim Reclamation**

☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Hydrology:

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

within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Surface disturbance near playas should be avoided to maintain the integrity of the recharge zone and the resource for water infiltration and wildlife habitat.

Potash:

Lessees must comply with the 2012Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

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

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

Containment Structures

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

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

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

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

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Advance Energy Partners Hat Mesa LLC**
LEASE NO.:	**NMNM014155**
WELL NAME & NO.:	Margarita Federal Com 13 21H
SURFACE HOLE FOOTAGE:	1046'/N & 711'/W
BOTTOM HOLE FOOTAGE	2540'/N & 660'/W
LOCATION:	Section 13, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	☐ Yes	☒ No	
Potash	☐ None	☐ Secretary	☒ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☐ Multibowl	☒ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

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 Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

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

1. The **20** inch surface casing shall be set at approximately **1785 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) 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

 Approval Date: 12/09/2020

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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **13-3/8** inch intermediate casing shall be set at approximately **3300 feet** is:

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

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

❖ 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.

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

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement might be required.**

4. 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, potash or capitan reef. Cement excess is less than 25%, more cement might be required.

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.

   a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
   The operator is approved to use a sacrificial wellhead to drill the 17 ½ inch intermediate hole. Once the intermediate hole is drilled cased and cemented, the sacrificial wellhead will be cut off and the 13 5/8 inch 5K MN-DS multi-bowl wellhead will be installed.

   b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13 3/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

      i. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13 3/8** inch intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

         1. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
         2. 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.
         3. Manufacturer representative shall install the test plug for the initial BOP test.
         4. 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.

      ii. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i 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.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

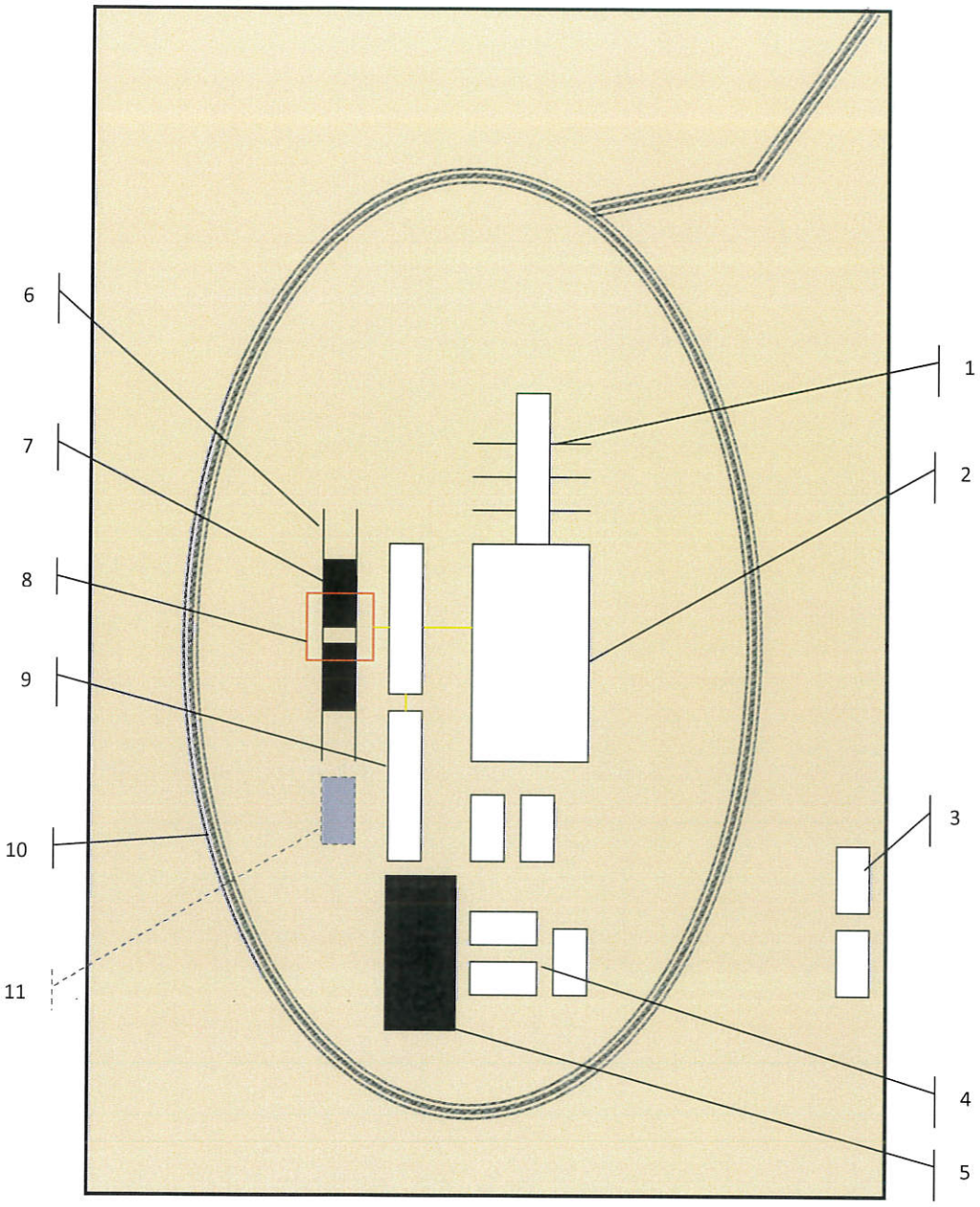
C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.



Schematic Closed Loop Drilling Rig*

1. Pipe Rack
2. Drill Rig
3. House Trailers/ Offices
4. Generator/Fuel/Storage
5. Overflow-Frac Tank
6. Skids
7. Roll Offs
8. Hopper or Centrifuge
9. Mud Tanks
10. Loop Drive
11. Generator (only for use with centrifuge)

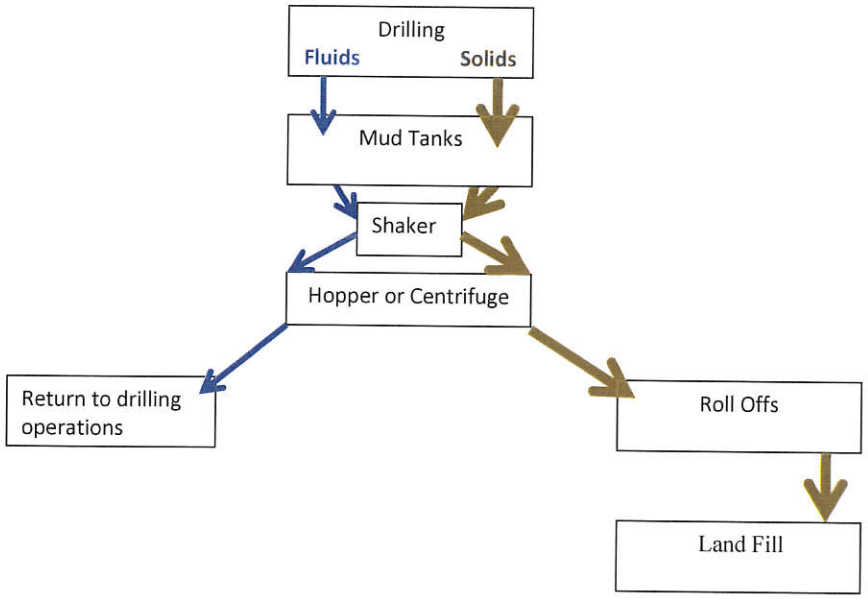
*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available

Above: Centrifugal Closed Loop System

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

Closed Loop Drilling System: Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS
37 Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120

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

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

CONDITIONS

Action 12234

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
ADVANCE ENERGY PARTNERS HAT ME	11490 Westheimer Rd., Ste 950	Houston, TX77077	372417	12234	FORM 3160-3

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing &cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104