

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		5. Lease Serial No. NMNM0546732A 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. ARKENSTONE 31 FEDERAL 173H
2. Name of Operator OXY USA INCORPORATED		9. API Well No. 30 015 47353
3a. Address 5 Greenway Plaza, Suite 110 Houston TX 77046	3b. Phone No. (include area code) (713)366-5716	10. Field and Pool, or Exploratory WILDCAT WOLFCAMP / WOLFCAMP
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW / 130 FNL / 2465 FWL / LAT 32.267821 / LONG -103.817666 At proposed prod. zone SESW / 20 FSL / 2300 FWL / LAT 32.253709 / LONG -103.818202		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* 8 miles		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 20 feet		16. No of acres in lease 607.8
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 35 feet		17. Spacing Unit dedicated to this well 320
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3345 feet		20. BLM/BIA Bond No. in file FED: ESB000226
22. Approximate date work will start* 09/01/2020		23. Estimated duration 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 (Electronic Submission) Title Sr. Regulatory Advisor	Name (Printed/Typed) David Stewart / Ph: (713)366-5716	Date 02/22/2019
Approved by (Signature) (Electronic Submission) Title Assistant Field Manager Lands & Minerals	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 08/07/2020
Office CARLSBAD		

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

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



(Continued on page 2)

*(Instructions on page 2)

Entered - Kurt Simmons, NMOCD

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-8181 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) 476-3480 Fax: (505) 476-3482

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

WC 015 G08 S233036M WOLFCAMP AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-47353	Pool Code 98293	Pool Name W: lcat Wolfcamp
Property Code 326150	Property Name ARKENSTONE "31" FEDERAL	Well Number 173H
OGRID No. 16696	Operator Name OXY USA INC.	Elevation 3344.9'

Surface Location

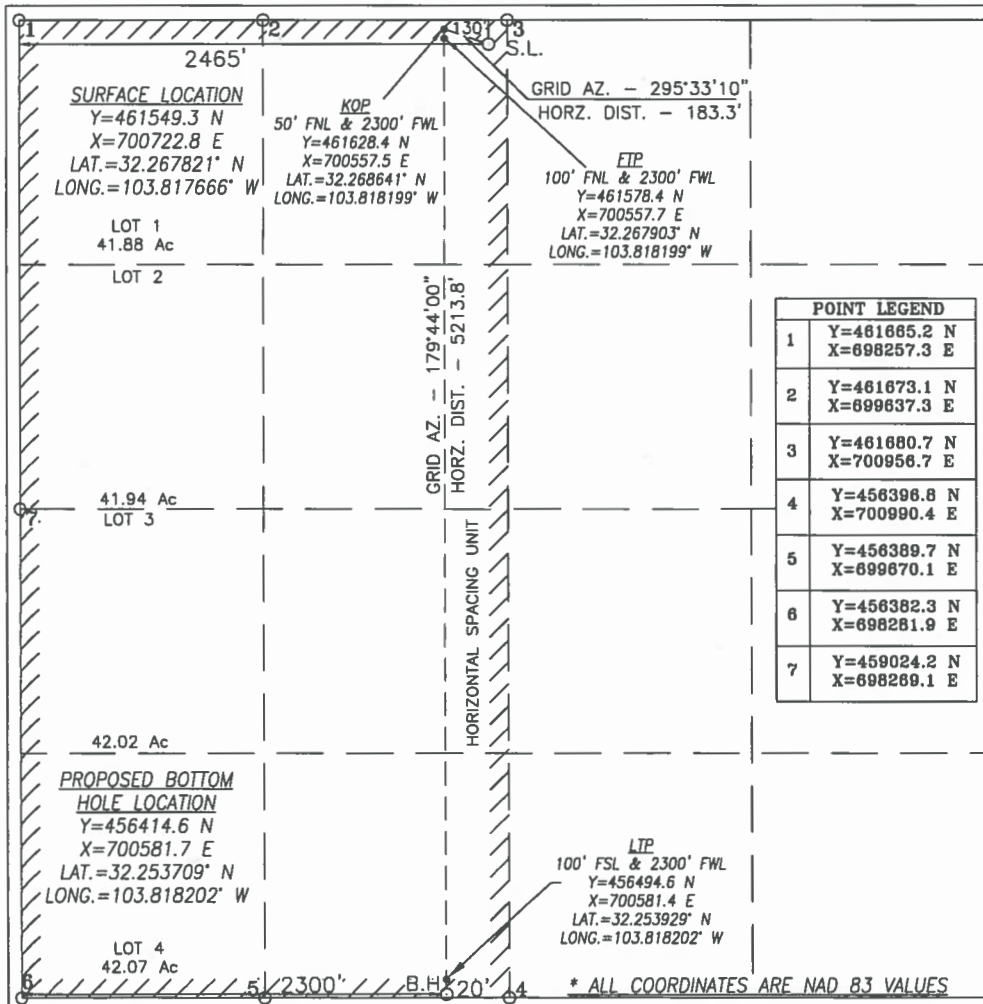
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	31	23-S	31-E		130	NORTH	2465	WEST	EDDY

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
N	31	23-S	31-E		20	SOUTH	2300	WEST	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: *David Stewart* Date: **2/22/19**
Printed Name: **David Stewart**
E-mail Address: **david.stewart@oxy.com**

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.

SEPTEMBER 11, 2018

Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR
12/13/18
Certificate No. CHAD HARCROW 17777
W.O. #18-1618 DRAWN BY: JR

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: 01-15-2019

☒ 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, recomple 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 1425 FWL	2300	0	
Arkenstone 31 Federal 8H	Pending	C-31-23S-31E	130 FNL 1460 FWL	2300	0	
Arkenstone 31 Federal 171H	Pending	D-1-31-23S-31E	130 FNL 1160 FWL	2700	0	
Arkenstone 31 Federal 172H	Pending	D-1-31-23S-31E	130 FNL 1195 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	B-31-23S-31E	280 FNL 2150 FEL	2300	0	
Arkenstone 31 Federal Com 10H	Pending	B-31-23S-31E	350 FNL 2150 FEL	2300	0	
Arkenstone 31 Federal Com 175H	Pending	A-31-23S-31E	100 FNL 1130 FEL	2700	0	
Arkenstone 31 Federal Com 176H	Pending	A-31-23S-31E	100 FNL 1095 FEL	2700	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	C-31-23S-31E	570 FNL 1345 FWL	3900	0	
Precious 30_18 Federal Com 8H	Pending	C-31-23S-31E	570 FNL 1380 FWL	3900	0	
Precious 30_18 Federal Com 9H	Pending	B-31-23S-31E	520 FNL 1330 FEL	3900	0	
Precious 30_18 Federal Com 10H	Pending	A-31-23S-31E	520 FNL 1295 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 1080 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	

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Precious 30_18 Federal Com 25H	Pending	A-31-23S-31E	100 FNL 600 FEL	3000	0	
Precious 30_18 Federal Com 26H	Pending	A-31-23S-31E	100 FNL 565 FEL	3000	0	
Precious 30_18 Federal Com 41H	Pending	D-1-31-23S-31E	570 FNL 320 FWL	4000	0	
Precious 30_18 Federal Com 42H	Pending	D-1-31-23S-31E	570 FNL 1115 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	A-31-23S-31E	520 FNL 535 FEL	4000	0	
Precious 30_18 Federal Com 46H	Pending	A-31-23S-31E	500 FNL 500 FEL	4000	0	
Precious 30_18 Federal Com 171H	Pending	D-1-31-23S-31E	570 FNL 815 FWL	3100	0	
Precious 30_18 Federal Com 172H	Pending	D-1-31-23S-31E	570 FNL 850 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

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Oxy USA Incorporated
LEASE NO.:	NMNM0546732A
WELL NAME & NO.:	Arkenstone 31 Federal 173H
SURFACE HOLE FOOTAGE:	130'/N & 2465'/W
BOTTOM HOLE FOOTAGE:	20'/S & 2300'/W
LOCATION:	Section 31, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input type="radio"/> No	
Potash	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input type="radio"/> Multibowl	<input checked="" type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input type="checkbox"/> Unit

Break Testing	<input type="radio"/> Yes	<input checked="" type="radio"/> No
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A. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **408** 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 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.

2nd 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 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 7-5/8" annulus. Operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to BLM.

4. The minimum required fill of cement behind the 5-1/2 inch production liner is:
 - Cement should tie-back **500 feet** into the previous casing. Operator shall provide method of verification.

B. 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.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** 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 **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

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

C. 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.

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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

NMK9272019



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: 02/22/2019

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: 10400039438

Submission Date: 02/22/2019

Highlighted data
reflects the most
recent changes

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400039438

Tie to previous NOS?

Submission Date: 02/22/2019

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

Well Number: 173H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WILDCAT
WOLFCAMP

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

Well Number: 173H

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

Number: 3H

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 across Measurement: 320 Acres

Well plat: Arkenstone31Fd173H_C102_20190222083944.pdf

Arkenstone31Fd173H_SitePlan_20190222083957.pdf

Well work start Date: 09/01/2020

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	130	FNL	2465	FWL	23S	31E	31	Aliquot NENW 1	32.267821	-103.817666	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	3345	0	0	
KOP Leg #1	50	FNL	2300	FWL	23S	31E	31	Aliquot NENW 1	32.268641	-103.818199	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	-7594	10996	10939	

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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	100	FNL	2300	FWL	23S	31E	31	Aliquot NENW	32.267903	- 103.818199	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	- 8067	11792	11412	
EXIT Leg #1	100	FSL	2300	FWL	23S	31E	31	Aliquot SESW	32.253929	- 103.818202	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	- 8104	16875	11449	
BHL Leg #1	20	FSL	2300	FWL	23S	31E	31	Aliquot SESW	32.253709	- 103.818202	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 054673 2A	- 8104	16955	11449	

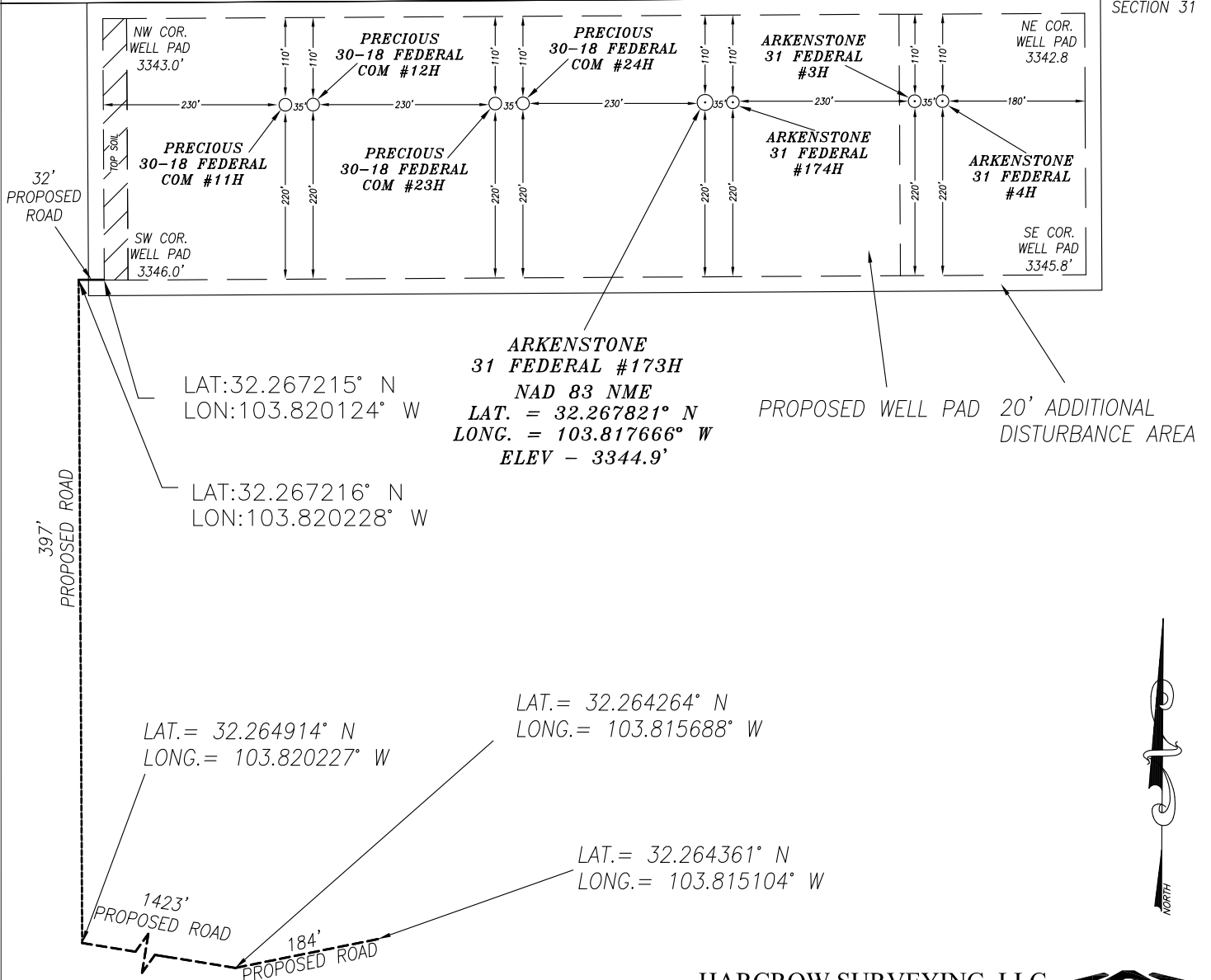
OXY USA INC.

ARKENSTONE 31 FEDERAL #173H

SITE PLAN

FAA PERMIT: NO

SECTION 30
SECTION 31



ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED
ALL DISTANCES ARE GRID VALUES

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
CHAD HARCROW N.M.P.S. NO. 17777

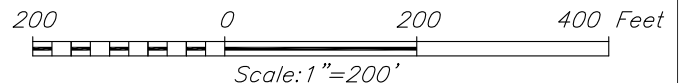
12/14/18
DATE

HARCROW SURVEYING, LLC

2314 W. MAIN ST, ARTESIA, N.M. 88210

PH: (575) 746-2158

c.harcrow@harcrowsurveying.com



OXY USA INC.

ARKENSTONE 31 FEDERAL #173H
LOCATED 130 FEET FROM THE NORTH LINE
AND 2465 FEET FROM THE WEST LINE OF SECTION, 31
TOWNSHIP 23 SOUTH, 31 RANGE EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

SURVEY DATE: SEPTEMBER 11, 2018	SITE PLAN
DRAFTING DATE: DECEMBER 11, 2018	PAGE: 1 OF 1
APPROVED BY: CH	DRAWN BY: JR FILE: 18-1618



APD ID: 10400039438

Submission Date: 02/22/2019

Highlighted data
reflects the most
recent changes

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
403481	RUSTLER	3345	358	358	ANHYDRITE, DOLOMITE, SHALE	USEABLE WATER	N
403482	SALADO	2670	675	675	ANHYDRITE, DOLOMITE, HALITE, SHALE	OTHER : SALT	N
403479	CASTILE	743	2602	2602	ANHYDRITE	OTHER : salt	N
403483	LAMAR	-697	4042	4042	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
403484	BELL CANYON	-733	4078	4078	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER, USEABLE WATER : BRINE	N
403485	CHERRY CANYON	-1625	4970	4970	SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
403486	BRUSHY CANYON	-2914	6259	6259	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	N
403480	BONE SPRING	-4598	7943	7965	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	N
403476	BONE SPRING 1ST	-5630	8975	9012	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
403487	BONE SPRING 2ND	-5891	9235	9276	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
403500	BONE SPRING 3RD	-6773	10117	10171	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
403501	WOLFCAMP	-7949	11293	11412	SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 11449

Equipment: 13-5/8" 5M/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: OXY will utilize a 5M annular with a 10M BOPE stack. 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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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:

Arkenstone31Fd173H_ChkManifold_20190222093343.pdf

BOP Diagram Attachment:

Arkenstone31Fd173H_FlexHoseCert_20190222093405.pdf

Arkenstone31Fd173H_BOP2_20190722132113.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	408	0	408			408	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	4092	0	4092			4092	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	10896	0	10840			10896	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	16954	0	11449			16954	P-110	20	OTHER - DQX/SFTORQ/DQWTO RQ	1.125	1.2	BUOY	1.4	BUOY	1.4

Casing Attachments

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31Fd173H_CsgCriteria_20190222102113.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31Fd173H_CsgCriteria_20190222102139.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31Fd173H_CsgCriteria_20190222102224.pdf

Arkenstone31Fd173H_7.625_26.4_HCL80_TMKUPFJ_20190222102249.pdf

Arkenstone31Fd173H_7.625_26.4_HCL80_TMKUPSF_20190222102300.pdf

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Arkenstone31Fd173H_CsgCriteria_20190222102350.pdf

Arkenstone31Fd173H_5.5_20_P110_DQX_20190222102402.pdf

Arkenstone31Fd173H_5.5_20_P110HC_TMKUPSFTORQ_20190222102412.pdf

Arkenstone31Fd173H_5.5_20_P110CY_TMKUPDQWTORQ_20190625161751.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	408	438	1.33	14.8	583	100	CI C	Accelerator

INTERMEDIATE	Lead		0	3592	875	1.88	12.9	1645	50	Pozzolan/C	Retarder
INTERMEDIATE	Tail		3592	4092	155	1.33	14.8	206	20	CI C	Accelerator
INTERMEDIATE	Lead		0	6509	396	1.92	12.9	760	25	CI C	Accelerator
INTERMEDIATE	Tail		6509	10896	281	1.65	13.2	464	5	CI H	Retarder, Dispersant, Salt
PRODUCTION	Lead		10396	16954	484	1.38	13.2	668	20	CI H	Retarder, Dispersant, Salt

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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
1089 6	1695 4	OTHER : Water-Based and/or Oil-Based Mud	9.5	12							
408	4092	OTHER : Saturated Brine Based Mud	9.8	10							
4092	1089 6	OTHER : Water-Based and/or Oil-Based Mud	8	9.6							
0	408	WATER-BASED MUD	8.6	8.8							

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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: 7145

Anticipated Surface Pressure: 4626.21

Anticipated Bottom Hole Temperature(F): 172

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Arkenstone31Fd173H_H2S1_20190222092945.pdf

Arkenstone31Fd173H_H2S2_20190222092956.pdf

Arkenstone31Fd173H_EmergencyContactList_20190222093008.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Arkenstone31Fd173H_DirectPlan_20190222092742.pdf

Arkenstone31Fd173H_DirectPlot_20190222092756.pdf

Other proposed operations facets description:

*The 3rd Bone Spring Geologic Formation Top that was provided was the 3rd Bone Spring Lime Formation Top as required by the Potash operator's agreement. The only selection under Section 1 Geologic Formations was the Bone Spring 3rd.

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 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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

accommodate hole conditions or drilling operations.

OXY requests to pump a two stage cement job on the intermediate II 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:

Arkenstone31Fd173H_GasCapPlan_20190222092839.pdf

Arkenstone31Fd173H_SpudRigData_20190222092850.pdf

Arkenstone31Fd173H_DrillPlan3_20190722131238.pdf

Other Variance attachment:

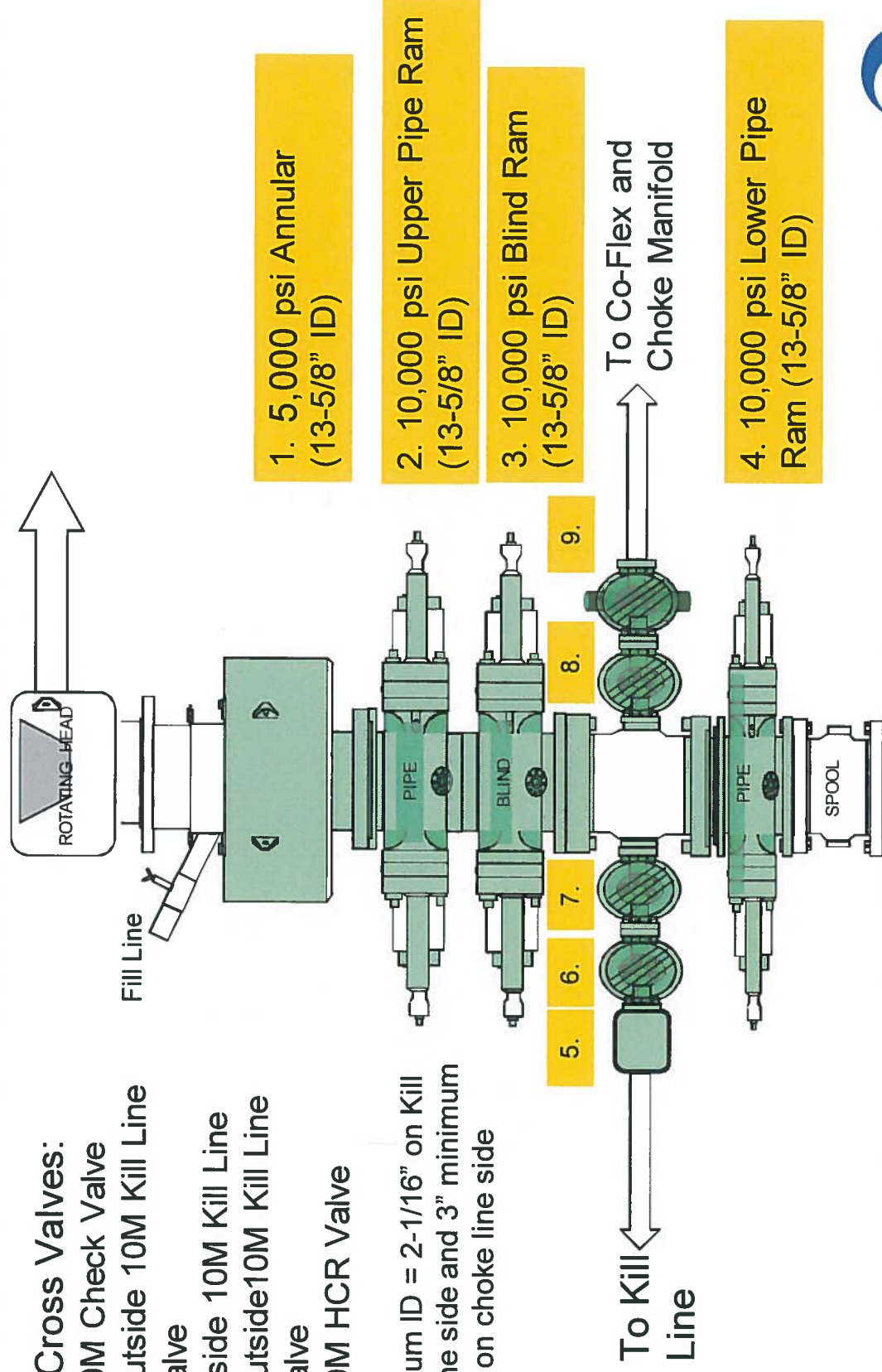
Arkenstone31Fd173H_OfflineCmtgDetail_20190625161935.pdf

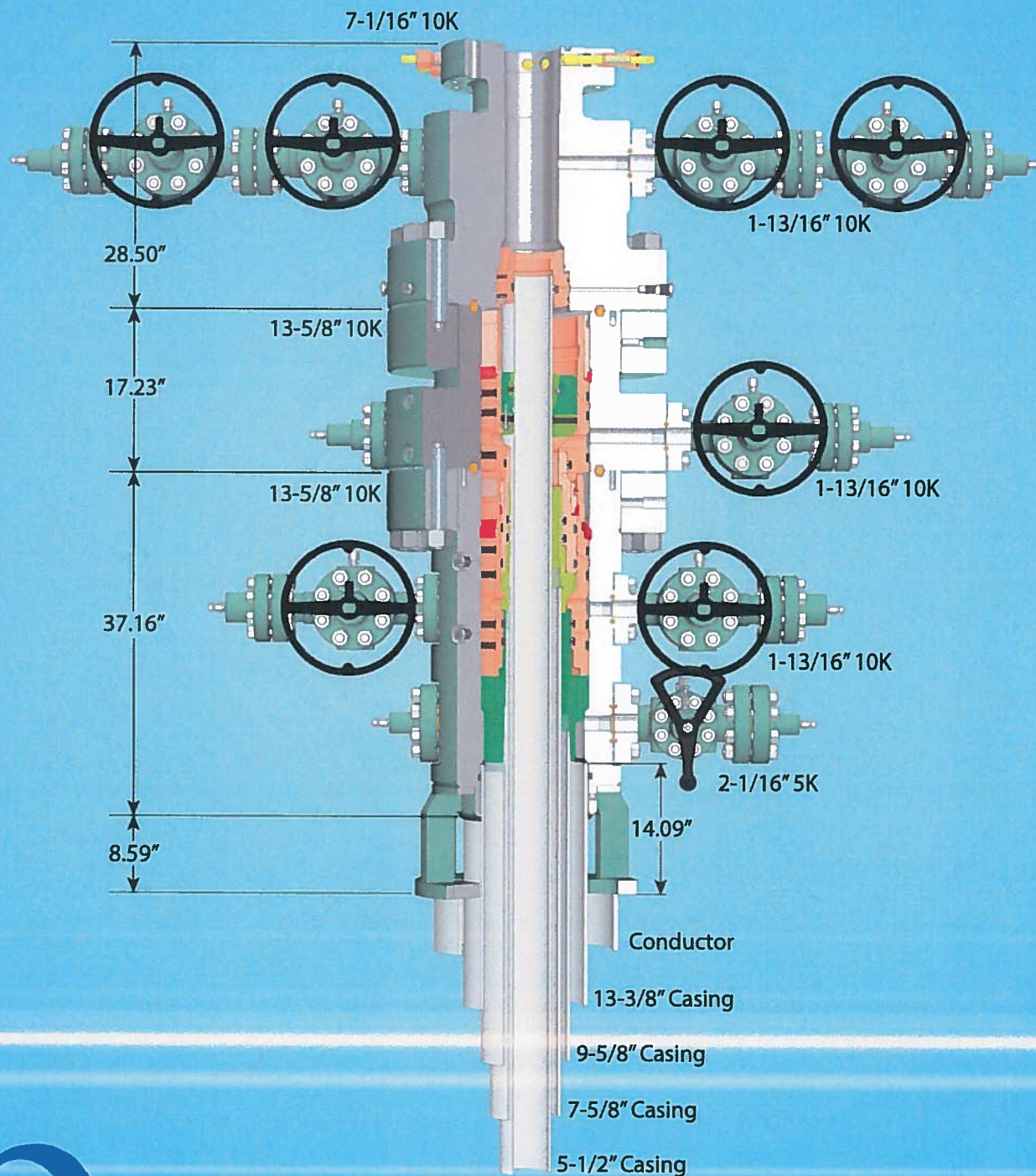
5/10M BOP Stack

Mud Cross Valves:

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

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





OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

ARKENSTONE 31 FEDERAL

ARKENSTONE 31 FEDERAL 173H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

16 November, 2018

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well ARKENSTONE 31 FEDERAL 173H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3371.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3371.40ft
Site:	ARKENSTONE 31 FEDERAL	North Reference:	Grid
Well:	ARKENSTONE 31 FEDERAL 173H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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 173H					
Well Position	+N/-S	8.76 ft	Northing:	461,549.31 usft	Latitude:	32° 16' 4.156225 N
	+E/-W	1,535.08 ft	Easting:	700,722.84 usft	Longitude:	103° 49' 3.596617 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	3,344.90 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/16/2018	6.88	60.00	48,011

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	181.57

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	
6,250.00	0.00	0.00	6,250.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,749.98	10.00	346.01	6,747.45	42.23	-10.52	2.00	2.00	0.00	346.01	
10,003.34	10.00	346.01	9,951.39	590.39	-147.09	0.00	0.00	0.00	0.00	
10,996.09	10.00	179.73	10,938.95	587.80	-167.74	2.00	0.00	-16.75	-173.03	
11,791.98	89.59	179.73	11,412.40	27.66	-165.13	10.00	10.00	0.00	0.00	FTP (Arkenstone 31
16,954.91	89.59	179.73	11,449.40	-5,135.08	-141.10	0.00	0.00	0.00	0.00	PBHL (Arkenstone

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well ARKENSTONE 31 FEDERAL 173H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3371.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3371.40ft
Site:	ARKENSTONE 31 FEDERAL	North Reference:	Grid
Well:	ARKENSTONE 31 FEDERAL 173H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well ARKENSTONE 31 FEDERAL 173H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3371.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3371.40ft
Site:	ARKENSTONE 31 FEDERAL	North Reference:	Grid
Well:	ARKENSTONE 31 FEDERAL 173H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,250.00	0.00	0.00	6,250.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	1.00	346.01	6,300.00	0.42	-0.11	-0.42	2.00	2.00	0.00
6,400.00	3.00	346.01	6,399.93	3.81	-0.95	-3.78	2.00	2.00	0.00
6,500.00	5.00	346.01	6,499.68	10.58	-2.64	-10.50	2.00	2.00	0.00
6,600.00	7.00	346.01	6,599.13	20.72	-5.16	-20.57	2.00	2.00	0.00
6,700.00	9.00	346.01	6,698.15	34.22	-8.53	-33.98	2.00	2.00	0.00
6,749.98	10.00	346.01	6,747.45	42.23	-10.52	-41.92	2.00	2.00	0.00
6,800.00	10.00	346.01	6,796.71	50.66	-12.62	-50.29	0.00	0.00	0.00
6,900.00	10.00	346.01	6,895.19	67.51	-16.82	-67.02	0.00	0.00	0.00
7,000.00	10.00	346.01	6,993.67	84.35	-21.02	-83.75	0.00	0.00	0.00
7,100.00	10.00	346.01	7,092.15	101.20	-25.21	-100.47	0.00	0.00	0.00
7,200.00	10.00	346.01	7,190.63	118.05	-29.41	-117.20	0.00	0.00	0.00
7,300.00	10.00	346.01	7,289.11	134.90	-33.61	-133.93	0.00	0.00	0.00
7,400.00	10.00	346.01	7,387.59	151.75	-37.81	-150.65	0.00	0.00	0.00
7,500.00	10.00	346.01	7,486.07	168.60	-42.01	-167.38	0.00	0.00	0.00
7,600.00	10.00	346.01	7,584.55	185.45	-46.20	-184.11	0.00	0.00	0.00
7,700.00	10.00	346.01	7,683.03	202.30	-50.40	-200.84	0.00	0.00	0.00
7,800.00	10.00	346.01	7,781.51	219.15	-54.60	-217.56	0.00	0.00	0.00
7,900.00	10.00	346.01	7,880.00	236.00	-58.80	-234.29	0.00	0.00	0.00
8,000.00	10.00	346.01	7,978.48	252.84	-63.00	-251.02	0.00	0.00	0.00
8,100.00	10.00	346.01	8,076.96	269.69	-67.19	-267.75	0.00	0.00	0.00
8,200.00	10.00	346.01	8,175.44	286.54	-71.39	-284.47	0.00	0.00	0.00
8,300.00	10.00	346.01	8,273.92	303.39	-75.59	-301.20	0.00	0.00	0.00
8,400.00	10.00	346.01	8,372.40	320.24	-79.79	-317.93	0.00	0.00	0.00
8,500.00	10.00	346.01	8,470.88	337.09	-83.99	-334.66	0.00	0.00	0.00
8,600.00	10.00	346.01	8,569.36	353.94	-88.18	-351.38	0.00	0.00	0.00
8,700.00	10.00	346.01	8,667.84	370.79	-92.38	-368.11	0.00	0.00	0.00
8,800.00	10.00	346.01	8,766.32	387.64	-96.58	-384.84	0.00	0.00	0.00
8,900.00	10.00	346.01	8,864.80	404.49	-100.78	-401.57	0.00	0.00	0.00
9,000.00	10.00	346.01	8,963.29	421.33	-104.98	-418.29	0.00	0.00	0.00
9,100.00	10.00	346.01	9,061.77	438.18	-109.17	-435.02	0.00	0.00	0.00
9,200.00	10.00	346.01	9,160.25	455.03	-113.37	-451.75	0.00	0.00	0.00
9,300.00	10.00	346.01	9,258.73	471.88	-117.57	-468.47	0.00	0.00	0.00
9,400.00	10.00	346.01	9,357.21	488.73	-121.77	-485.20	0.00	0.00	0.00
9,500.00	10.00	346.01	9,455.69	505.58	-125.96	-501.93	0.00	0.00	0.00
9,600.00	10.00	346.01	9,554.17	522.43	-130.16	-518.66	0.00	0.00	0.00
9,700.00	10.00	346.01	9,652.65	539.28	-134.36	-535.38	0.00	0.00	0.00
9,800.00	10.00	346.01	9,751.13	556.13	-138.56	-552.11	0.00	0.00	0.00
9,900.00	10.00	346.01	9,849.61	572.98	-142.76	-568.84	0.00	0.00	0.00
10,000.00	10.00	346.01	9,948.09	589.83	-146.95	-585.57	0.00	0.00	0.00
10,003.34	10.00	346.01	9,951.39	590.39	-147.09	-586.13	0.00	0.00	0.00
10,100.00	8.08	344.34	10,046.84	605.08	-150.96	-600.70	2.00	-1.98	-1.72
10,200.00	6.11	341.53	10,146.07	616.90	-154.54	-612.42	2.00	-1.97	-2.81
10,300.00	4.17	336.09	10,245.66	625.28	-157.71	-620.71	2.00	-1.94	-5.44
10,400.00	2.33	321.70	10,345.50	630.20	-160.44	-625.55	2.00	-1.84	-14.39

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well ARKENSTONE 31 FEDERAL 173H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3371.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3371.40ft
Site:	ARKENSTONE 31 FEDERAL	North Reference:	Grid
Well:	ARKENSTONE 31 FEDERAL 173H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
10,500.00	1.21	262.59	10,445.45	631.66	-162.75	-626.95	2.00	-1.12	-59.11
10,600.00	2.34	203.89	10,545.41	629.65	-164.62	-624.90	2.00	1.13	-58.70
10,700.00	4.18	189.61	10,645.25	624.19	-166.05	-619.39	2.00	1.84	-14.28
10,800.00	6.13	184.19	10,744.84	615.27	-167.05	-610.45	2.00	1.94	-5.42
10,900.00	8.10	181.39	10,844.06	602.91	-167.61	-598.08	2.00	1.97	-2.80
10,996.09	10.00	179.73	10,938.95	587.80	-167.74	-582.97	2.00	1.98	-1.72
11,000.00	10.39	179.73	10,942.80	587.11	-167.73	-582.28	10.00	10.00	0.00
11,100.00	20.39	179.73	11,039.09	560.60	-167.61	-555.79	10.00	10.00	0.00
11,200.00	30.39	179.73	11,129.32	517.78	-167.41	-512.98	10.00	10.00	0.00
11,300.00	40.39	179.73	11,210.74	459.94	-167.14	-455.17	10.00	10.00	0.00
11,400.00	50.39	179.73	11,280.87	388.83	-166.81	-384.11	10.00	10.00	0.00
11,500.00	60.39	179.73	11,337.60	306.63	-166.43	-301.95	10.00	10.00	0.00
11,600.00	70.39	179.73	11,379.19	215.83	-166.01	-211.19	10.00	10.00	0.00
11,700.00	80.39	179.73	11,404.38	119.19	-165.56	-114.60	10.00	10.00	0.00
11,791.98	89.59	179.73	11,412.40	27.66	-165.13	-23.12	10.00	10.00	0.00
11,800.00	89.59	179.73	11,412.46	19.64	-165.09	-15.10	0.00	0.00	0.00
11,900.00	89.59	179.73	11,413.17	-80.36	-164.63	84.85	0.00	0.00	0.00
12,000.00	89.59	179.73	11,413.89	-180.35	-164.16	184.79	0.00	0.00	0.00
12,100.00	89.59	179.73	11,414.61	-280.35	-163.70	284.74	0.00	0.00	0.00
12,200.00	89.59	179.73	11,415.32	-380.34	-163.23	384.68	0.00	0.00	0.00
12,300.00	89.59	179.73	11,416.04	-480.34	-162.77	484.63	0.00	0.00	0.00
12,400.00	89.59	179.73	11,416.76	-580.34	-162.30	584.58	0.00	0.00	0.00
12,500.00	89.59	179.73	11,417.47	-680.33	-161.83	684.52	0.00	0.00	0.00
12,600.00	89.59	179.73	11,418.19	-780.33	-161.37	784.47	0.00	0.00	0.00
12,700.00	89.59	179.73	11,418.91	-880.33	-160.90	884.41	0.00	0.00	0.00
12,800.00	89.59	179.73	11,419.62	-980.32	-160.44	984.36	0.00	0.00	0.00
12,900.00	89.59	179.73	11,420.34	-1,080.32	-159.97	1,084.31	0.00	0.00	0.00
13,000.00	89.59	179.73	11,421.06	-1,180.32	-159.51	1,184.25	0.00	0.00	0.00
13,100.00	89.59	179.73	11,421.77	-1,280.31	-159.04	1,284.20	0.00	0.00	0.00
13,200.00	89.59	179.73	11,422.49	-1,380.31	-158.58	1,384.14	0.00	0.00	0.00
13,300.00	89.59	179.73	11,423.21	-1,480.30	-158.11	1,484.09	0.00	0.00	0.00
13,400.00	89.59	179.73	11,423.92	-1,580.30	-157.65	1,584.03	0.00	0.00	0.00
13,500.00	89.59	179.73	11,424.64	-1,680.30	-157.18	1,683.98	0.00	0.00	0.00
13,600.00	89.59	179.73	11,425.36	-1,780.29	-156.71	1,783.93	0.00	0.00	0.00
13,700.00	89.59	179.73	11,426.07	-1,880.29	-156.25	1,883.87	0.00	0.00	0.00
13,800.00	89.59	179.73	11,426.79	-1,980.29	-155.78	1,983.82	0.00	0.00	0.00
13,900.00	89.59	179.73	11,427.51	-2,080.28	-155.32	2,083.76	0.00	0.00	0.00
14,000.00	89.59	179.73	11,428.22	-2,180.28	-154.85	2,183.71	0.00	0.00	0.00
14,100.00	89.59	179.73	11,428.94	-2,280.28	-154.39	2,283.66	0.00	0.00	0.00
14,200.00	89.59	179.73	11,429.66	-2,380.27	-153.92	2,383.60	0.00	0.00	0.00
14,300.00	89.59	179.73	11,430.37	-2,480.27	-153.46	2,483.55	0.00	0.00	0.00
14,400.00	89.59	179.73	11,431.09	-2,580.26	-152.99	2,583.49	0.00	0.00	0.00
14,500.00	89.59	179.73	11,431.81	-2,680.26	-152.53	2,683.44	0.00	0.00	0.00
14,600.00	89.59	179.73	11,432.52	-2,780.26	-152.06	2,783.38	0.00	0.00	0.00
14,700.00	89.59	179.73	11,433.24	-2,880.25	-151.59	2,883.33	0.00	0.00	0.00
14,800.00	89.59	179.73	11,433.96	-2,980.25	-151.13	2,983.28	0.00	0.00	0.00
14,900.00	89.59	179.73	11,434.67	-3,080.25	-150.66	3,083.22	0.00	0.00	0.00
15,000.00	89.59	179.73	11,435.39	-3,180.24	-150.20	3,183.17	0.00	0.00	0.00
15,100.00	89.59	179.73	11,436.11	-3,280.24	-149.73	3,283.11	0.00	0.00	0.00
15,200.00	89.59	179.73	11,436.82	-3,380.23	-149.27	3,383.06	0.00	0.00	0.00
15,300.00	89.59	179.73	11,437.54	-3,480.23	-148.80	3,483.01	0.00	0.00	0.00
15,400.00	89.59	179.73	11,438.26	-3,580.23	-148.34	3,582.95	0.00	0.00	0.00
15,500.00	89.59	179.73	11,438.97	-3,680.22	-147.87	3,682.90	0.00	0.00	0.00
15,600.00	89.59	179.73	11,439.69	-3,780.22	-147.41	3,782.84	0.00	0.00	0.00

Oxy

Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well ARKENSTONE 31 FEDERAL 173H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3371.40ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3371.40ft
Site:	ARKENSTONE 31 FEDERAL	North Reference:	Grid
Well:	ARKENSTONE 31 FEDERAL 173H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
15,700.00	89.59	179.73	11,440.41	-3,880.22	-146.94	3,882.79	0.00	0.00	0.00
15,800.00	89.59	179.73	11,441.12	-3,980.21	-146.47	3,982.73	0.00	0.00	0.00
15,900.00	89.59	179.73	11,441.84	-4,080.21	-146.01	4,082.68	0.00	0.00	0.00
16,000.00	89.59	179.73	11,442.56	-4,180.21	-145.54	4,182.63	0.00	0.00	0.00
16,100.00	89.59	179.73	11,443.27	-4,280.20	-145.08	4,282.57	0.00	0.00	0.00
16,200.00	89.59	179.73	11,443.99	-4,380.20	-144.61	4,382.52	0.00	0.00	0.00
16,300.00	89.59	179.73	11,444.71	-4,480.19	-144.15	4,482.46	0.00	0.00	0.00
16,400.00	89.59	179.73	11,445.42	-4,580.19	-143.68	4,582.41	0.00	0.00	0.00
16,500.00	89.59	179.73	11,446.14	-4,680.19	-143.22	4,682.36	0.00	0.00	0.00
16,600.00	89.59	179.73	11,446.86	-4,780.18	-142.75	4,782.30	0.00	0.00	0.00
16,700.00	89.59	179.73	11,447.57	-4,880.18	-142.29	4,882.25	0.00	0.00	0.00
16,800.00	89.59	179.73	11,448.29	-4,980.18	-141.82	4,982.19	0.00	0.00	0.00
16,900.00	89.59	179.73	11,449.01	-5,080.17	-141.35	5,082.14	0.00	0.00	0.00
16,954.91	89.59	179.73	11,449.40	-5,135.08	-141.10	5,137.02	0.00	0.00	0.00

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
FTP (Arkenstone 31 - plan hits target center - Point	0.00	0.00	11,412.40	27.66	-165.13	461,576.97	700,557.72	32° 16' 4.437785 N	103° 49' 5.518201
PBHL (Arkenstone 31 - plan hits target center - Point	0.00	0.00	11,449.40	-5,135.08	-141.10	456,414.56	700,581.75	32° 15' 13.351468 N	103° 49' 5.526880

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,250.00	6,250.00	0.00	0.00	Build 2.00°/100'
6,749.98	6,747.45	42.23	-10.52	Hold 10.00° Tangent
10,003.34	9,951.39	590.39	-147.09	Turn 2.00°/100'
10,996.09	10,938.95	587.80	-167.74	Build 10.00°/100'
11,791.98	11,412.40	27.66	-165.13	Landing Point
16,954.91	11,449.40	-5,135.08	-141.10	TD at 16954.91' MD



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
Site: ARKENSTONE 31 FEDERAL
Well: ARKENSTONE 31 FEDERAL 173H
Wellbore: Wellbore #1
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

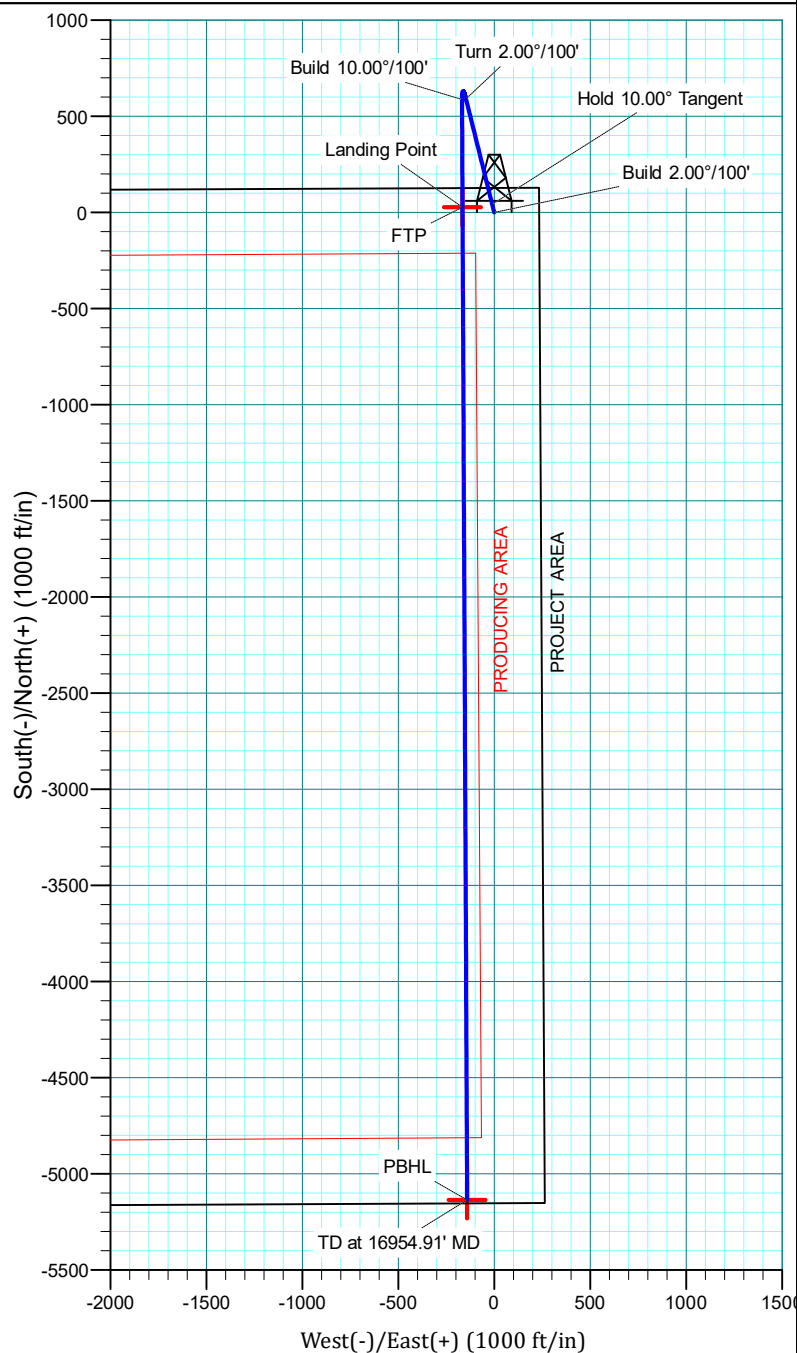
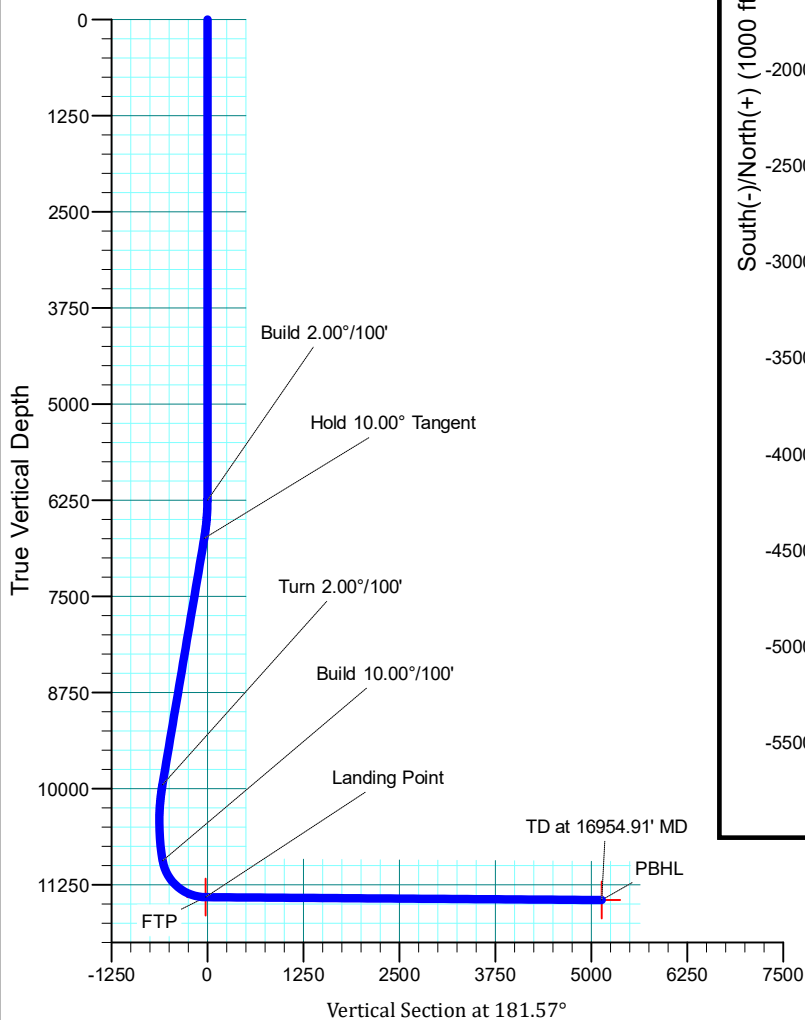
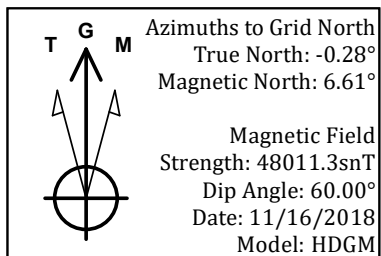
System Datum: Mean Sea Level

WELL DETAILS: ARKENSTONE 31 FEDERAL 173H

+N/-S	+E/-W	Northing	Easting	Ground Level	Latitude	Longitude
0.00	0.00	461549.31	700722.84	3344.90	32° 16' 4.156225 N	103° 49' 3.596617 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6250.00	0.00	0.00	6250.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
6749.98	10.00	346.01	6747.45	42.23	-10.52	2.00	346.01	-41.92	Hold 10.00° Tangent
10003.34	10.00	346.01	9951.38	590.39	-147.09	0.00	0.00	-586.13	Turn 2.00°/100'
10996.09	10.00	179.73	10938.95	587.80	-167.74	2.00	-173.03	-582.97	Build 10.00°/100'
11791.98	89.59	179.73	11412.40	27.66	-165.13	10.00	0.00	-23.12	Landing Point
16954.91	89.59	179.73	11449.40	-5135.08	-141.10	0.00	0.00	5137.02	TD at 16954.91' MD



OXY USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

1. Geologic Formations

TVD of target	11449'	Pilot Hole Depth	N/A
MD at TD:	16954'	Deepest Expected fresh water:	358'

Delaware Basin

Formation	TVD - RKB	Expected Fluids
Rustler	358	
Salado	675	Salt
Castile	2,602	Salt
Lamar/Delaware	4,042	Oil/Gas/Brine
Bell Canyon	4,078	Oil/Gas/Brine
Cherry Canyon	4,970	Oil/Gas/Brine
Brushy Canyon	6,259	Losses
Bone Spring	7,943	Oil/Gas
1st Bone Spring	8,975	Oil/Gas
2nd Bone Spring	9,235	Oil/Gas
3rd Bone Spring	10,117	Oil/Gas
Wolfcamp	11,293	Oil/Gas

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

2. Casing Program

Hole Size (in)	Casing Interval		Csg. Size (in)	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	Buoyant	Buoyant
	From (ft)	To (ft)							Body SF Tension	Joint SF Tension
17.5	0	408	13.375	54.5	J-55	BTC	1.125	1.2	1.4	1.4
12.25	0	4092	9.625	40	L-80	BTC	1.125	1.2	1.4	1.4
8.75	0	10896	7.625	26.4	L-80 HC	SF (0 ft to 6000 ft) FJ (6000 ft to 10896 ft)	1.125	1.2	1.4	1.4
6.75	0	16954	5.5	20	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 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 cancellation 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.

OXY USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

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 3 rd 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 2 nd 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?	

OXY USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

3. Cementing Program

Casing String	# Sks	Wt. (lb/gal)	Yld (ft ³ /sack)	H2O (gal/sk)	500# Comp. Strength (hours)	Slurry Description
Surface (Lead)	N/A	N/A	N/A	N/A	N/A	N/A
Surface (Tail)	438	14.8	1.33	6.365	5:26	Class C Cement, Accelerator
Intermediate (Lead)	875	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)	281	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)	396	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)	484	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	408	100%
Intermediate (Lead)	0	3592	50%
Intermediate (Tail)	3592	4092	20%
Intermediate II 1st Stage (Lead)	N/A	N/A	N/A
Intermediate II 1st Stage (Tail)	6509	10896	5%
Intermediate II 2nd Stage (Lead)	N/A	N/A	N/A
Intermediate II 2nd Stage (Tail)	0	6509	25%
Production (Lead)	N/A	N/A	N/A
Production (Tail)	10396	16954	20%

*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 USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

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*		
8.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		
6.75" Hole	13-5/8"	5M	Annular	✓	70% of working pressure
		5M	Blind Ram	✓	250 psi / 5000 psi
			Pipe Ram		
			Double Ram	✓	
			Other*		

*Specify if additional ram is utilized.

Oxy will utilize a 5M annular with a 10M BOPE stack. The 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.

OXY USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

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 the casing point is either shallower than the 3rd Bone Spring or 10000' 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	408	Water-Based Mud	8.6-8.8	40-60	N/C
408	4092	Saturated Brine-Based Mud	9.8-10.0	35-45	N/C
4092	10896	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C
10896	16954	Water-Based or Oil-Based Mud	9.5-12.0	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	

OXY USA Inc. - Arkenstone 31 Federal 173H – Amended Drill Plan

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7145 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	172°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 (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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	H ₂ S is present
Y	H ₂ S Plan attached

8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. <ul style="list-style-type: none">We plan to drill the two 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. <ul style="list-style-type: none">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: 1432.6 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.
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 nipped 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 nipping 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: 10400039438

Submission Date: 02/22/2019

Highlighted data
reflects the most
recent changes

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Arkenstone31Fd173H_AccessRoadSvyMap_20190222090056.pdf

Arkenstone31Fd173H_LocDrillPath_20190222090106.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:

Arkenstone31Fd173H_NewRoad_20190222091049.pdf

New road type: LOCAL

Length: 2036

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:

Arkenstone31Fd173H_NewRoad_20190222091101.pdf

Arkenstone31Fd173H_AccessRoadSvyMap_20190222091111.pdf

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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 184' southwest, then 1423' north west, then 397' north, then 32' east 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:

Arkenstone31Fd173H_ExistWells_20190222115403.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 2169.8' 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 2796.7' 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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

1309.4' 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:

Arkenstone31Fd173H_FacilityPLEL_20190222091157.pdf

Arkenstone31Fd173H_LeaseFacilityInfo_20190222091208.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:

TRUCKING

PIPELINE

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:

Arkenstone31Fd173H_GRRWtrSrc_20190222091235.pdf

Arkenstone31Fd173H_MesqWtrSrc_20190222091247.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:

Well target aquifer:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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: 1432.6 barrels

Waste disposal frequency : Daily

Safe containment description: Haul-Off Bins

Safe containmant attachment:

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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

FACILITY

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

Well Number: 173H

Section 9 - Well Site Layout

Well Site Layout Diagram:

Arkenstone31Fd173H_WellSiteCL_20190222092116.pdf

Comments: V-Door-East - CL Tanks-North - 330' X 1240' – 8 Well Pad

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ARKENSTONE 31 FEDERAL

Multiple Well Pad Number: 3H

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): 9.39	Well pad interim reclamation (acres): 3.43	Well pad long term disturbance (acres): 5.97
Road proposed disturbance (acres): 1.4	Road interim reclamation (acres): 0.75	Road long term disturbance (acres): 0.65
Powerline proposed disturbance (acres): 0.9	Powerline interim reclamation (acres): 0.9	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 3.42	Pipeline interim reclamation (acres): 2.28	Pipeline long term disturbance (acres): 1.14
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0.33	Other long term disturbance (acres): 0
Total proposed disturbance: 15.11	Total interim reclamation: 7.69	Total long term disturbance: 7.76

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

Well Number: 173H

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:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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

Well Number: 173H

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

Well Number: 173H

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

Arkenstone31Fd173H_GasCapPlan_20190222092257.pdf

Arkenstone31Fd173H_LandStatusMap_20190222092334.pdf

Arkenstone31Fd173H_LocDrillPath_20190222092402.pdf

Arkenstone31Fd173H_StakeForm_20190222092425.pdf

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

Arkenstone31Fd173H_SUPO_20190222092435.pdf

Arkenstone31Fd173H_VicinityMap_20190222092501.pdf

Arkenstone31Fd173H_ImageryMap_20190222092659.pdf



APD ID: 10400039438

Submission Date: 02/22/2019

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

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

Well Number: 173H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

08/07/2020

APD ID: 10400039438

Submission Date: 02/22/2019

Highlighted data
reflects the most
recent changes

Operator Name: OXY USA INCORPORATED

Well Name: ARKENSTONE 31 FEDERAL

Well Number: 173H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

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: