Rec'd 08/11/2020- NMOCD

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.
NMNM0546732A

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.
ARKENSTONE 31 FEDERAL COM
5H

2. Name of Operator
OXY USA INCORPORATED

9. API Well No.
3001547319

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
5 Greenway Plaza, Suite 110 Houston TX 77046	(713)366-5716	MALAGA / WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NENE / 100 FNL / 865 FEL / LAT 32.267902 / LONG -103.811154
At proposed prod. zone SESE / 20 FSL / 1100 FEL / LAT 32.253712 / LONG -103.811902

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 31 / T23S / R31E / NMP

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

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
20 feet	607.8	320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
35 feet	9712 feet / 15337 feet	FED: ESB000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3345 feet	04/18/2020	15 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)	David Stewart / Ph: (713)366-5716	01/25/2019

Title
Sr. Regulatory Advisor

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/07/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/07/2020

Entered - KMS NMOCD

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☑ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-47319	33740	INGLE WELLS; BONE SPRING, W. (Gas)

Property Code	Property Name	Well Number
326149	ARKENSTONE 31 FEDERAL COM	5H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	3345.0'

Surface Location

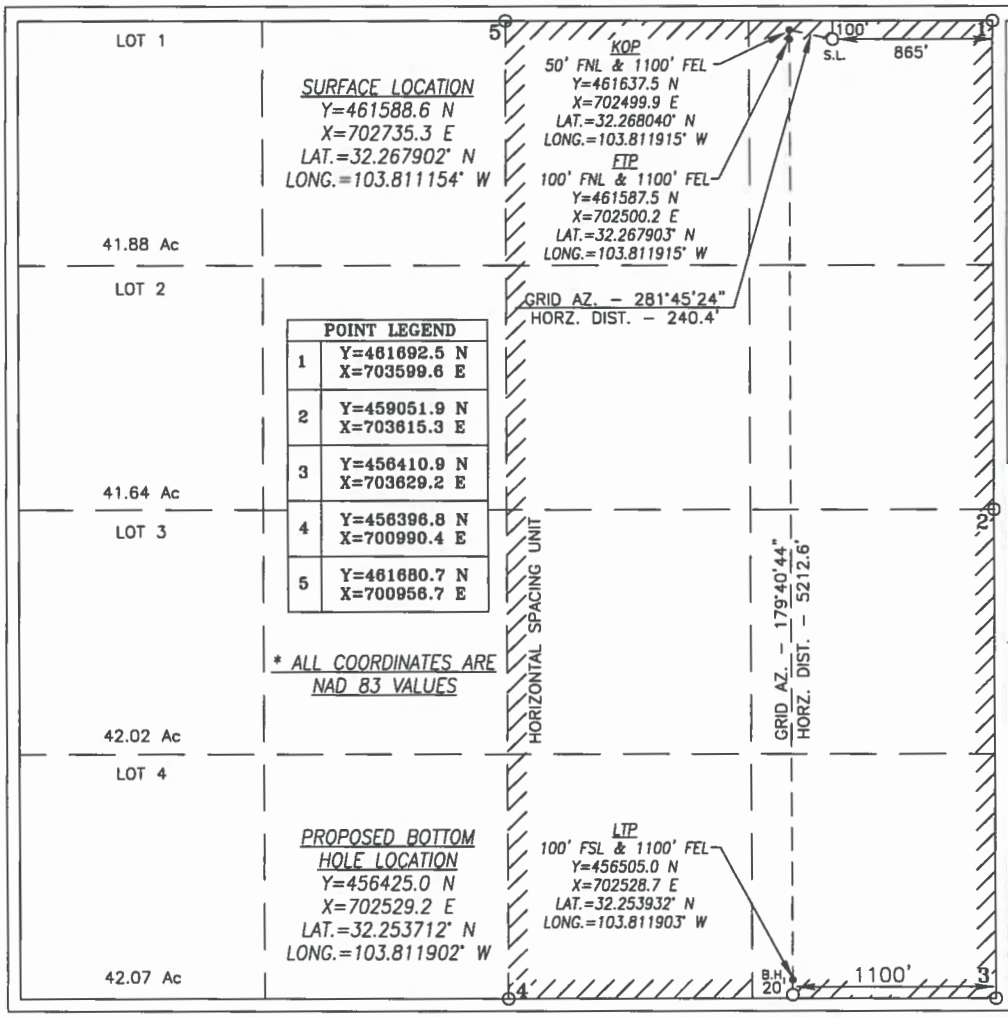
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	31	23-S	31-E		100	NORTH	865	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	31	23-S	31-E		20	SOUTH	1100	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320	Y		

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



OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8/29/19 Date

David Stewart
Printed Name

david_stewart@oxy.com
E-mail 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 supervision, and that the same is true and correct to the best of my belief.

JULY 10, 2019
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 7/26/19

Certificate No. CHAD HARCROW 17777

W.O. # 19-1277 DRAWN BY: AM

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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: 8-28-2019

☒ Original Operator & OGRID No.: OXY USA INC. - 16696

☐ Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator 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	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Arkenstone 31 Federal 1H	Pending	D-1-31-23S-31E	130 FNL 895 FWL	2300	0	
Arkenstone 31 Federal 2H	Pending	D-1-31-23S-31E	130 FNL 930 FWL	2300	0	
Arkenstone 31 Federal 3H	Pending	B-31-23S-31E	130 FNL 2613 FEL	2300	0	
Arkenstone 31 Federal 4H	Pending	B-31-23S-31E	130 FNL 2578 FEL	2300	0	
Arkenstone 31 Federal 7H	Pending	C-31-23S-31E	130 FNL 965 FWL	2300	0	
Arkenstone 31 Federal 171H	Pending	D-1-31-23S-31E	130 FNL 1195 FWL	2700	0	
Arkenstone 31 Federal 172H	Pending	D-1-31-23S-31E	130 FNL 1230 FWL	2700	0	
Arkenstone 31 Federal 173H	Pending	C-31-23S-31E	130 FNL 2465 FWL	2700	0	
Arkenstone 31 Federal 174H	Pending	C-31-23S-31E	130 FNL 2500 FWL	2700	0	
Arkenstone 31 Federal Com 5H	Pending	A-31-23S-31E	130 FNL 865 FEL	2300	0	
Arkenstone 31 Federal Com 6H	Pending	A-31-23S-31E	100 FNL 830 FEL	2300	0	
Arkenstone 31 Federal Com 9H	Pending	C-31-23S-31E	130 FNL 2648 FEL	2300	0	
Arkenstone 31 Federal Com 10H	Pending	A-31-23S-31E	100 FNL 795 FEL	2300	0	
Precious 30_18 Federal Com 1H	Pending	D-1-31-23S-31E	570 FNL 550 FWL	3900	0	
Precious 30_18 Federal Com 2H	Pending	D-1-31-23S-31E	570 FNL 585 FWL	3900	0	
Precious 30_18 Federal Com 3H	Pending	B-31-23S-31E	570 FNL 2635 FEL	3900	0	
Precious 30_18 Federal Com 4H	Pending	B-31-23S-31E	570 FNL 2600 FEL	3900	0	
Precious 30_18 Federal Com 5H	Pending	A-31-23S-31E	520 FNL 800 FEL	3900	0	
Precious 30_18 Federal Com 6H	Pending	A-31-23S-31E	520 FNL 765 FEL	3900	0	
Precious 30_18 Federal Com 7H	Pending	D-1-31-23S-31E	570 FNL 620 FWL	3900	0	
Precious 30_18 Federal Com 9H	Pending	C-31-23S-31E	520 FNL 2670 FEL	3900	0	
Precious 30_18 Federal Com 10H	Pending	A-31-23S-31E	520 FNL 730 FEL	3900	0	
Precious 30_18 Federal Com 11H	Pending	C-31-23S-31E	130 FNL 1935 FWL	1800	0	
Precious 30_18 Federal Com 12H	Pending	C-31-23S-31E	130 FNL 1970 FWL	1800	0	
Precious 30_18 Federal Com 13H	Pending	B-31-23S-31E	100 FNL 1395 FEL	1800	0	
Precious 30_18 Federal Com 14H	Pending	B-31-23S-31E	100 FNL 1360 FEL	1800	0	
Precious 30_18 Federal Com 21H	Pending	D-1-31-23S-31E	570 FNL 285 FWL	3000	0	
Precious 30_18 Federal Com 22H	Pending	D-1-31-23S-31E	570 FNL 320 FWL	3000	0	
Precious 30_18 Federal Com 23H	Pending	C-31-23S-31E	130 FNL 2200 FWL	3000	0	
Precious 30_18 Federal Com 24H	Pending	C-31-23S-31E	130 FNL 2235 FWL	3000	0	
Precious 30_18 Federal Com 25H	Pending	A-31-23S-31E	100 FNL 1130 FEL	3000	0	
Precious 30_18 Federal Com 26H	Pending	A-31-23S-31E	100 FNL 1095 FEL	3000	0	
Precious 30-18 Federal Com 31H	Pending	D-1-31-23S-31E	570 FNL 850 FWL	2600	0	
Precious 30-18 Federal Com 32H	Pending	D-1-31-23S-31E	570 FNL 950 FWL	2600	0	

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Precious 30-18 Federal Com 33H	Pending	B-31-23S-31E	280 FNL 2150 FEL	2600	0	
Precious 30-18 Federal Com 34H	Pending	B-31-23S-31E	315 FNL 2150 FEL	2600	0	
Precious 30_18 Federal Com 41H	Pending	D-1-31-23S-31E	570 FNL 1180 FWL	4000	0	
Precious 30_18 Federal Com 42H	Pending	D-1-31-23S-31E	570 FNL 1215 FWL	4000	0	
Precious 30_18 Federal Com 43H	Pending	C-31-23S-31E	570 FNL 2178 FWL	4000	0	
Precious 30_18 Federal Com 44H	Pending	C-31-23S-31E	570 FNL 2213 FWL	4000	0	
Precious 30_18 Federal Com 45H	Pending	B-31-23S-31E	520 FNL 1330 FEL	4000	0	
Precious 30_18 Federal Com 46H	Pending	A-31-23S-31E	520 FNL 1295 FEL	4000	0	
Precious 30_18 Federal Com 171H	Pending	D-1-31-23S-31E	570 FNL 880 FWL	3100	0	
Precious 30_18 Federal Com 172H	Pending	D-1-31-23S-31E	570 FNL 915 FWL	3100	0	
Precious 30_18 Federal Com 173H	Pending	C-31-23S-31E	570 FNL 2443 FWL	3100	0	
Precious 30_18 Federal Com 174H	Pending	C-31-23S-31E	570 FNL 2478 FWL	3100	0	
Precious 30_18 Federal Com 175H	Pending	A-31-23S-31E	520 FNL 1065 FEL	3100	0	
Precious 30_18 Federal Com 176H	Pending	A-31-23S-31E	520 FNL 1030 FEL	3100	0	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC ("Enterprise") and is connected to Enterprise low/high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. ("OXY") provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise's Processing Plant located in Sec. 36, Twn. 24S, Rng. 30E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the 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 Enterprise system at that time. Based on current information, it is OXY's belief the system can take this gas upon completion of the well(s).

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

Additional Operator Remarks

Location of Well

1. SHL: NENE / 100 FNL / 865 FEL / TWSP: 23S / RANGE: 31E / SECTION: 31 / LAT: 32.267902 / LONG: -103.811154 (TVD: 0 feet, MD: 0 feet)
   PPP: NENE / 100 FNL / 1100 FEL / TWSP: 23S / RANGE: 31E / SECTION: 31 / LAT: 32.267903 / LONG: -103.811915 (TVD: 9782 feet, MD: 10173 feet)
   PPP: NESE / 2638 FSL / 1101 FEL / TWSP: 23S / RANGE: 31E / SECTION: 31 / LAT: 32.260907 / LONG: -103.81191 (TVD: 9746 feet, MD: 12800 feet)
   BHL: SESE / 20 FSL / 1100 FEL / TWSP: 23S / RANGE: 31E / SECTION: 31 / LAT: 32.253712 / LONG: -103.811902 (TVD: 9712 feet, MD: 15337 feet)

BLM Point of Contact

Name: Deborah Ham
Title: Legal Landlaw Examiner
Phone: 5752345965
Email: dham@blm.gov

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
LEASE NO.:	NMNM0546732A
WELL NAME & NO.:	Arkenstone 31 Federal Com 5H
SURFACE HOLE FOOTAGE:	100'/N & 865'/E
BOTTOM HOLE FOOTAGE	20'/S & 1100'/E
LOCATION:	Section 31, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	○ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
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

Break Testing	○ Yes	◉ No

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

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **425** feet (a minimum of **70 feet (Eddy 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

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.

2. The **9-5/8** inch intermediate casing shall be set at approximately **4050** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

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

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

3. The minimum required fill of cement behind the **5 1/2 x 4 1/2** inch production casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed to pump down 9-5/8" X 5 1/2 x 4 1/2" annulus. Operator must run a CBL or ECHO-METER from TD of the 5 1/2 x 4 1/2" casing to surface. Submit results to BLM. Excess calculates to 7% - additional cement might be required.

Alternate Casing Design:

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

3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Option 1 (Single Stage):

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

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

d. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down 9-5/8" X 7-5/8" annulus. Operator must run a CBL or ECHO-METER from TD of the 7-5/8" casing to surface. Submit results to BLM. Excess calculates to 8% - additional cement might be required.

4. The minimum required fill of cement behind the **5 1/2 x 4 1/2** inch production casing is:

    - Cement should tie-back **500 feet** into the previous casing. Operator shall provide method of verification.

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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

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

D. SPECIAL REQUIREMENT (S)

Offline Cementing

- Contact the BLM prior to the commencement of any offline cementing procedure.

BOP Break Testing Variance

- BOP break testing is not permitted on this well pending submittion of a break testing sundry.

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: 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.

NMK08052020

AFMSS

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

Operator Certification Data Report

08/07/2020

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:** 01/25/2019

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:

Street Address: 6001 Deauville

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

Phone: (575)631-2442

Email address: jim_wilson@oxy.com

APD ID: 10400038416 **Submission Date:** 01/25/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

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

Highlighted data reflects the most recent changes

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Section 1 - General

APD ID: 10400038416 **Tie to previous NOS?** **Submission Date:** 01/25/2019

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: NMNM0546732A **Lease Acres:** 607.8

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 **Master Development Plan name:**

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

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

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** MALAGA **Pool Name:** WOLFCAMP

Is the proposed well in an area containing other mineral resources? POTASH

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Is the proposed well in an area containing other mineral resources? POTASH

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:** ARKENSTONE 31 FEDERAL COM **Number:** 5H

Well Class: HORIZONTAL **Number of Legs:**

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 8 Miles **Distance to nearest well:** 35 FT **Distance to lease line:** 20 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Arkenstone31FdCom5H_C102Amd_20190830084602.pdf

Arkenstone31FdCom5H_SitePlanAmd_20190830084615.pdf

Well work start Date: 04/18/2020 **Duration:** 15 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	100	FNL	865	FEL	23S	31E	31	Aliquot NENE	32.267902	-103.811154	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	3345	0	0	
KOP Leg #1	50	FNL	1100	FEL	23S	31E	31	Aliquot NENE	32.26804	-103.811915	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	-5963	9366	9308	

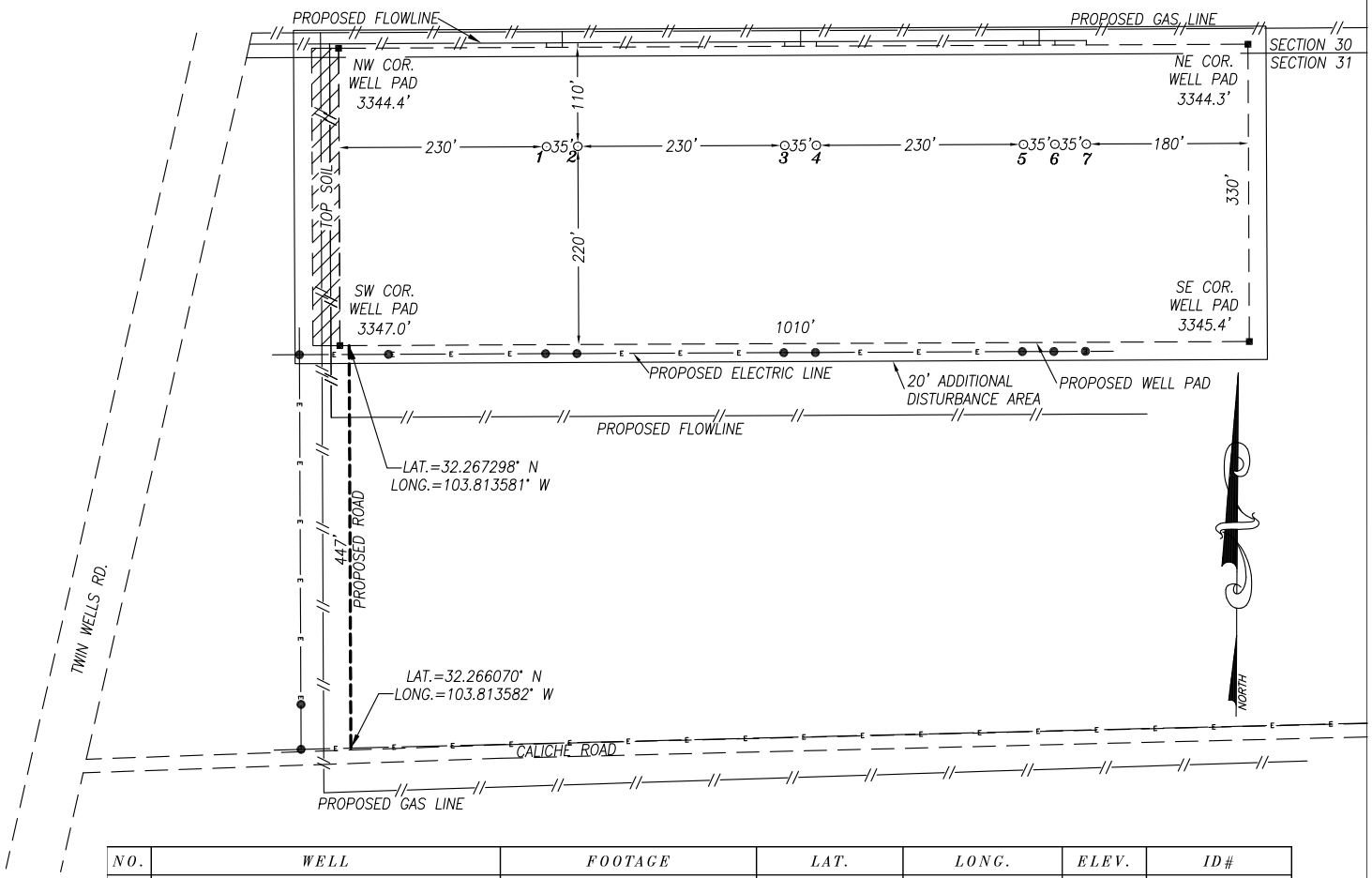
Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	2638	FSL	1101	FEL	23S	31E	31	Aliquot NESE	32.260907	-103.81191	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054498 6B	-6401	12800	9746	
PPP Leg #1-2	100	FNL	1100	FEL	23S	31E	31	Aliquot NENE	32.267903	-103.811915	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	-6437	10173	9782	
EXIT Leg #1	100	FSL	1100	FEL	23S	31E	31	Aliquot SESE	32.253932	-103.811903	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	-6367	15257	9712	
BHL Leg #1	20	FSL	1100	FEL	23S	31E	31	Aliquot SESE	32.253712	-103.811902	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	-6367	15337	9712	

OXY USA INC.

SITE PLAN
SNDDNS 3116
FAA PERMIT: NO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.	ID#
1	PRECIOUS 30_18 FED COM #13H	100' FNL & 1395' FEL	32.267903° N	103.812869° W	3345.2'	N/A
2	PRECIOUS 30_18 FED COM #14H	100' FNL & 1360' FEL	32.267903° N	103.812756° W	3345.4'	N/A
3	PRECIOUS 30_18 FED COM #25H	100' FNL & 1130' FEL	32.267903° N	103.812012° W	3344.8'	IP-SMS-2420
4	PRECIOUS 30_18 FED COM #26H	100' FNL & 1095' FEL	32.267903° N	103.811898° W	3345.0'	IP-SMS-2421
5	ARKENSTONE 31 FED COM #5H	100' FNL & 865' FEL	32.267902° N	103.811154° W	3345.0'	IP-SMS-2408
6	ARKENSTONE 31 FED COM #6H	100' FNL & 830' FEL	32.267902° N	103.811041° W	3345.1'	IP-SMS-2409
7	ARKENSTONE 31 FED COM #10H	100' FNL & 795' FEL	32.267902° N	103.810928° W	3344.1'	IP-SMS-2406

NOTES:

1) LATS & LONGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.

2) DISTANCES ARE GRID VALUES.

3) ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED

CERTIFICATION
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHAD HARCROW NEW MEXICO 17777 LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 7/26/19
CHAD HARCROW N.M.P.S. NO. 17777 DATE

HARCROW SURVEYING, LLC
2316 W. MAIN ST, ARTESIA, N.M. 88210
PH: (575) 746-2158
c.harcrow@harcrowsurveying.com

200 0 200 400 Feet
Scale: 1"=200'

OXY USA INC.	
SURVEY DATE: JULY 10, 2019	SITE PLAN
DRAFTING DATE: JULY 24, 2019	PAGE: 1 OF 1
APPROVED BY: CH / DRAWN BY: AM	FILE: 19-1290

APD ID: 10400038416 **Submission Date:** 01/25/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

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

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
381630	RUSTLER	3345	375	375	ANHYDRITE, DOLOMITE, SHALE	USEABLE WATER	N
381631	SALADO	2646	699	699	ANHYDRITE, DOLOMITE, HALITE, SHALE	OTHER : SALT	N
381628	CASTILE	741	2604	2604	ANHYDRITE	OTHER : salt	N
381632	LAMAR	-726	4071	4071	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
381633	BELL CANYON	-766	4111	4111	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : BRINE	N
381634	CHERRY CANYON	-1648	4993	4993	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
381635	BRUSHY CANYON	-2931	6276	6297	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
381629	BONE SPRING	-4615	7960	8007	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
381625	BONE SPRING 1ST	-5649	8994	9049	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
381636	BONE SPRING 2ND	-6289	9634	9765	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 9781

Equipment: 13-5/8" 5/10M 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. BOP Break Testing Request - As per the agreement reached in the OXY/BLM meeting on Feb 22, 2018, OXY requests permission to allow BOP Break Testing under the following conditions: 1. After a full BOP test is conducted on the first well on the pad. 2. When skidding to drill an intermediate section that the casing point is either shallower than the 3rd Bone Spring or 10000' TVD. 3. Full BOP test will be required prior to drilling any production section.

Choke Diagram Attachment:

Arkenstone31FdCom5H_ChkManifold_20190124123859.pdf

BOP Diagram Attachment:

Arkenstone31FdCom5H_FlexHoseCert_20190124123925.pdf

Arkenstone31FdCom5H_BOPAmd_20190830085316.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	425	0	425			425	J-55	54.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4121	0	4121			4121	L-80	43.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
3	INTERMEDIATE	8.5	7.625	NEW	API	N	0	9265	0	9209			9265	HCL-80	26.4	OTHER - SF/FJ	1.125	1.2	BUOY	1.4	BUOY	1.4
4	PRODUCTION	6.75	5.5	NEW	API	N	0	9815	0	9684			9815	P-110	20	OTHER - DQX/SFTORQ/DQWTORQ	1.125	1.2	BUOY	1.4	BUOY	1.4
5	PRODUCTION	6.75	4.5	NEW	API	N	9815	15336	9684	9712			5521	P-110	13.5	OTHER - DQX	1.125	1.2	BUOY	1.4	BUOY	1.4

Casing Attachments

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31FdCom5H_CsgCriteria_20190124124013.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31FdCom5H_CsgCriteria_20190124124049.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31FdCom5H_CsgCriteria_20190124124134.pdf

Arkenstone31FdCom5H_7.625_26.4_HCL80_TMKUPFJ_20190124124145.pdf

Arkenstone31FdCom5H_7.625_26.4_HCL80_TMKUPSF_20190124124158.pdf

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31FdCom5H_CsgCriteria_20190124124424.pdf

Arkenstone31FdCom5H_5.5_20_P110_DQX_20190124124442.pdf

Arkenstone31FdCom5H_5.5_20_P110HC_TMKUPSFTORQ_20190124124518.pdf

Arkenstone31FdCom5H_5.5_20_P110CY_TMKUPDQWTORQ_20190625155218.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31FdCom5H_CsgCriteria_20190830085652.pdf

Arkenstone31FdCom5H_4.5_13.5_P110_DQX_20190830085703.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	425	455	1.33	14.8	605	100	Cl C	Accelerator

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	3621	881	1.88	12.9	1656	50	Pozzolan/C	Retarder
INTERMEDIATE	Tail		3621	4121	155	1.33	14.8	206	20	Cl C	Accelerator
INTERMEDIATE	Lead		0	6526	360	1.92	12.9	691	25	Cl C	Accelerator
INTERMEDIATE	Tail		6526	9265	135	1.65	13.2	223	5	Cl H	Retarder, Dispersant, Salt
PRODUCTION	Lead		6526	15336	1770	1.38	13.2	2443	5	Cl H	Retarder, Dispersant, Salt
PRODUCTION	Tail		0	6526	1016	1.87	12.9	1900	50	Cl C	Accelerator
PRODUCTION	Lead		6526	15336	1770	1.38	13.2	2443	5	Cl H	Retarder, Dispersant, Salt
PRODUCTION	Tail		0	6526	1016	1.87	12.9	1900	50	Cl C	Accelerator

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.

Describe the mud monitoring system utilized: PVT/MD Totco/Visual Monitoring

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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

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
425	4121	OTHER : Saturated Brine Based Mud	9.8	10							
4121	15336	OTHER : Water-Based and/or Oil-Based Mud	8	9.6							
0	425	WATER-BASED MUD	8.6	8.8							

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 intermediate 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: 4883 **Anticipated Surface Pressure:** 2730.96

Anticipated Bottom Hole Temperature(F): 159

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:

Arkenstone31FdCom5H_H2S1_20190124125216.pdf

Arkenstone31FdCom5H_H2S2_20190124125225.pdf

Arkenstone31FdCom5H_EmergencyContactList_20190124125308.xls

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Arkenstone31FdCom5H_DirectPlanAmd_20190830090148.pdf

Arkenstone31FdCom5H_DirectPlotAmd_20190830090149.pdf

Other proposed operations facets description:

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.

OXY requests the option to run the 7.625" Intermediate II as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary.

OXY respectfully requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline, see attached for additional information.

OXY requests the option to run production casing with DQX, SF TORQ, and/or DQW TORQ connections to accommodate hole conditions or drilling operations.

OXY requests to pump a two stage cement job on the Intermediate II / Production casing string with the first stage being pumped conventionally with the calculated TOC @ the Bone Spring and the second stage performed as a bradenhead squeeze with planned cement from the Bone Spring to surface.

Annular Clearance Variance Request - As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:
1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

Well will be drilled with a walking/skidding operation. Plan to drill the multiple 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 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. Please see the attached document for information on the spudder rig.

Other proposed operations facets attachment:

Arkenstone31FdCom5H_SpudRigData_20190124125627.pdf

Arkenstone31FdCom5H_DrillPlanAmd_20190830090208.pdf

Arkenstone31FdCom5H_GasCapPlanAmd_20190830090219.pdf

Arkenstone31FdCom5H_CementingProgramAmd_20190924121531.pdf

Other Variance attachment:

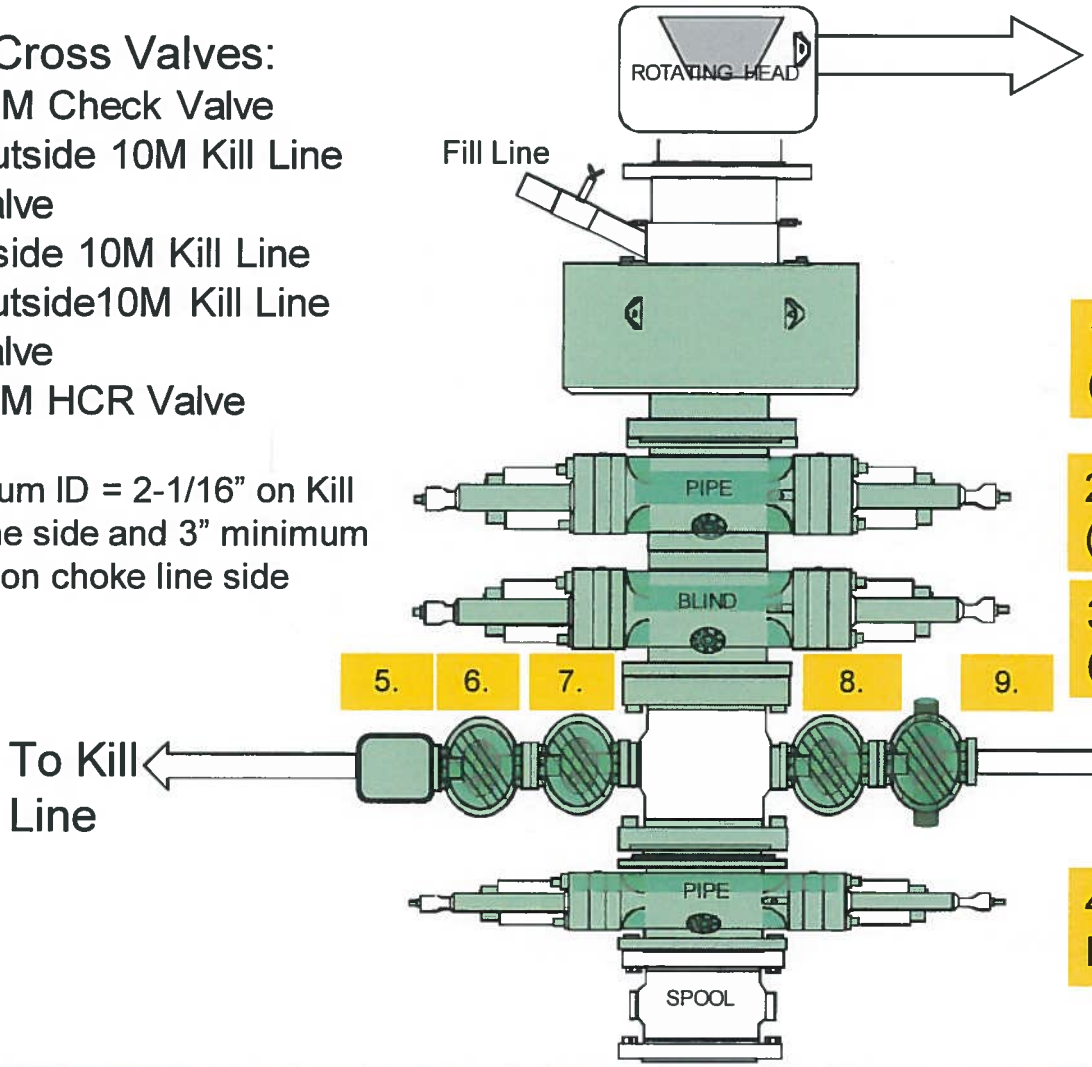
Arkenstone31FdCom5H_OfflineCmtgDetail_20190625155313.pdf

5/10M BOP Stack

Mud Cross Valves:

5. 10M Check Valve
6. Outside 10M Kill Line Valve
7. Inside 10M Kill Line
8. Outside10M Kill Line Valve
9. 10M HCR Valve

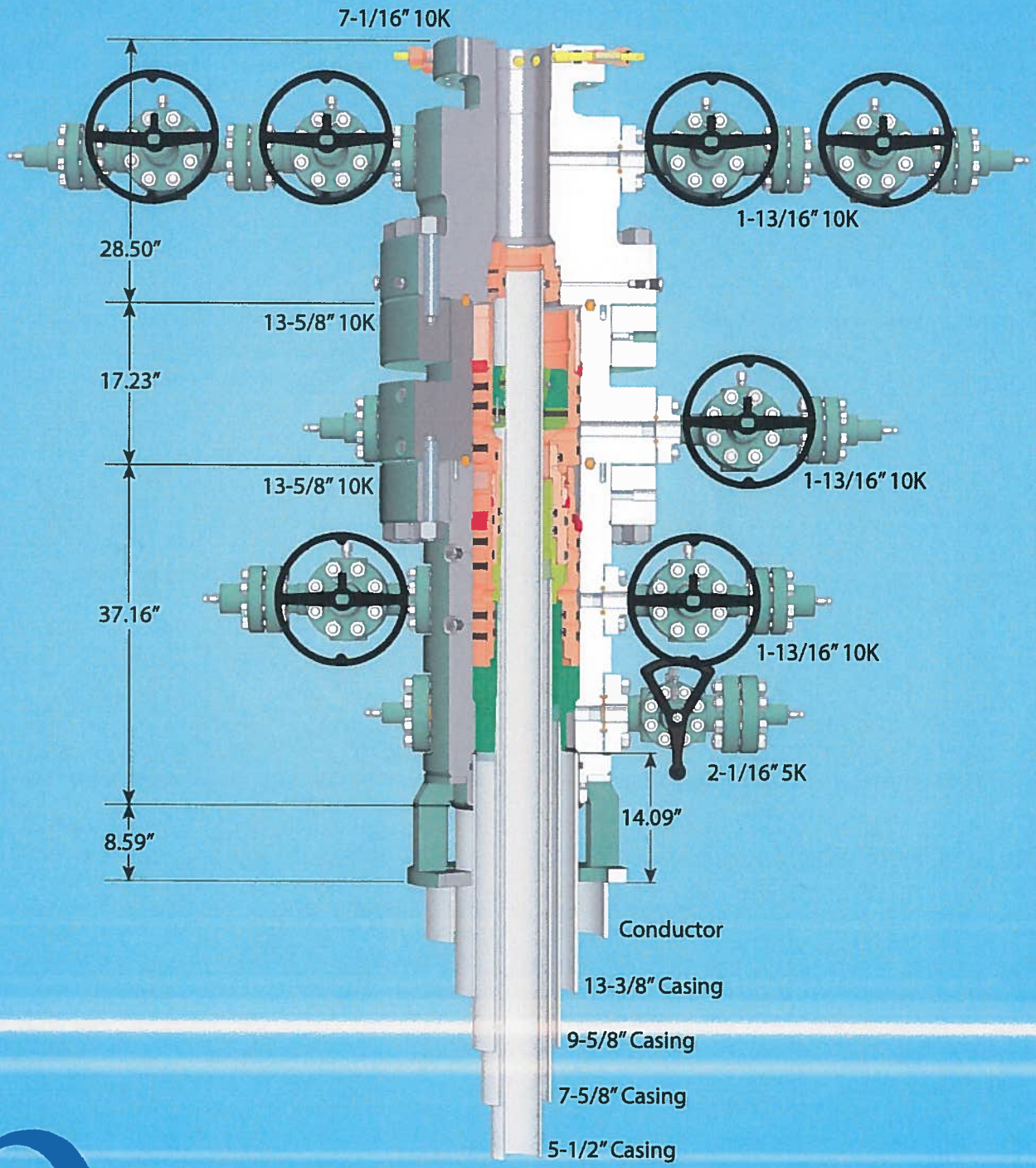
*Minimum ID = 2-1/16" on Kill Line side and 3" minimum ID on choke line side



1. 5,000 psi Annular (13-5/8" ID)
2. 10,000 psi Upper Pipe Ram (13-5/8" ID)
3. 10,000 psi Blind Ram (13-5/8" ID)
4. 10,000 psi Lower Pipe Ram (13-5/8" ID)

CAMERON
A Schlumberger Company

13-5/8" 10K MN-DS Wellhead
Four String



OXY

1615045

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Arkenstone 31 Federal
Arkenstone 31 Federal Com 5H

WB00

Plan: Permitting Plan

Standard Planning Report

31 July, 2019

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Arkenstone 31 Federal Com 5H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3371.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3371.50ft
Site:	Arkenstone 31 Federal	**North Reference:**	Grid
Well:	Arkenstone 31 Federal Com 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Project	PRD NM DIRECTIONAL PLANS (NAD 1983)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	Arkenstone 31 Federal				
Site Position:		**Northing:**	461,540.55 usft	**Latitude:**	32° 16' 4.142175 N
From:	Map	**Easting:**	699,187.86 usft	**Longitude:**	103° 49' 21.474809 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.27 °

Well	Arkenstone 31 Federal Com 5H					
Well Position	**+N/-S**	48.05 ft	**Northing:**	461,588.60 usft	**Latitude:**	32° 16' 4.448728 N
	+E/-W	3,547.67 ft	**Easting:**	702,735.30 usft	**Longitude:**	103° 48' 40.155566 W
Position Uncertainty		1.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,345.00 ft

Wellbore	WB00				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	11/14/2018	6.87	59.98	48,013

Design	Permitting Plan				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.00	0.00	0.00	182.29	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,099.80	10.00	340.03	5,097.27	40.87	-14.85	2.00	2.00	0.00	340.03	
8,380.72	10.00	340.03	8,328.38	576.14	-209.33	0.00	0.00	0.00	0.00	
9,365.71	10.00	179.68	9,308.09	570.91	-238.33	2.00	0.00	-16.28	-170.03	
10,173.48	90.78	179.68	9,781.50	-1.10	-235.11	10.00	10.00	0.00	0.00	FTP (Arkenstone 31
15,336.86	90.78	179.68	9,711.50	-5,163.93	-206.11	0.00	0.00	0.00	0.00	PBHL (Arkenstone

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Arkenstone 31 Federal Com 5H
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Site:	Arkenstone 31 Federal	**North Reference:**	Grid
Well:	Arkenstone 31 Federal Com 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	2.00	340.03	4,699.98	1.64	-0.60	-1.62	2.00	2.00	0.00
4,800.00	4.00	340.03	4,799.84	6.56	-2.38	-6.46	2.00	2.00	0.00
4,900.00	6.00	340.03	4,899.45	14.75	-5.36	-14.52	2.00	2.00	0.00
5,000.00	8.00	340.03	4,998.70	26.20	-9.52	-25.80	2.00	2.00	0.00
5,099.80	10.00	340.03	5,097.27	40.87	-14.85	-40.25	2.00	2.00	0.00
5,100.00	10.00	340.03	5,097.47	40.91	-14.86	-40.28	0.00	0.00	0.00
5,200.00	10.00	340.03	5,195.95	57.22	-20.79	-56.35	0.00	0.00	0.00

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3371.50ft
Site:	Arkenstone 31 Federal	**North Reference:**	Grid
Well:	Arkenstone 31 Federal Com 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	10.00	340.03	5,294.43	73.53	-26.72	-72.41	0.00	0.00	0.00
5,400.00	10.00	340.03	5,392.91	89.85	-32.65	-88.48	0.00	0.00	0.00
5,500.00	10.00	340.03	5,491.39	106.16	-38.57	-104.54	0.00	0.00	0.00
5,600.00	10.00	340.03	5,589.88	122.48	-44.50	-120.61	0.00	0.00	0.00
5,700.00	10.00	340.03	5,688.36	138.79	-50.43	-136.67	0.00	0.00	0.00
5,800.00	10.00	340.03	5,786.84	155.11	-56.36	-152.74	0.00	0.00	0.00
5,900.00	10.00	340.03	5,885.32	171.42	-62.28	-168.80	0.00	0.00	0.00
6,000.00	10.00	340.03	5,983.80	187.74	-68.21	-184.87	0.00	0.00	0.00
6,100.00	10.00	340.03	6,082.29	204.05	-74.14	-200.93	0.00	0.00	0.00
6,200.00	10.00	340.03	6,180.77	220.36	-80.07	-217.00	0.00	0.00	0.00
6,300.00	10.00	340.03	6,279.25	236.68	-85.99	-233.06	0.00	0.00	0.00
6,400.00	10.00	340.03	6,377.73	252.99	-91.92	-249.13	0.00	0.00	0.00
6,500.00	10.00	340.03	6,476.21	269.31	-97.85	-265.19	0.00	0.00	0.00
6,600.00	10.00	340.03	6,574.70	285.62	-103.78	-281.26	0.00	0.00	0.00
6,700.00	10.00	340.03	6,673.18	301.94	-109.70	-297.32	0.00	0.00	0.00
6,800.00	10.00	340.03	6,771.66	318.25	-115.63	-313.39	0.00	0.00	0.00
6,900.00	10.00	340.03	6,870.14	334.57	-121.56	-329.45	0.00	0.00	0.00
7,000.00	10.00	340.03	6,968.62	350.88	-127.49	-345.52	0.00	0.00	0.00
7,100.00	10.00	340.03	7,067.11	367.19	-133.41	-361.58	0.00	0.00	0.00
7,200.00	10.00	340.03	7,165.59	383.51	-139.34	-377.65	0.00	0.00	0.00
7,300.00	10.00	340.03	7,264.07	399.82	-145.27	-393.71	0.00	0.00	0.00
7,400.00	10.00	340.03	7,362.55	416.14	-151.20	-409.78	0.00	0.00	0.00
7,500.00	10.00	340.03	7,461.03	432.45	-157.12	-425.84	0.00	0.00	0.00
7,600.00	10.00	340.03	7,559.52	448.77	-163.05	-441.91	0.00	0.00	0.00
7,700.00	10.00	340.03	7,658.00	465.08	-168.98	-457.97	0.00	0.00	0.00
7,800.00	10.00	340.03	7,756.48	481.39	-174.91	-474.04	0.00	0.00	0.00
7,900.00	10.00	340.03	7,854.96	497.71	-180.83	-490.10	0.00	0.00	0.00
8,000.00	10.00	340.03	7,953.44	514.02	-186.76	-506.17	0.00	0.00	0.00
8,100.00	10.00	340.03	8,051.93	530.34	-192.69	-522.23	0.00	0.00	0.00
8,200.00	10.00	340.03	8,150.41	546.65	-198.62	-538.30	0.00	0.00	0.00
8,300.00	10.00	340.03	8,248.89	562.97	-204.54	-554.36	0.00	0.00	0.00
8,380.72	10.00	340.03	8,328.38	576.14	-209.33	-567.33	0.00	0.00	0.00
8,400.00	9.62	339.63	8,347.38	579.22	-210.46	-570.36	2.00	-1.97	-2.07
8,500.00	7.66	336.93	8,446.24	593.18	-215.98	-584.09	2.00	-1.96	-2.70
8,600.00	5.73	332.41	8,545.56	603.73	-220.90	-594.44	2.00	-1.93	-4.53
8,700.00	3.87	323.44	8,645.21	610.86	-225.22	-601.39	2.00	-1.86	-8.97
8,800.00	2.26	300.19	8,745.06	614.56	-228.93	-604.94	2.00	-1.61	-23.24
8,900.00	1.80	242.52	8,845.01	614.83	-232.04	-605.08	2.00	-0.45	-57.67
9,000.00	3.07	204.01	8,944.92	611.66	-234.52	-601.82	2.00	1.26	-38.51
9,100.00	4.85	190.60	9,044.68	605.05	-236.39	-595.14	2.00	1.79	-13.40
9,200.00	6.76	184.56	9,144.17	595.03	-237.63	-585.08	2.00	1.91	-6.05
9,300.00	8.71	181.18	9,243.25	581.59	-238.26	-571.63	2.00	1.95	-3.37
9,365.71	10.00	179.68	9,308.09	570.91	-238.33	-560.95	2.00	1.97	-2.29
9,400.00	13.43	179.68	9,341.66	563.95	-238.29	-554.00	10.00	10.00	0.00
9,500.00	23.43	179.68	9,436.41	532.38	-238.11	-522.46	10.00	10.00	0.00
9,600.00	33.43	179.68	9,524.24	484.83	-237.84	-474.96	10.00	10.00	0.00
9,700.00	43.43	179.68	9,602.48	422.76	-237.50	-412.95	10.00	10.00	0.00
9,800.00	53.43	179.68	9,668.75	348.04	-237.08	-338.31	10.00	10.00	0.00
9,900.00	63.43	179.68	9,721.04	262.95	-236.60	-253.31	10.00	10.00	0.00
10,000.00	73.43	179.68	9,757.76	170.08	-236.08	-160.53	10.00	10.00	0.00
10,100.00	83.43	179.68	9,777.79	72.23	-235.53	-62.78	10.00	10.00	0.00
10,173.48	90.78	179.68	9,781.50	-1.10	-235.11	10.48	10.00	10.00	0.00
10,200.00	90.78	179.68	9,781.14	-27.62	-234.97	36.97	0.00	0.00	0.00
10,300.00	90.78	179.68	9,779.78	-127.61	-234.40	136.85	0.00	0.00	0.00

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Site:	Arkenstone 31 Federal	**North Reference:**	Grid
Well:	Arkenstone 31 Federal Com 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,400.00	90.78	179.68	9,778.43	-227.60	-233.84	236.74	0.00	0.00	0.00
10,500.00	90.78	179.68	9,777.07	-327.59	-233.28	336.63	0.00	0.00	0.00
10,600.00	90.78	179.68	9,775.72	-427.57	-232.72	436.52	0.00	0.00	0.00
10,700.00	90.78	179.68	9,774.36	-527.56	-232.16	536.40	0.00	0.00	0.00
10,800.00	90.78	179.68	9,773.01	-627.55	-231.60	636.29	0.00	0.00	0.00
10,900.00	90.78	179.68	9,771.65	-727.54	-231.03	736.18	0.00	0.00	0.00
11,000.00	90.78	179.68	9,770.30	-827.53	-230.47	836.07	0.00	0.00	0.00
11,100.00	90.78	179.68	9,768.94	-927.52	-229.91	935.95	0.00	0.00	0.00
11,200.00	90.78	179.68	9,767.58	-1,027.51	-229.35	1,035.84	0.00	0.00	0.00
11,300.00	90.78	179.68	9,766.23	-1,127.50	-228.79	1,135.73	0.00	0.00	0.00
11,400.00	90.78	179.68	9,764.87	-1,227.49	-228.23	1,235.61	0.00	0.00	0.00
11,500.00	90.78	179.68	9,763.52	-1,327.48	-227.66	1,335.50	0.00	0.00	0.00
11,600.00	90.78	179.68	9,762.16	-1,427.47	-227.10	1,435.39	0.00	0.00	0.00
11,700.00	90.78	179.68	9,760.81	-1,527.46	-226.54	1,535.28	0.00	0.00	0.00
11,800.00	90.78	179.68	9,759.45	-1,627.45	-225.98	1,635.16	0.00	0.00	0.00
11,900.00	90.78	179.68	9,758.09	-1,727.43	-225.42	1,735.05	0.00	0.00	0.00
12,000.00	90.78	179.68	9,756.74	-1,827.42	-224.86	1,834.94	0.00	0.00	0.00
12,100.00	90.78	179.68	9,755.38	-1,927.41	-224.29	1,934.83	0.00	0.00	0.00
12,200.00	90.78	179.68	9,754.03	-2,027.40	-223.73	2,034.71	0.00	0.00	0.00
12,300.00	90.78	179.68	9,752.67	-2,127.39	-223.17	2,134.60	0.00	0.00	0.00
12,400.00	90.78	179.68	9,751.32	-2,227.38	-222.61	2,234.49	0.00	0.00	0.00
12,500.00	90.78	179.68	9,749.96	-2,327.37	-222.05	2,334.37	0.00	0.00	0.00
12,600.00	90.78	179.68	9,748.60	-2,427.36	-221.49	2,434.26	0.00	0.00	0.00
12,700.00	90.78	179.68	9,747.25	-2,527.35	-220.92	2,534.15	0.00	0.00	0.00
12,800.00	90.78	179.68	9,745.89	-2,627.34	-220.36	2,634.04	0.00	0.00	0.00
12,900.00	90.78	179.68	9,744.54	-2,727.33	-219.80	2,733.92	0.00	0.00	0.00
13,000.00	90.78	179.68	9,743.18	-2,827.32	-219.24	2,833.81	0.00	0.00	0.00
13,100.00	90.78	179.68	9,741.83	-2,927.31	-218.68	2,933.70	0.00	0.00	0.00
13,200.00	90.78	179.68	9,740.47	-3,027.29	-218.12	3,033.59	0.00	0.00	0.00
13,300.00	90.78	179.68	9,739.11	-3,127.28	-217.55	3,133.47	0.00	0.00	0.00
13,400.00	90.78	179.68	9,737.76	-3,227.27	-216.99	3,233.36	0.00	0.00	0.00
13,500.00	90.78	179.68	9,736.40	-3,327.26	-216.43	3,333.25	0.00	0.00	0.00
13,600.00	90.78	179.68	9,735.05	-3,427.25	-215.87	3,433.13	0.00	0.00	0.00
13,700.00	90.78	179.68	9,733.69	-3,527.24	-215.31	3,533.02	0.00	0.00	0.00
13,800.00	90.78	179.68	9,732.34	-3,627.23	-214.75	3,632.91	0.00	0.00	0.00
13,900.00	90.78	179.68	9,730.98	-3,727.22	-214.18	3,732.80	0.00	0.00	0.00
14,000.00	90.78	179.68	9,729.62	-3,827.21	-213.62	3,832.68	0.00	0.00	0.00
14,100.00	90.78	179.68	9,728.27	-3,927.20	-213.06	3,932.57	0.00	0.00	0.00
14,200.00	90.78	179.68	9,726.91	-4,027.19	-212.50	4,032.46	0.00	0.00	0.00
14,300.00	90.78	179.68	9,725.56	-4,127.18	-211.94	4,132.35	0.00	0.00	0.00
14,400.00	90.78	179.68	9,724.20	-4,227.17	-211.38	4,232.23	0.00	0.00	0.00
14,500.00	90.78	179.68	9,722.85	-4,327.16	-210.81	4,332.12	0.00	0.00	0.00
14,600.00	90.78	179.68	9,721.49	-4,427.14	-210.25	4,432.01	0.00	0.00	0.00
14,700.00	90.78	179.68	9,720.13	-4,527.13	-209.69	4,531.89	0.00	0.00	0.00
14,800.00	90.78	179.68	9,718.78	-4,627.12	-209.13	4,631.78	0.00	0.00	0.00
14,900.00	90.78	179.68	9,717.42	-4,727.11	-208.57	4,731.67	0.00	0.00	0.00
15,000.00	90.78	179.68	9,716.07	-4,827.10	-208.01	4,831.56	0.00	0.00	0.00
15,100.00	90.78	179.68	9,714.71	-4,927.09	-207.44	4,931.44	0.00	0.00	0.00
15,200.00	90.78	179.68	9,713.36	-5,027.08	-206.88	5,031.33	0.00	0.00	0.00
15,300.00	90.78	179.68	9,712.00	-5,127.07	-206.32	5,131.22	0.00	0.00	0.00
15,336.86	90.78	179.68	9,711.50	-5,163.93	-206.11	5,168.04	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Arkenstone 31 Federal Com 5H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3371.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3371.50ft
Site:	Arkenstone 31 Federal	**North Reference:**	Grid
Well:	Arkenstone 31 Federal Com 5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Arkenstone 31 - plan hits target center - Point	0.00	0.01	9,711.50	-5,163.93	-206.11	456,425.00	702,529.20	32° 15' 13.361745 N	103° 48' 42.848133
FTP (Arkenstone 31 - plan hits target center - Point	0.00	0.00	9,781.50	-1.10	-235.11	461,587.50	702,500.20	32° 16' 4.449155 N	103° 48' 42.893805

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
4,600.00	4,600.00	0.00	0.00	Build 2.00°/100'
5,099.80	5,097.27	40.87	-14.85	Hold 10.00° Tangent
8,380.72	8,328.38	576.14	-209.33	Turn 2.00°/100'
9,365.71	9,308.09	570.91	-238.33	KOP, Build 10.00°/100'
10,173.48	9,781.50	-1.10	-235.11	Landing Point
15,336.86	9,711.50	-5,163.93	-206.11	TD at 15336.86' MD

Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: Arkenstone 31 Federal
Well: Arkenstone 31 Federal Com 5H
Wellbore: WB00
Design: Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

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

System Datum: Mean Sea Level

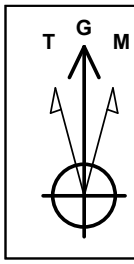
WELL DETAILS: Arkenstone 31 Federal Com 5H

Ground Level: 3345.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	461588.60	702735.30	32° 16' 4.448728 N	103° 48' 40.155566 W

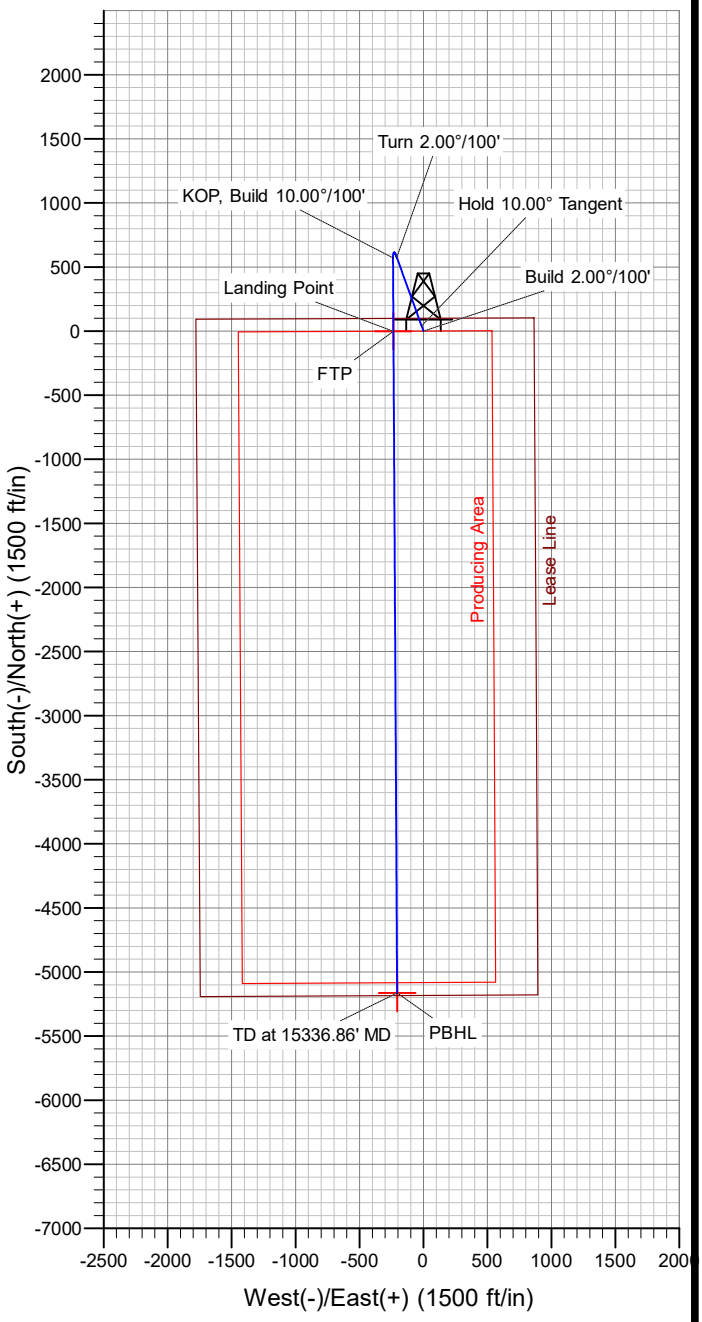
SECTION DETAILS

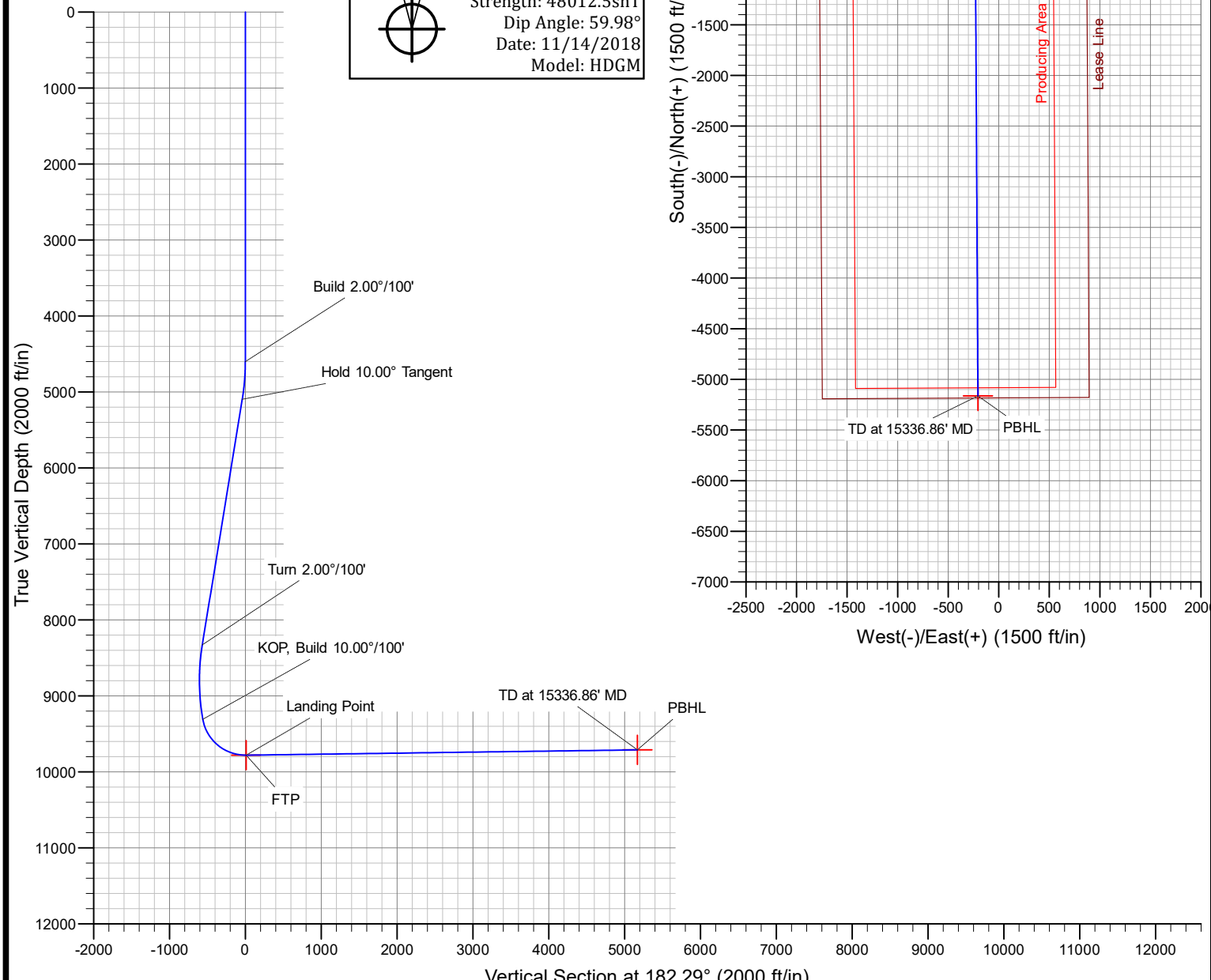
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
5099.80	10.00	340.03	5097.27	40.87	-14.85	2.00	340.03	-40.25	Hold 10.00° Tangent
8380.72	10.00	340.03	8328.38	576.14	-209.33	0.00	0.00	-567.33	Turn 2.00°/100'
9365.71	10.00	179.68	9308.09	570.91	-238.33	2.00	-170.03	-560.95	KOP, Build 10.00°/100'
10173.48	90.78	179.68	9781.50	-1.10	-235.11	10.00	0.00	10.48	Landing Point
15336.86	90.78	179.68	9711.50	-5163.93	-206.11	0.00	0.00	5168.04	TD at 15336.86' MD



Azimuths to Grid North
True North: -0.28°
Magnetic North: 6.59°

Magnetic Field
Strength: 48012.5snT
Dip Angle: 59.98°
Date: 11/14/2018
Model: HDGM





OXY USA Inc. - Arkenstone 31 Federal Com 5H – Amended Drill Plan

1. Geologic Formations

TVD of target	9781'	Pilot Hole Depth	N/A
MD at TD:	15336'	Deepest Expected fresh water:	375'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	375	
Salado	699	Salt
Castile	2,604	Salt
Lamar/Delaware	4,071	Oil/Gas/Brine
Bell Canyon	4,111	Oil/Gas/Brine
Cherry Canyon	4,993	Oil/Gas/Brine
Brushy Canyon	6,276	Losses
Bone Spring	7,960	Oil/Gas
1st Bone Spring	8,994	Oil/Gas
2nd Bone Spring	**9,634**	**Oil/Gas**

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Primary Plan:

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant Body SF Tension	Buoyant Joint SF Tension
	From (ft)	To (ft)								
17.5	0	425	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4121	9.625	40	L-80	BTC	1.125	1.2	1.4	1.4
8.5	0	9815	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
8.5	9815	15336	4.5	13.5	P-110	DQX	1.125	1.2	1.4	1.4
							SF Values will meet or Exceed			

Contingency Plan:

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant Body SF Tension	Buoyant Joint SF Tension
	From (ft)	To (ft)								
17.5	0	425	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4121	9.625	40	L-80	BTC	1.125	1.2	1.4	1.4
8.5	0	9265	7.625	26.4	L-80 HC	SF (0 ft to 4000 ft) FJ (4000 ft to 9265 ft)	1.125	1.2	1.4	1.4
6.75	0	9815	5.5	20	P-110	DQX	1.125	1.2	1.4	1.4
6.75	9815	15336	4.5	13.5	P-110	DQX	1.125	1.2	1.4	1.4
							SF Values will meet or Exceed			

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

*Oxy requests the option to run the 7.625" Intermediate II as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary.

*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 may be run in case hole conditions merit pumping a second stage cement job to comply with permitted top of cement. If cement circulated to surface during first stage, we will drop a cancelation cone and not pump the second stage.

*Oxy requests the option to run production casing with DQX, SF TORQ and/or DQW TORQ connections to accommodate hole conditions or drilling operations.

Annular Clearance Variance Request
As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:

1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Primary Plan:

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	455	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	958	12.9	1.73	8.784	15:26	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.368	7:11	Class C Cement, Accelerator
Production 1st Stage (Lead)	250	13.2	1.38	6.692	17:50	Class H Cement, Retarder, Dispersant, Salt
Production 1st Stage (Tail)	1294	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt
2nd Stage Production Lead Slurry to be pumped as Bradenhead Squeeze from surface, down the Production annulus.						
Production 2nd Stage (Tail)	943	12.9	1.872	10.11	21:54	Class C Cement, Accelerator

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	425	100%
Intermediate (Lead)	0	3621	50%
Intermediate (Tail)	3621	4121	20%
Production 1st Stage (Lead)	6526	7960	5%
Production 1st Stage (Tail)	7960	15336	5%
Production 2nd Stage (Tail)	0	6526	25%

Contingency Plan:

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	455	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	881	12.9	1.88	10.130	14:22	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.370	12:45	Class C Cement, Accelerator
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	135	13.2	1.65	8.640	11:54	Class H Cement, Retarder, Dispersant, Salt
Intermediate II 2nd Stage (Tail Slurry) to be pumped as Bradenhead Squeeze from surface, down the Intermediate annulus						
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	360	12.9	1.92	10.410	23:10	Class C Cement, Accelerator
Production (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production (Tail)	745	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	425	100%
Intermediate (Lead)	0	3621	50%
Intermediate (Tail)	3621	4121	20%
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	6526	9265	5%
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	0	6526	25%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	8765	15336	20%

*Contingency design will only be employed if Oxy elects to run 7.625" Intermediate II string.

*OXY requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline, see attached for additional information.

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12.25" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
8.5" Hole	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole (Contingency)	13-5/8"	3M	Annular	✓	70% of working pressure
		3M	Blind Ram	✓	250 psi / 3000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

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. See attached schematics.

	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y Are anchors required by manufacturer?
	A multibowl 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 must 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. See attached schematics.

BOP Break Testing Request
As per the agreement reached in the Oxy/BLM meeting on Feb 22, 2018, Oxy requests permission to allow BOP Break Testing under the following conditions:

- After a full BOP test is conducted on the first well on the pad.
- When skidding to drill an intermediate section that casing point is either shallower than the third Bone Spring or 10,000 feet TVD.
- Full BOP test will be required prior to drilling any production hole.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From (ft)	To (ft)				
0	425	Water-Based Mud	8.6-8.8	40-60	N/C
425	4121	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
4121	15336	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. 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 will use a closed mud system.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
No	Logs are planned based on well control or offset log information.
No	Drill stem test? If yes, explain
No	Coring? If yes, explain

Additional logs planned		Interval
No	Resistivity	
No	Density	
No	CBL	
Yes	Mud log	ICP - TD
No	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4883 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	159°F

Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times. Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. • We 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.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. • 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. Please see the attached document for information on the spudder rig.	Yes

Total estimated cuttings volume: 1452.4 bbls**.**

9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Linsay Earle	Drilling Engineer	713-350-4921	832-596-5507
Margaret Giltner	Drilling Engineer Supervisor	713-366-5026	210-683-8480
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

OXY USA Inc. – Arkenstone 31 Federal Com #5H – Amended Cementing Program

3. Cementing Program - Amended

Primary Plan:

Casing String	# Sks	Wt. (lb/gal)	Yld (ft3/sack)	H20 (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	455	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	958	12.9	1.73	8.784	15:26	Pozzolan Cement, Retarder
Intermediate (Tail)	155	14.8	1.33	6.368	7:11	Class C Cement, Accelerator
Production 1st Stage (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Production 1st Stage (Tail)	1770	13.2	1.38	6.686	3:49	Class H Cement, Retarder, Dispersant, Salt
2nd Stage Production Lead Slurry to be pumped as Bradenhead Squeeze from surface, down the Production annulus.						
Production 2nd Stage (Tail)	1016	12.9	1.872	10.11	21:54	Class C Cement, Accelerator

Casing String	Top (ft)	Bottom (ft)	% Excess
Surface (Lead)	N/A	N/A	N/A
Surface (Tail)	0	425	100%
Intermediate (Lead)	0	3621	50%
Intermediate (Tail)	3621	4121	20%
Production 1st Stage (Lead)	N/A	N/A	N/A
Production 1st Stage (Tail)	6526	15336	5%
Production 2nd Stage (Tail)	0	6526	50%

OXY USA Inc.
APD Attachment
Offline Cementing

OXY respectfully requests a variance to cement the 9-5/8" and/or 7-5/8" intermediate casing strings offline.

The summarized operational sequence will be as follows:

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
2. Land casing.
3. Fill pipe with kill weight fluid, and confirm well is static.
    a. If well is not static notify BLM and kill well.
    b. Once well is static notify BLM with intent to proceed with nipple down and offline cementing.
4. Set and pressure test annular packoff.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed.
6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange.
8. If well is not static notify BLM and kill well prior to cementing or nippling up for further remediation.
9. Install offline cement tool.
10. Rig up cement equipment.
    a. Notify BLM prior to cement job.
11. Perform cement job.
12. Confirm well is static and floats are holding after cement job.
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

APD ID: 10400038416 **Submission Date:** 01/25/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Arkenstone31FdCom5H_LocDrillPathAmd_20190830090337.pdf
Arkenstone31FdCom5H_NewRoadAmd_20190830090338.pdf
Arkenstone31FdCom5H_VicinityMapAmd_20190830090348.pdf

Existing Road Purpose: FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Arkenstone31FdCom5H_NewRoadAmd_20190830090410.pdf

New road type: LOCAL

Length: 447 Feet **Width (ft.):** 25

Max slope (%): 0 **Max grade (%):** 0

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Watershed Diversion every 200' if needed.

New road access plan or profile prepared? YES

New road access plan attachment:

Arkenstone31FdCom5H_NewRoadAmd_20190830090428.pdf

Access road engineering design? NO

Access road engineering design attachment:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 0

Offsite topsoil source description:

Onsite topsoil removal process: If available

Access other construction information: None

Access miscellaneous information: The access road will run from an existing road going 447’ north through pasture to the southwest corner of the pad.

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT

Drainage Control comments: Watershed Diversion every 200' if needed.

Road Drainage Control Structures (DCS) description: Watershed Diversion every 200' if needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Arkenstone31FdCom5H_ExistWells_20190124121902.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: a. In the event the well is found productive, the Sand Dunes Precious Central Tank Battery would be utilized and the necessary production equipment will be installed at the well site. See proposed facilities layout diagram. b. All flow lines will adhere to API standards. They will consist of 3 – 4” composite flowlines operating 75% MAWP, surface to follow surveyed route. Survey of a strip of land 30’ wide and 1012.7’ in length crossing USA land in Sections 30 & 31, T23S R31E, NMPM, Eddy County, NM and being 15’ left and 15’ right of the centerline survey. Two–6” steel gas lift hp line operating 1500 psig, buried, lines to follow surveyed route. Survey of a strip of land 30’ wide and 1237’ in

length crossing USA land in Section 30 & 31, T23S R31E, NMPM, Eddy County, NM and being 15' left and 15' right of the centerline survey. See attached. c. Electric line will follow a route approved by the BLM. Survey of a strip of land 30' wide and 1342.6' in length crossing USA land in Sections 31 T23S R31E NMPM, Eddy County, NM and being 15' left and 15' right of the centerline survey, see attached. d. See attached for additional information on the Sand Dunes Precious/Arkenstone Central Corridor Surface Production Facilities.

Production Facilities map:

Arkenstone31FdCom5H_FacilityPLELAmd_20190830090540.pdf

Arkenstone31FdCom5H_LeaseFacilityInfoAmd_20190830090554.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: GW WELL

Water source use type: SURFACE CASING

INTERMEDIATE/PRODUCTION CASING

OTHER **Describe use type:** Drilling

Source latitude: **Source longitude:**

Source datum:

Water source permit type: WATER WELL

Water source transport method: PIPELINE

TRUCKING

Source land ownership: COMMERCIAL

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2000 **Source volume (acre-feet):** 0.25778618

Source volume (gal): 84000

Water source and transportation map:

Arkenstone31FdCom5H_GRRWtrSrc_20190124122452.pdf

Arkenstone31FdCom5H_MesqWtrSrc_20190124122504.pdf

Water source comments: This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations (Gregory Rockhouse, Mesquite) in the area and will be hauled to location by transport truck using existing and proposed roads.

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Primary - All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM/State/Fee approved pit or from prevailing deposits found on the location. Will use BLM recommended extra caliche from other locations close by for roads, if available. Secondary - The secondary way of obtaining caliche to build locations and roads will be by “turning over” the location. This means, caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cubic yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel: a. The top 6” of topsoil is pushed off and stockpiled along the side of the location. b. An approximate 120’ X 120’ area is used within the proposed well site to remove caliche. c. Subsoil is removed and piled alongside the 120’ X 120’ within the pad site. d. When caliche is found, material will be stockpiled within the pad site to build the location and road. e. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road. f. Once the well is drilled the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad. Caliche will be provided from a pit located in Section 7 T24S R31E. Water will be provided from a frac pond located in Sections 7 T24S R31E.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Water-Based Cuttings, Water-Based Mud, Oil-Based Cuttings, Oil-Based Mud, Produced Water

Amount of waste: 1452.4 barrels

Waste disposal frequency : Daily

Safe containment description: Haul-Off Bins

Safe containmant attachment:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: An approved facility that can process drill cuttings, drill fluids, flowback water, produced water, contaminated soils, and other non-hazardous wastes.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Section 9 - Well Site Layout

Well Site Layout Diagram:

Arkenstone31FdCom5H_WellSiteCLAmd_20190830090639.pdf

Comments: V-Door-East - CL Tanks-North - 330' X 1010' – 7 Well Pad

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ARKENSTONE 31 FEDERAL COM

Multiple Well Pad Number: 5H

Recontouring attachment:

Drainage/Erosion control construction: Reclamation to be wind rowed as needed to control erosion

Drainage/Erosion control reclamation: Reclamation to be wind rowed as needed to control erosion

Well pad proposed disturbance (acres): 7.65

Road proposed disturbance (acres): 0.31

Powerline proposed disturbance (acres): 0.92

Pipeline proposed disturbance (acres): 1.55

Other proposed disturbance (acres): 0

Total proposed disturbance: 10.43

Well pad interim reclamation (acres): 1.87

Road interim reclamation (acres): 0.16

Powerline interim reclamation (acres): 0.92

Pipeline interim reclamation (acres): 1.03

Other interim reclamation (acres): 0.33

Total interim reclamation: 4.31

Well pad long term disturbance (acres): 5.79

Road long term disturbance (acres): 0.14

Powerline long term disturbance (acres): 0

Pipeline long term disturbance (acres): 0.52

Other long term disturbance (acres): 0

Total long term disturbance: 6.45

Disturbance Comments: See Below

Reconstruction method: If the well is deemed commercially productive, caliche from the areas of the pad site not required for operations will be reclaimed. The original topsoil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original topsoil will again be returned to the pad and contoured, as close as possible, to the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

Topsoil redistribution: The original topsoil will be returned to the area of the drill pad not necessary to operate the well.

Soil treatment: To be determined by the BLM.

Existing Vegetation at the well pad: To be determined by the BLM at Onsite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: To be determined by the BLM at Onsite.

Existing Vegetation Community at the road attachment:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Existing Vegetation Community at the pipeline: To be determined by the BLM at Onsite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: To be determined by the BLM at Onsite.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Jim **Last Name:** Wilson

Phone: (575)631-2442 **Email:** jim_wilson@oxy.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: To be determined by the BLM.

Weed treatment plan attachment:

Monitoring plan description: To be determined by the BLM.

Monitoring plan attachment:

Success standards: To be determined by the BLM.

Pit closure description: NA

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: OTHER

Describe: Electric Line

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 281001 ROW - ROADS,285003 ROW – POWER TRANS,288100 ROW – O&G Pipeline,289001 ROW- O&G Well Pad

ROW Applications

SUPO Additional Information: Permian Basin MOA - To be submitted after APD acceptance. GIS Shapefiles available for BLM download from shared FTP site after APD submittal.
Use a previously conducted onsite? NO

Previous Onsite information:

Other SUPO Attachment

Arkenstone31FdCom5H_StakeForm_20190124123218.pdf

Arkenstone31FdCom5H_GasCapPlanAmd_20190830090904.pdf

Arkenstone31FdCom5H_ImageryMapAmd_20190830090905.pdf

Arkenstone31FdCom5H_LandStatusMapAmd_20190830090906.pdf

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Arkenstone31FdCom5H_LocDrillPathAmd_20190830090919.pdf
Arkenstone31FdCom5H_SUPOAmd_20190830090934.pdf
Arkenstone31FdCom5H_TopoMapAmd_20190830090935.pdf
Arkenstone31FdCom5H_VicinityMapAmd_20190830090937.pdf

APD ID: 10400038416 **Submission Date:** 01/25/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

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

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM **Well Number:** 5H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

08/07/2020

APD ID: 10400038416

Submission Date: 01/25/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL COM

Well Number: 5H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

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Bond Information

Federal/Indian APD: FED

BLM Bond number: ESB000226

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: