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Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
NMNM55953

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.
(320828)
MESA VERDE BS UNIT A 23H

2. Name of Operator
OXY USA INCORPORATED (16696)

9. API Well No.
30-025-48560

3a. Address
5 Greenway Plaza, Suite 110 Houston TX 770

3b. Phone No. *(include area code)*
(713)366-5716

10. Field and Pool, or Exploratory
(96229)
MESA VERDE BONE SPRING / 2ND BC

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSW / 250 FSL / 1255 FWL / LAT 32.2109525 / LONG -103.6841296
At proposed prod. zone NWNW / 180 FNL / 1260 FWL / LAT 32.2388075 / LONG -103.6841278

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 16 / T24S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
6 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)
50 feet

16. No. of acres in lease
1080

17. Spacing Unit dedicated to this well
320

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

19. Proposed Depth
10517 feet / 20570 feet

20. BLM/BIA Bond No. on file
FED: ESB000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3568 feet

22. Approximate date work will start*
07/04/2018

23. Estimated duration
20 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 required by the BLM.

25. Signature
(Electronic Submission)

Name *(Printed Typed)*
David Stewart / Ph: (713)366-5716

Date
09/27/2017

Title
Sr. Regulatory Advisor

Approved by *(Signature)*
(Electronic Submission)

Name *(Printed Typed)*
Cody Layton / Ph: (575)234-5959

Date
02/16/2018

Title
Supervisor Multiple Resources

Office
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.

(Continued on page 2)

GCP Received 03/05/18

*(Instructions on page 2)

KE
03/06/18

APPROVED WITH CONDITIONS

Approval Date: 02/16/2018

AFMSS

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

Application Data Report
02/20/2018

APD ID: 10400022686 **Submission Date:** 09/27/2017

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400022686 **Tie to previous NOS?** **Submission Date:** 09/27/2017

BLM Office: CARLSBAD **User:** David Stewart **Title:** Sr. Regulatory Advisor

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM55953 **Lease Acres:** 1080

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:** OXY USA INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: OXY USA INCORPORATED

Operator Address: 5 Greenway Plaza, Suite 110

Zip: 77046

Operator PO Box:

Operator City: Houston **State:** TX

Operator Phone: (713)366-5716

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** MESA VERDE BONE SPRING **Pool Name:** 2ND BONE SPRING

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

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

Describe other minerals:

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:** MESA VERDE 16-9 FEDERAL COM **Number:** 3H

Well Class: HORIZONTAL **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 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 50 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: MesaVerde16_9FdCom2H_C102_20170926150223.pdf

Well work start Date: 07/04/2018 **Duration:** 20 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	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
SHL Leg #1	250	FSL	1255	FWL	24S	32E	16	Aliquot SWSW	32.2109525	-103.6841296	LEA	NEW MEXICO	NEW MEXICO	S	STATE	3568	0	0
KOP Leg #1	50	FSL	1260	FWL	24S	32E	16	Aliquot SWSW	32.2104027	-103.6841136	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6326	9909	9894
PPP Leg #1	340	FSL	1260	FWL	24S	32E	16	Aliquot SWSW	32.2111999	-103.6841414	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-6899	10806	10467

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

	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
EXIT Leg #1	340	FNL	1260	FWL	24S	32E	9	Aliquot NWNW	32.2383677	-103.6841276	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 55953	-6948	20410	10516
BHL Leg #1	180	FNL	1260	FWL	24S	32E	9	Aliquot NWNW	32.2388075	-103.6841278	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 55953	-6949	20570	10517

APD ID: 10400022686 **Submission Date:** 09/27/2017

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

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
1	RUSTLER	3568	910	910	SHALE,DOLOMITE,ANHYDRITE	USEABLE WATER	No
2	SALADO	2343	1225	1225	SHALE,DOLOMITE,HALITE,ANHYDRITE	OTHER : SALT	No
3	CASTILE	430	3138	3138	ANHYDRITE	OTHER : Salt	No
4	LAMAR	-1152	4720	4720	LIMESTONE,SANDSTONE,SILTSTONE	NATURAL GAS,OIL,OTHER : BRINE	No
5	BELL CANYON	-1176	4744	4744	SANDSTONE,SILTSTONE	NATURAL GAS,OIL,OTHER : BRINE	No
6	CHERRY CANYON	-2060	5628	5628	SANDSTONE,SILTSTONE	NATURAL GAS,OIL,OTHER : BRINE	No
7	BRUSHY CANYON	-3364	6932	6932	SANDSTONE,SILTSTONE	NATURAL GAS,OIL,OTHER : BRINE	No
8	BONE SPRING	-5077	8645	8647	LIMESTONE,SANDSTONE,SILTSTONE	NATURAL GAS,OIL	Yes
9	BONE SPRING 1ST	-6377	9945	9960	LIMESTONE,SANDSTONE,SILTSTONE	NATURAL GAS,OIL	Yes
10	BONE SPRING 2ND	-6679	10247	10292	LIMESTONE,SANDSTONE,SILTSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M **Rating Depth:** 10517

Equipment: 13-5/8" 5M Annular, Blind Ram, Double Ram

Requesting Variance? YES

Variance request: Request for the use of a flexible choke line from the BOP to Choke Manifold.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. A multibowl wellhead or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a

maximum of 30 days. If any seal subject to test pressure is broken the system will be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015.

Choke Diagram Attachment:

MesaVerde16_9FdCom2H_ChkManifold_20170927084327.pdf

BOP Diagram Attachment:

MesaVerde16_9FdCom2H_BOP_5M13_58_Amd_20170927084337.pdf

MesaVerde16_9FdCom2H_FlexHoseCert_20170927084353.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	13.75	NEW	API	N	0	960	0	960			960	J-55	54.5	BUTT	4.83	1.34	BUOY	2.63	BUOY	2.46
2	PRODUCTION	12.25	9.625	NEW	API	N	0	7500	0	7500			7500	HCL-80	43.5	BUTT	1.22	1.58	BUOY	2.15	BUOY	2.05
3	PRODUCTION	12.25	9.625	NEW	API	N	7500	9808	7500	9793			2308	HCL-80	47	BUTT	1.29	1.85	BUOY	4.16	BUOY	3.83
4	LINER	8.5	5.5	NEW	API	N	9708	20570	9693	10517			10862	P-110	20	OTHER - DQX	2.41	1.2	BUOY	2.49	BUOY	2.26

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

MesaVerde16_9FdCom2H_CsgCriteria_20170927084532.pdf

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

Casing Attachments

Casing ID: 2 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

MesaVerde16_9FdCom2H_CsgCriteria_20170927084633.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

MesaVerde16_9FdCom2H_CsgCriteria_20170927084740.pdf

Casing ID: 4 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

MesaVerde16_9FdCom2H_CsgCriteria_20170927084847.pdf

MesaVerde16_9FdCom2H_5.5_20_P110_DQX_20170927084903.pdf

Section 4 - Cement

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	960	618	1.68	14.2	1038	50	Class C	Accelerator
PRODUCTION	Lead	4770	0	4270	1169	1.85	12.9	2163	75	Class C	Accelerator, Retarder
PRODUCTION	Tail		4270	4770	207	1.33	14.8	275	75	Class C Cement	none
PRODUCTION	Lead		4670	8808	510	3.05	10.2	1556	20	Pozzolan/C	Retarder
PRODUCTION	Tail		8808	9808	239	1.65	13.2	394	20	Class H	Retarder, Dispersant, Salt
LINER	Lead		9708	20570	1757	1.63	13.2	2864	15	Class H	Retarder, Dispersant, Salt

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. OXY proposes to drill out the 13-3/8" surface casing shoe with a saturated brine system from 960-4770', which is the base of the salt system. At this point we will swap fluid systems to a high viscosity mixed metal hydroxide system or a fully saturated direct emulsion system. We will drill with this system to the production/intermediate TD @ 9808'.
Describe the mud monitoring system utilized: PVT/MD Totco/Visual Monitoring

Circulating Medium Table

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

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
4770	9808	WATER-BASED MUD	8.8	9.6							
9808	20570	OIL-BASED MUD	8.8	9.6							
0	960	WATER-BASED MUD	8.4	8.6							
960	4770	OTHER : BRINE	9.8	10							

Section 6 - Test, Logging, Coring

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

GR from TD to surface (horizontal well – vertical portion of hole). Mud Log from Surface Shoe to TD.

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

GR,MUDLOG

Coring operation description for the well:

No coring is planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5251 **Anticipated Surface Pressure:** 2937.26

Anticipated Bottom Hole Temperature(F): 165

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:

MesaVerde16_9FdCom2H_H2S1_20170927085550.pdf
MesaVerde16_9FdCom2H_H2S2_20170927085600.pdf

Operator Name: OXY USA INCORPORATED

Well Name: MESA VERDE 16-9 FEDERAL COM **Well Number:** 2H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

MesaVerde16_9FdCom2H_DirectPlan_20170927090612.pdf

MesaVerde16_9FdCom2H_DirectPlot_20170927090628.pdf

Other proposed operations facets description:

Well will be drilled with a walking/skidding operation. Plan to drill the three well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.

OXY requests the option to set casing shallower yet still below the salts if losses or hole conditions require this. Cement volumes may be adjusted if casing is set shallower and a DV tool will be run in case a contingency second stage is required for cement to reach surface. If cement circulated to surface during first stage we will drop a cancelation cone and not pump the second stage.

Cement Top and Liner Overlap
1. Oxy is requesting permission to have minimum fill of cement behind the 5-1/2" production liner to be 100' into previous casing string. The reason for this is so that we can come back and develop shallower benches from the same 9-5/8" mainbore in the future.
2. Our plan is to use a whipstock for our exit through the mainbore. Based on our lateral target, we are planning a whipstock cased/hole exit so that kick-off point will allow for roughly 10deg/100' doglegs needed for the curve.
3. Cement will be brought to the top of this liner hanger.
4. See attached for additional casing tie-back information.

OXY requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that OXY would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. See attached for additional spudder rig information.

Other proposed operations facets attachment:

MesaVerde16_9FdCom2H_CsgTieBackDetail_20170927085635.pdf

MesaVerde16_9FdCom2H_DrillPlan_20170927085650.pdf

MesaVerde16_9FdCom2H_SpudRigData_20170927085705.pdf

Other Variance attachment:

AFMSS

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

Operator Certification Data Report

02/20/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: David Stewart **Signed on:** 09/27/2017

Title: Sr. Regulatory Advisor

Street Address: 5 Greenway Plaza, Suite 110

City: Houston **State:** TX **Zip:** 77046

Phone: (713)366-5716

Email address: David_stewart@oxy.com

Field Representative

Representative Name: Jim Wilson

Street Address: 6001 Deauville

City: Midland **State:** TX **Zip:** 79706

Phone: (575)631-2442

Email address: jim_wilson@oxy.com