

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		5. Lease Serial No. NMNM002377
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator OXY USA WTP LP		8. Lease Name and Well No. BIG FISH 12-10 FEDERAL COM 314H
3a. Address 5 Greenway Plaza, Suite 110, Houston, TX 77210		9. API Well No. 30.015 47599
3b. Phone No. (include area code) (713) 366-5716		10. Field and Pool, or Exploratory <del>COTTON DRAW BONE SPRING/COTTO</del> OLD MILLMAN RANCH;BS
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NESW / 1640 FSL / 2270 FWL / LAT 32.585507 / LONG -104.131959 At proposed prod. zone NWSW / 1650 FSL / 20 FWL / LAT 32.585431 / LONG -104.173782		11. Sec., T. R. M. or Blk. and Survey or Area SEC 12/T20S/R28E/NMP
14. Distance in miles and direction from nearest town or post office* 13 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		13. State NM
16. No of acres in lease 440		17. Spacing Unit dedicated to this well 800.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet		20. BLM/BIA Bond No. in file FED: ESB000226
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3259 feet		22. Approximate date work will start* 06/01/2020
		23. Estimated duration 45 days

24. Attachments

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

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature (Electronic Submission)	Name (Printed/Typed) LESLIE REEVES / Ph: (713) 366-5716	Date 01/14/2020
Title Advisor Regulatory		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 10/09/2020
Title Assistant Field Manager Lands & Minerals Carlsbad Field Office		

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

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

Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.

- Will require a directional survey with the C-104
- NSL Will require an administrative order for non-standard location prior to placing the well on production

(Continued on page 2)

Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string



KP 10/20/2020 GEO Review

\*(Instructions on page 2)

Approval Date: 10/09/2020 Entered - KMS NMOCD

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. FIRST ST., ARTESIA, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 RIO BRAZOS RD., AZTEC, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

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

AMENDED REPORT  
**OLD MILLMAN  
RANCH;BS**

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015 47599</b>	Pool Code <del>52805</del> <b>48035</b>	Pool Name <del>RUSSELL;</del> <b>BONE SPRING</b>
Property Code <b>329321</b>	Property Name <b>BIG FISH 12_10 FEDERAL COM</b>	Well Number 314H
OGRID No. <b>192463</b>	Operator Name <b>OXY USA WTP LP</b>	Elevation 3258.8'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	12	20-S	28-E		1640	SOUTH	2270	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
L	10	20-S	28-E		1650	SOUTH	20	WEST	EDDY

Dedicated Acres <b>400</b>	Joint or Infill	Consolidation Code	Order No.
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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

POINT LEGEND			
1	Y=575097.2 N X=590435.7 E	6	Y=575157.5 N X=603741.9 E
2	Y=575115.3 N X=593094.4 E	7	Y=577802.7 N X=601102.5 E
3	Y=575134.2 N X=595753.5 E	8	Y=577783.7 N X=595789.3 E
4	Y=575142.7 N X=598413.0 E	9	Y=577744.2 N X=590474.0 E
5	Y=575151.9 N X=601071.0 E		

\* ALL COORDINATES ARE NAD 83 VALUES

PROPOSED BOTTOM HOLE LOCATION  
Y=576747.5 N  
X=590479.6 E  
LAT.=32.585431° N  
LONG.=104.173782° W

SURFACE LOCATION  
Y=576796.7 N  
X=603361.3 E  
LAT.=32.585507° N  
LONG.=104.131959° W

**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.*

*Leslie J. Reeves* 1/14/20  
Signature Date

**LESLIE REEVES**  
Printed Name

**LESLIE\_REEVES@OXY.COM**  
E-mail Address

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**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.*

SEPT. 26, 2019  
Date of Survey

Signature & Seal of Professional Surveyor

*Chad Harcrow* 10/16/19  
Certificate No. CHAD HARCROW 17777  
W.O. #19-1734 DRAWN BY: AH

Intent  As Drilled

API #  
30-015-

Operator Name: OXY USA WTP LP	Property Name: BIG FISH 12-10 FEDERAL COM	Well Number 314H
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Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
K	12	20S	28E		1650	FSL	2619	FWL	EDDY
Latitude					Longitude				County
32.585534					-104.130827				NAD NAD83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
K	12	20S	28E		1650	FSL	2569	FWL	EDDY
Latitude					Longitude				County
32.585534					-104.130989				NAD NAD83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	10	20S	28E		1650	FSL	100	FWL	EDDY
Latitude					Longitude				County
32.585432					-104.173523				NAD NAD83

Is this well the defining well for the Horizontal Spacing Unit?

Is this well an infill well?

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number
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## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>OXY USA WTP LP</b>
<b>LEASE NO.:</b>	<b>NMNM002377</b>
<b>WELL NAME &amp; NO.:</b>	<b>BIG FISH 12-10 FEDERAL COM 314H</b>
<b>SURFACE HOLE FOOTAGE:</b>	1640'/S & 2270'/W
<b>BOTTOM HOLE FOOTAGE:</b>	1650'/S & 20'/W
<b>LOCATION:</b>	Section 12, T.20 S., R.28 E., NMP
<b>COUNTY:</b>	Eddy County, New Mexico

COA

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

Break Testing	<input checked="" type="radio"/> Yes	<input type="radio"/> No
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### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

### B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **839** 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 **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **9-5/8** intermediate casing shall be set at **3214** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

**Option 1 (Single Stage):**

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

**Option 2:**

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

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.  
**Excess cement calculates to 19.1%, additional cement might be required.**
  - 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.**  
**Excess cement calculates to 4.9 %, additional cement might be required.**
- ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

- ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:  
**(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)**
    - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
    - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

### **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

#### **BOP Requirements.**

##### **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 **2000 (2M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **3000 (3M)** psi.

## **Option 2:**

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.

- ❖ Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - a. 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.
  - b. Manufacturer representative shall install the test plug for the initial BOP test.
  - c. 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.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

## **D. SPECIAL REQUIREMENT (S)**

### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

### **Offline Cementing**

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

**BOPE Break Testing Variance (Note: For 5M BOPE or less)**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less.
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required.
- The BLM is to be contacted (**575-361-2822 Eddy County**) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

**A separate sundry will be sent prior to spud that reflects the pad based break testing plan.**

**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 2<sup>nd</sup> 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.

**RI10012020**

APD ID: 10400053245

Submission Date: 01/14/2020

Highlighted data reflects the most recent changes

Operator Name: OXY USA WTP LP

Well Name: BIG FISH 12-10 FEDERAL COM

Well Number: 314H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - General

APD ID: 10400053245

Tie to previous NOS? N

Submission Date: 01/14/2020

BLM Office: CARLSBAD

User: Leslie Reeves

Title: Advisor Regulatory

Federal/Indian APD: FED

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

Lease number: NMNM002377

Lease Acres: 440

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO

APD Operator: OXY USA WTP LP

Operator letter of designation:

## Operator Info

Operator Organization Name: OXY USA WTP LP

Operator Address: 5 Greenway Plaza, Suite 110

Zip: 77210

Operator PO Box: PO Box 4294

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: BIG FISH 12-10 FEDERAL COM

Well Number: 314H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: COTTON DRAW  
BONE SPRING

Pool Name: COTTON DRAW  
BONE SPRING

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

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

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

**Is the proposed well in a Helium production area?** N

**Use Existing Well Pad?** N

**New surface disturbance?**

**Type of Well Pad:** MULTIPLE WELL

**Multiple Well Pad Name:** BIG FISH 12-10 FEDERAL COM

**Number:** 32H, 33H, 314H, 315H

**Well Class:** HORIZONTAL

**Number of Legs:** 1

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** INFILL

**Describe sub-type:**

**Distance to town:** 13 Miles

**Distance to nearest well:** 30 FT

**Distance to lease line:** 20 FT

**Reservoir well spacing assigned acres Measurement:** 800 Acres

**Well plat:** BigFish12\_10FdCom314H\_C102\_20200114150609.pdf

BigFish12\_10FdCom314H\_SitePlan\_20200114150617.pdf

BigFish12\_10FdCom314H\_Supplemental\_20200114150625.pdf

**Well work start Date:** 06/01/2020

**Duration:** 45 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

**Reference Datum:** GROUND LEVEL

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	1640	FSL	2270	FWL	20S	28E	12	Aliquot NESW	32.585507	-104.131959	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 002377	3259	0	0	N
KOP Leg #1	1650	FSL	2619	FWL	20S	28E	12	Aliquot NESW	32.585534	-104.130827	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 002377	-4964	8312	8223	N

Operator Name: OXY USA WTP LP

Well Name: BIG FISH 12-10 FEDERAL COM

Well Number: 314H

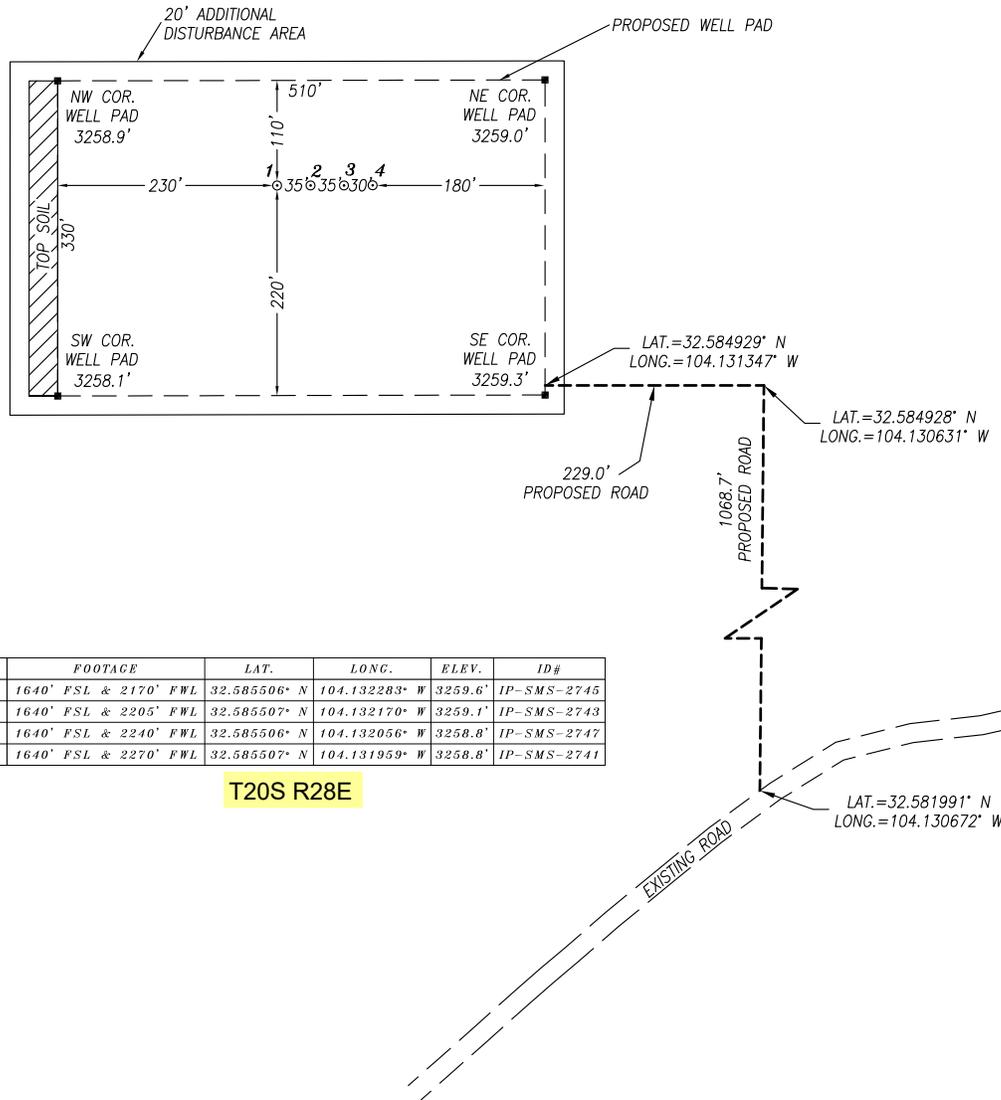
Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	1650	FSL	2569	FWL	20S	28E	12	Aliquot NESW	32.585534	-104.130989	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 002377	-566	9341	8915	Y
PPP Leg #1-2	1642	FSL	1327	FEL	20S	28E	11	Aliquot NWSE	32.585504	-104.14364	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 0559789	-5600	13237	8859	Y
PPP Leg #1-3	1640	FSL	2655	FEL	20S	28E	11	Aliquot NESW	32.585494	-104.147952	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015003	-5580	14566	8839	Y
EXIT Leg #1	1650	FSL	100	FWL	20S	28E	10	Aliquot NWSW	32.585432	-104.173523	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015003	-5465	22443	8724	Y
BHL Leg #1	1650	FSL	20	FWL	20S	28E	10	Aliquot NWSW	32.585431	-104.173782	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 015003	-5464	22523	8723	N

# OXY USA INC.

## SITE PLAN

### BRTNFL 1201

### FAA PERMIT: NO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.	ID#
1	BIG FISH 12_10 FED COM 32H	1640' FSL & 2170' FWL	32.585506° N	104.132283° W	3259.6'	IP-SMS-2745
2	BIG FISH 12_10 FED COM 315H	1640' FSL & 2205' FWL	32.585507° N	104.132170° W	3259.1'	IP-SMS-2743
3	BIG FISH 12_10 FED COM 33H	1640' FSL & 2240' FWL	32.585506° N	104.132056° W	3258.8'	IP-SMS-2747
4	BIG FISH 12_10 FED COM 314H	1640' FSL & 2270' FWL	32.585507° N	104.131959° W	3258.8'	IP-SMS-2741

T20S R28E

**NOTES:**

- 1) LATS & LONGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
- 2) DISTANCES ARE GRID VALUES.
- 3) ALL FEATURES ARE EXISTING UNLESS OTHERWISE NOTED

**CERTIFICATION**

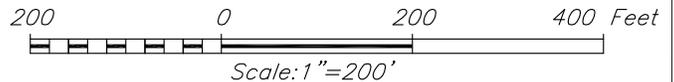
I, CHAD HARCROW, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



*Chad Harcrow*  
CHAD HARCROW N.M.P.S. NO. 17777

10/16/19  
DATE

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



<b>OXY USA INC.</b>		
SURVEY DATE: SEPT. 26, 2019	SITE PLAN	
DRAFTING DATE: OCT. 9, 2019	PAGE: 1 OF 1	
APPROVED BY: CH	DRAWN BY: AH	FILE: 19-1734

**APD ID:** 10400053245

**Submission Date:** 01/14/2020

Highlighted data reflects the most recent changes

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

[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
635294	RUSTLER	3259	389	389	ANHYDRITE, DOLOMITE, SHALE	USEABLE WATER	N
635295	TANSILL	2520	739	739	ANHYDRITE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y
780950	CAPITAN REEF	959	2300	2300	LIMESTONE	OTHER : SALT	N
635296	DELAWARE	95	3164	3164	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL, OTHER : BRINE	Y
635293	BONE SPRING	-2124	5383	5408	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
635292	BONE SPRING 1ST	-3517	6776	6833	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
635291	BONE SPRING 2ND	-4142	7401	7472	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y
635300	BONE SPRING 3RD	-5341	8600	8700	LIMESTONE, SANDSTONE, SILTSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

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

**Rating Depth:** 8915

**Equipment:** 13-5/8" 3M 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 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 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. BOP Break Testing Request Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. A separate sundry will be sent prior to spud that reflects the pad

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

based break testing plan. BOP break test under the following conditions: After a full BOP test is conducted - When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower. - When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper. If the kill line is broken prior to skid, two tests will be performed. 1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams 2) Wellhead flange, HCR valve, check valve, upper pipe rams If the kill line is not broken prior to skid, only one test will be performed. 1) Wellhead flange, co-flex hose, check valve, upper pipe rams

**Choke Diagram Attachment:**

BigFish12\_10FdCom314H\_ChokeManifold\_20200114154650.pdf

**BOP Diagram Attachment:**

BigFish12\_10FdCom314H\_BOP\_20200114154658.pdf

BigFish12\_10FdCom314H\_FlexHoseCert\_20200114154703.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	CONDUCTOR	26	20.0	NEW	API	N	0	459	0	459	3259	2800	459	J-55	78.6	N/A						
2	SURFACE	17.5	13.375	NEW	API	N	0	839	0	839	3259	2420	839	J-55	54.5	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3214	0	3214		45	3214	HCL-80	40	BUTT	1.125	1.2	BUOY	1.4	BUOY	1.4
4	PRODUCTION	8.5	5.5	NEW	API	N	0	22523	0	8915		-5656	22523	P-110	20	OTHER - DQX/DQW/SFTORQ	1.125	1.2	BUOY	1.4	BUOY	1.4

**Casing Attachments**

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

### Casing Attachments

---

**Casing ID:** 1      **String Type:** CONDUCTOR

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

---

**Casing ID:** 2      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BigFish12\_10FdCom314H\_CsgCriteria\_20200114154750.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

BigFish12\_10FdCom314H\_CsgCriteria\_20200114154812.pdf

---

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

### Casing Attachments

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

### Casing Design Assumptions and Worksheet(s):

BigFish12\_10FdCom314H\_CsgCriteria\_20200114154844.pdf

BigFish12\_10FdCom314H\_5.500in\_x\_20\_20200114154849.00

BigFish12\_10FdCom314H\_5.500in\_x\_20\_20200114154853.00

BigFish12\_10FdCom314H\_5.500in\_x\_20\_20200114154858.00

### Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
CONDUCTOR	Lead		0	459	623	1.33	14.8	829	20	Class C	Accelerator

SURFACE	Lead		0	839	758	1.33	14.8	1008	100	Class C Cement	Accelerator
---------	------	--	---	-----	-----	------	------	------	-----	----------------	-------------

INTERMEDIATE	Lead	1200	0	1200	254	1.73	12.9	705	20	Class C	Accelerator
--------------	------	------	---	------	-----	------	------	-----	----	---------	-------------

INTERMEDIATE	Lead	1200	1200	2714	329	1.73	12.9	569	20	Class C Cement	Accelerator
--------------	------	------	------	------	-----	------	------	-----	----	----------------	-------------

INTERMEDIATE	Tail		2714	3214	141	1.33	14.8	188	20	Class C	Accelerator
--------------	------	--	------	------	-----	------	------	-----	----	---------	-------------

PRODUCTION	Lead		2250	8312	3326	2.24	11.9	2587	100	Class H Cement	Retarder, Dispersant, Salt
------------	------	--	------	------	------	------	------	------	-----	----------------	----------------------------

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		8312	2252 3	2713	1.38	13.2	3744	15	Class H	Retarder, Dispersant, Salt

### Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

**Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CaCl<sub>2</sub>.

**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
459	839	OTHER : Saturated Brine-Based Mud OR Oil-Based Mud	8	10							
0	459	WATER-BASED MUD	8.6	8.8							
839	3214	OTHER : Saturated Brine-Based Mud and/or Oil-Based Mud	8	10							
3214	2252 3	OTHER : Water-Based or Oil-Based Mud	8	9.6							

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

## 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 casing shoe to TD.

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

GAMMA RAY LOG, MUD LOG/GEOLOGIC LITHOLOGY LOG, MUD LOG/GEOLOGICAL LITHOLOGY LOG,

**Coring operation description for the well:**

No coring is planned at this time.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4451

**Anticipated Surface Pressure:** 2489

**Anticipated Bottom Hole Temperature(F):** 152

**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:**

BigFish12\_10FdCom314H\_H2S1\_20200114155401.pdf

BigFish12\_10FdCom314H\_H2S2\_20200114155405.pdf

BigFish12\_10FdCom314H\_H2SEmerCont\_20200114155411.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

BigFish12\_10FdCom314H\_DirectPlot\_20200114155424.pdf

BigFish12\_10FdCom314H\_DirectPlan\_20200114155431.pdf

**Other proposed operations facets description:**

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

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

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.

**Operator Name:** OXY USA WTP LP

**Well Name:** BIG FISH 12-10 FEDERAL COM

**Well Number:** 314H

Annular clearance less than 0.422 is acceptable for the curve and lateral portions of the production open hole section.

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8 contingency intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

Three string wells:

- CBL will be required on one well per pad
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

Four string wells:

- CBL is not required
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

OXY requests the option to run the 7.625 Intermediate II as a contingency casing string to be run only if severe hole conditions dictate an additional casing string. The Intermediate II cement job will only occur if OXY elects to run a second intermediate casing string. See attached drill plan for the three string primary casing/cementing plan.

\*Offline Cementing Variance in attached drill plan\*

**Other proposed operations facets attachment:**

BigFish12\_10FdCom314H\_SpudRigData\_20200114155546.pdf

BigFish12\_10FdCom314H\_7.625in\_x\_26\_20200114155553.4

BigFish12\_10FdCom314H\_7.625in\_x\_26\_20200114155609.4

BigFish12\_10FedCom314H\_DrillPlan\_v2\_10DayLtr\_20200708141106.pdf

**Other Variance attachment:**

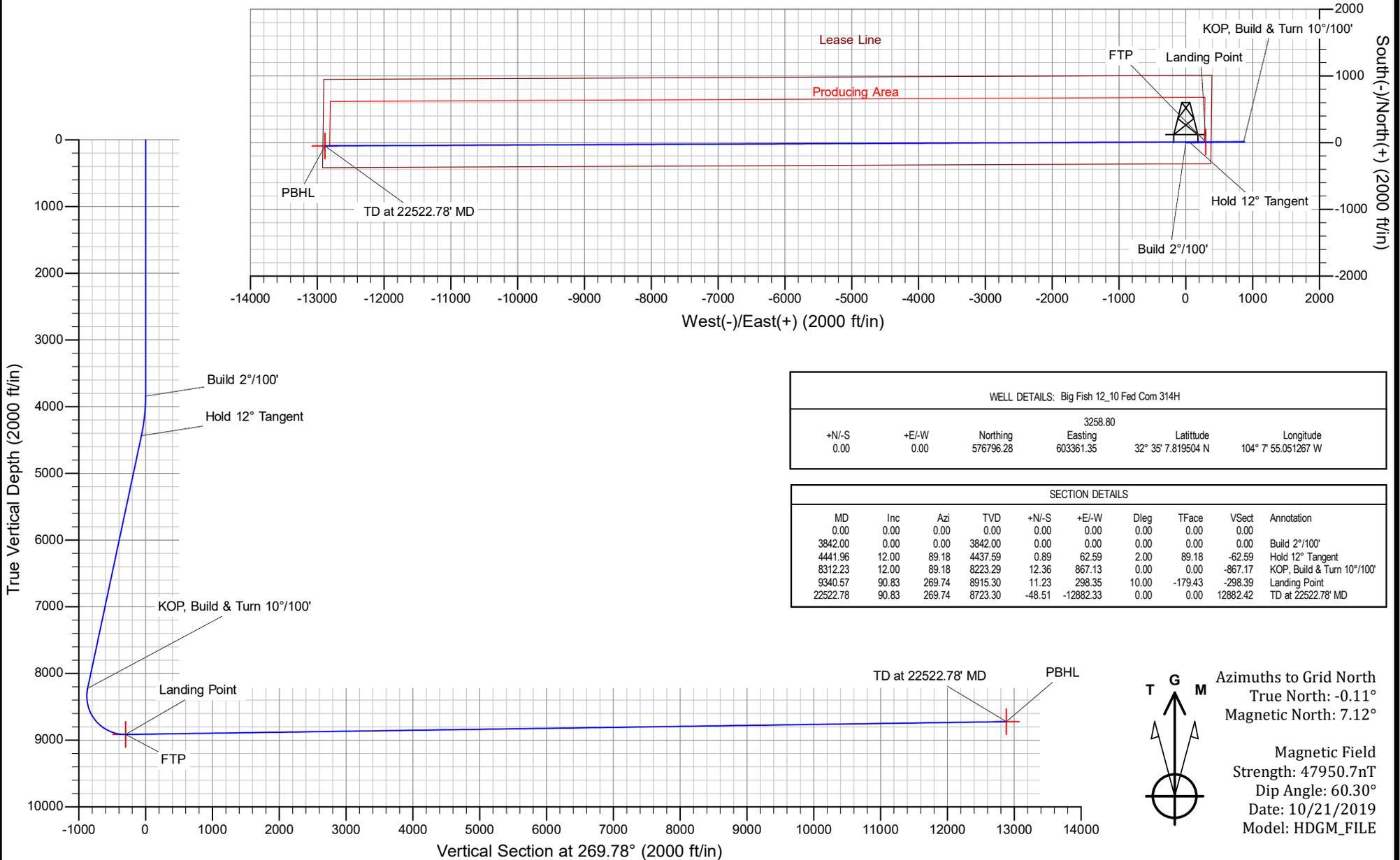


Project: PRD NM DIRECTIONAL PLANS (NAD 1983)  
 Site: Big Fish 12\_10  
 Well: Big Fish 12\_10 Fed Com 314H  
 Wellbore: Wellbore #1  
 Design: Permitting Plan

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: Big Fish 12_10 Fed Com 314H						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	576796.28	603361.35	32° 35' 7.819504 N	104° 7' 55.051267 W	

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Annotation	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3842.00	0.00	0.00	3842.00	0.00	0.00	0.00	0.00	0.00	Build 2°/100'	
4441.96	12.00	89.18	4437.59	0.89	62.59	2.00	89.18	-62.59	Hold 12° Tangent	
8312.23	12.00	89.18	8223.29	12.36	867.13	0.00	0.00	-867.17	KOP, Build & Turn 10°/100'	
9340.57	90.83	269.74	8915.30	11.23	298.35	10.00	-179.43	-298.39	Landing Point	
22522.78	90.83	269.74	8723.30	-48.51	-12882.33	0.00	0.00	12882.42	TD at 22522.78' MD	



Azimuths to Grid North  
 True North: -0.11°  
 Magnetic North: 7.12°  
 Magnetic Field  
 Strength: 47950.7nT  
 Dip Angle: 60.30°  
 Date: 10/21/2019  
 Model: HDGM\_FILE

# **OXY**

**PRD NM DIRECTIONAL PLANS (NAD 1983)**

**Big Fish 12\_10**

**Big Fish 12\_10 Fed Com 314H**

**Wellbore #1**

**Plan: Permitting Plan**

## **Standard Planning Report**

**21 October, 2019**

**Oxy Inc.**  
Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

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

<b>Site</b>	Big Fish 12_10				
<b>Site Position:</b>		<b>Northing:</b>	579,070.94 usft	<b>Latitude:</b>	32° 35' 30.324273 N
<b>From:</b>	Map	<b>Easting:</b>	603,572.95 usft	<b>Longitude:</b>	104° 7' 52.527548 W
<b>Position Uncertainty:</b>	1.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.11 °

<b>Well</b>	Big Fish 12_10 Fed Com 314H					
<b>Well Position</b>	<b>+N/-S</b>	-2,274.86 ft	<b>Northing:</b>	576,796.28 usft	<b>Latitude:</b>	32° 35' 7.819504 N
	<b>+E/-W</b>	-211.62 ft	<b>Easting:</b>	603,361.35 usft	<b>Longitude:</b>	104° 7' 55.051267 W
<b>Position Uncertainty</b>		2.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	3,258.80 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	HDGM_FILE	10/21/2019	7.23	60.30	47,950.70000000

<b>Design</b>	Permitting Plan			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	269.78

<b>Plan Survey Tool Program</b>	<b>Date</b>	10/21/2019		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	22,522.78	Permitting Plan (Wellbore #1)	B001Mb_MWD+HRGM OWSG MWD + HRGM

<b>Plan Sections</b>										
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	
3,842.00	0.00	0.00	3,842.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,441.96	12.00	89.18	4,437.59	0.89	62.59	2.00	2.00	0.00	89.18	
8,312.23	12.00	89.18	8,223.29	12.36	867.13	0.00	0.00	0.00	0.00	
9,340.57	90.83	269.74	8,915.30	11.23	298.35	10.00	7.67	-17.45	-179.43	FTP (Big Fish)
22,522.78	90.83	269.74	8,723.30	-48.51	-12,882.33	0.00	0.00	0.00	0.00	PBHL (Big Fish)

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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
3,842.00	0.00	0.00	3,842.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	1.16	89.18	3,900.00	0.01	0.59	-0.59	2.00	2.00	0.00
4,000.00	3.16	89.18	3,999.92	0.06	4.36	-4.36	2.00	2.00	0.00
4,100.00	5.16	89.18	4,099.65	0.17	11.61	-11.61	2.00	2.00	0.00
4,200.00	7.16	89.18	4,199.07	0.32	22.34	-22.34	2.00	2.00	0.00
4,300.00	9.16	89.18	4,298.05	0.52	36.53	-36.53	2.00	2.00	0.00
4,400.00	11.16	89.18	4,396.48	0.77	54.17	-54.17	2.00	2.00	0.00
4,441.96	12.00	89.18	4,437.59	0.89	62.59	-62.59	2.00	2.00	0.00
4,500.00	12.00	89.18	4,494.36	1.06	74.65	-74.66	0.00	0.00	0.00
4,600.00	12.00	89.18	4,592.17	1.36	95.44	-95.45	0.00	0.00	0.00
4,700.00	12.00	89.18	4,689.99	1.66	116.23	-116.23	0.00	0.00	0.00
4,800.00	12.00	89.18	4,787.80	1.95	137.02	-137.02	0.00	0.00	0.00
4,900.00	12.00	89.18	4,885.62	2.25	157.80	-157.81	0.00	0.00	0.00
5,000.00	12.00	89.18	4,983.43	2.55	178.59	-178.60	0.00	0.00	0.00
5,100.00	12.00	89.18	5,081.25	2.84	199.38	-199.39	0.00	0.00	0.00

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
5,200.00	12.00	89.18	5,179.06	3.14	220.17	-220.18	0.00	0.00	0.00	
5,300.00	12.00	89.18	5,276.88	3.43	240.96	-240.97	0.00	0.00	0.00	
5,400.00	12.00	89.18	5,374.69	3.73	261.74	-261.76	0.00	0.00	0.00	
5,500.00	12.00	89.18	5,472.51	4.03	282.53	-282.54	0.00	0.00	0.00	
5,600.00	12.00	89.18	5,570.32	4.32	303.32	-303.33	0.00	0.00	0.00	
5,700.00	12.00	89.18	5,668.14	4.62	324.11	-324.12	0.00	0.00	0.00	
5,800.00	12.00	89.18	5,765.95	4.92	344.89	-344.91	0.00	0.00	0.00	
5,900.00	12.00	89.18	5,863.77	5.21	365.68	-365.70	0.00	0.00	0.00	
6,000.00	12.00	89.18	5,961.58	5.51	386.47	-386.49	0.00	0.00	0.00	
6,100.00	12.00	89.18	6,059.40	5.80	407.26	-407.28	0.00	0.00	0.00	
6,200.00	12.00	89.18	6,157.21	6.10	428.05	-428.07	0.00	0.00	0.00	
6,300.00	12.00	89.18	6,255.03	6.40	448.83	-448.85	0.00	0.00	0.00	
6,400.00	12.00	89.18	6,352.84	6.69	469.62	-469.64	0.00	0.00	0.00	
6,500.00	12.00	89.18	6,450.66	6.99	490.41	-490.43	0.00	0.00	0.00	
6,600.00	12.00	89.18	6,548.47	7.29	511.20	-511.22	0.00	0.00	0.00	
6,700.00	12.00	89.18	6,646.29	7.58	531.98	-532.01	0.00	0.00	0.00	
6,800.00	12.00	89.18	6,744.10	7.88	552.77	-552.80	0.00	0.00	0.00	
6,900.00	12.00	89.18	6,841.92	8.17	573.56	-573.59	0.00	0.00	0.00	
7,000.00	12.00	89.18	6,939.73	8.47	594.35	-594.38	0.00	0.00	0.00	
7,100.00	12.00	89.18	7,037.55	8.77	615.14	-615.16	0.00	0.00	0.00	
7,200.00	12.00	89.18	7,135.36	9.06	635.92	-635.95	0.00	0.00	0.00	
7,300.00	12.00	89.18	7,233.18	9.36	656.71	-656.74	0.00	0.00	0.00	
7,400.00	12.00	89.18	7,330.99	9.66	677.50	-677.53	0.00	0.00	0.00	
7,500.00	12.00	89.18	7,428.81	9.95	698.29	-698.32	0.00	0.00	0.00	
7,600.00	12.00	89.18	7,526.62	10.25	719.07	-719.11	0.00	0.00	0.00	
7,700.00	12.00	89.18	7,624.44	10.54	739.86	-739.90	0.00	0.00	0.00	
7,800.00	12.00	89.18	7,722.25	10.84	760.65	-760.69	0.00	0.00	0.00	
7,900.00	12.00	89.18	7,820.07	11.14	781.44	-781.47	0.00	0.00	0.00	
8,000.00	12.00	89.18	7,917.88	11.43	802.23	-802.26	0.00	0.00	0.00	
8,100.00	12.00	89.18	8,015.70	11.73	823.01	-823.05	0.00	0.00	0.00	
8,200.00	12.00	89.18	8,113.51	12.03	843.80	-843.84	0.00	0.00	0.00	
8,300.00	12.00	89.18	8,211.33	12.32	864.59	-864.63	0.00	0.00	0.00	
8,312.23	12.00	89.18	8,223.29	12.36	867.13	-867.17	0.00	0.00	0.00	
8,400.00	3.22	87.63	8,310.20	12.59	878.74	-878.78	10.00	-10.00	-1.77	
8,500.00	6.78	270.74	8,410.03	12.78	875.64	-875.69	10.00	3.55	-176.89	
8,600.00	16.78	270.14	8,507.80	12.89	855.26	-855.30	10.00	10.00	-0.60	
8,700.00	26.78	269.98	8,600.54	12.92	818.20	-818.25	10.00	10.00	-0.16	
8,800.00	36.78	269.90	8,685.44	12.86	765.61	-765.65	10.00	10.00	-0.08	
8,900.00	46.78	269.85	8,759.92	12.71	699.07	-699.11	10.00	10.00	-0.05	
9,000.00	56.78	269.82	8,821.71	12.49	620.60	-620.65	10.00	10.00	-0.03	
9,100.00	66.78	269.79	8,868.94	12.19	532.60	-532.65	10.00	10.00	-0.03	
9,200.00	76.78	269.77	8,900.17	11.83	437.74	-437.78	10.00	10.00	-0.02	
9,300.00	86.78	269.75	8,914.46	11.41	338.89	-338.93	10.00	10.00	-0.02	
9,340.57	90.83	269.74	8,915.30	11.23	298.35	-298.39	10.00	10.00	-0.02	
9,400.00	90.83	269.74	8,914.43	10.96	238.92	-238.96	0.00	0.00	0.00	
9,500.00	90.83	269.74	8,912.98	10.51	138.93	-138.97	0.00	0.00	0.00	
9,600.00	90.83	269.74	8,911.52	10.06	38.94	-38.98	0.00	0.00	0.00	
9,700.00	90.83	269.74	8,910.07	9.60	-61.05	61.01	0.00	0.00	0.00	
9,800.00	90.83	269.74	8,908.61	9.15	-161.03	161.00	0.00	0.00	0.00	
9,900.00	90.83	269.74	8,907.15	8.70	-261.02	260.99	0.00	0.00	0.00	
10,000.00	90.83	269.74	8,905.70	8.24	-361.01	360.98	0.00	0.00	0.00	
10,100.00	90.83	269.74	8,904.24	7.79	-461.00	460.97	0.00	0.00	0.00	
10,200.00	90.83	269.74	8,902.78	7.34	-560.99	560.96	0.00	0.00	0.00	
10,300.00	90.83	269.74	8,901.33	6.88	-660.98	660.95	0.00	0.00	0.00	

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Permitting Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,400.00	90.83	269.74	8,899.87	6.43	-760.96	760.94	0.00	0.00	0.00	
10,500.00	90.83	269.74	8,898.41	5.98	-860.95	860.92	0.00	0.00	0.00	
10,600.00	90.83	269.74	8,896.96	5.52	-960.94	960.91	0.00	0.00	0.00	
10,700.00	90.83	269.74	8,895.50	5.07	-1,060.93	1,060.90	0.00	0.00	0.00	
10,800.00	90.83	269.74	8,894.04	4.62	-1,160.92	1,160.89	0.00	0.00	0.00	
10,900.00	90.83	269.74	8,892.59	4.16	-1,260.91	1,260.88	0.00	0.00	0.00	
11,000.00	90.83	269.74	8,891.13	3.71	-1,360.90	1,360.87	0.00	0.00	0.00	
11,100.00	90.83	269.74	8,889.67	3.26	-1,460.88	1,460.86	0.00	0.00	0.00	
11,200.00	90.83	269.74	8,888.22	2.80	-1,560.87	1,560.85	0.00	0.00	0.00	
11,300.00	90.83	269.74	8,886.76	2.35	-1,660.86	1,660.84	0.00	0.00	0.00	
11,400.00	90.83	269.74	8,885.30	1.90	-1,760.85	1,760.83	0.00	0.00	0.00	
11,500.00	90.83	269.74	8,883.85	1.44	-1,860.84	1,860.82	0.00	0.00	0.00	
11,600.00	90.83	269.74	8,882.39	0.99	-1,960.83	1,960.81	0.00	0.00	0.00	
11,700.00	90.83	269.74	8,880.93	0.54	-2,060.81	2,060.80	0.00	0.00	0.00	
11,800.00	90.83	269.74	8,879.48	0.08	-2,160.80	2,160.79	0.00	0.00	0.00	
11,900.00	90.83	269.74	8,878.02	-0.37	-2,260.79	2,260.78	0.00	0.00	0.00	
12,000.00	90.83	269.74	8,876.57	-0.82	-2,360.78	2,360.77	0.00	0.00	0.00	
12,100.00	90.83	269.74	8,875.11	-1.28	-2,460.77	2,460.75	0.00	0.00	0.00	
12,200.00	90.83	269.74	8,873.65	-1.73	-2,560.76	2,560.74	0.00	0.00	0.00	
12,300.00	90.83	269.74	8,872.20	-2.18	-2,660.74	2,660.73	0.00	0.00	0.00	
12,400.00	90.83	269.74	8,870.74	-2.64	-2,760.73	2,760.72	0.00	0.00	0.00	
12,500.00	90.83	269.74	8,869.28	-3.09	-2,860.72	2,860.71	0.00	0.00	0.00	
12,600.00	90.83	269.74	8,867.83	-3.54	-2,960.71	2,960.70	0.00	0.00	0.00	
12,700.00	90.83	269.74	8,866.37	-3.99	-3,060.70	3,060.69	0.00	0.00	0.00	
12,800.00	90.83	269.74	8,864.91	-4.45	-3,160.69	3,160.68	0.00	0.00	0.00	
12,900.00	90.83	269.74	8,863.46	-4.90	-3,260.67	3,260.67	0.00	0.00	0.00	
13,000.00	90.83	269.74	8,862.00	-5.35	-3,360.66	3,360.66	0.00	0.00	0.00	
13,100.00	90.83	269.74	8,860.54	-5.81	-3,460.65	3,460.65	0.00	0.00	0.00	
13,200.00	90.83	269.74	8,859.09	-6.26	-3,560.64	3,560.64	0.00	0.00	0.00	
13,300.00	90.83	269.74	8,857.63	-6.71	-3,660.63	3,660.63	0.00	0.00	0.00	
13,400.00	90.83	269.74	8,856.17	-7.17	-3,760.62	3,760.62	0.00	0.00	0.00	
13,500.00	90.83	269.74	8,854.72	-7.62	-3,860.60	3,860.61	0.00	0.00	0.00	
13,600.00	90.83	269.74	8,853.26	-8.07	-3,960.59	3,960.59	0.00	0.00	0.00	
13,700.00	90.83	269.74	8,851.80	-8.53	-4,060.58	4,060.58	0.00	0.00	0.00	
13,800.00	90.83	269.74	8,850.35	-8.98	-4,160.57	4,160.57	0.00	0.00	0.00	
13,900.00	90.83	269.74	8,848.89	-9.43	-4,260.56	4,260.56	0.00	0.00	0.00	
14,000.00	90.83	269.74	8,847.44	-9.89	-4,360.55	4,360.55	0.00	0.00	0.00	
14,100.00	90.83	269.74	8,845.98	-10.34	-4,460.53	4,460.54	0.00	0.00	0.00	
14,200.00	90.83	269.74	8,844.52	-10.79	-4,560.52	4,560.53	0.00	0.00	0.00	
14,300.00	90.83	269.74	8,843.07	-11.25	-4,660.51	4,660.52	0.00	0.00	0.00	
14,400.00	90.83	269.74	8,841.61	-11.70	-4,760.50	4,760.51	0.00	0.00	0.00	
14,500.00	90.83	269.74	8,840.15	-12.15	-4,860.49	4,860.50	0.00	0.00	0.00	
14,600.00	90.83	269.74	8,838.70	-12.61	-4,960.48	4,960.49	0.00	0.00	0.00	
14,700.00	90.83	269.74	8,837.24	-13.06	-5,060.46	5,060.48	0.00	0.00	0.00	
14,800.00	90.83	269.74	8,835.78	-13.51	-5,160.45	5,160.47	0.00	0.00	0.00	
14,900.00	90.83	269.74	8,834.33	-13.97	-5,260.44	5,260.46	0.00	0.00	0.00	
15,000.00	90.83	269.74	8,832.87	-14.42	-5,360.43	5,360.45	0.00	0.00	0.00	
15,100.00	90.83	269.74	8,831.41	-14.87	-5,460.42	5,460.44	0.00	0.00	0.00	
15,200.00	90.83	269.74	8,829.96	-15.33	-5,560.41	5,560.42	0.00	0.00	0.00	
15,300.00	90.83	269.74	8,828.50	-15.78	-5,660.39	5,660.41	0.00	0.00	0.00	
15,400.00	90.83	269.74	8,827.04	-16.23	-5,760.38	5,760.40	0.00	0.00	0.00	
15,500.00	90.83	269.74	8,825.59	-16.69	-5,860.37	5,860.39	0.00	0.00	0.00	
15,600.00	90.83	269.74	8,824.13	-17.14	-5,960.36	5,960.38	0.00	0.00	0.00	
15,700.00	90.83	269.74	8,822.67	-17.59	-6,060.35	6,060.37	0.00	0.00	0.00	

# Oxy Inc.

## Planning Report

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
15,800.00	90.83	269.74	8,821.22	-18.04	-6,160.34	6,160.36	0.00	0.00	0.00	
15,900.00	90.83	269.74	8,819.76	-18.50	-6,260.33	6,260.35	0.00	0.00	0.00	
16,000.00	90.83	269.74	8,818.30	-18.95	-6,360.31	6,360.34	0.00	0.00	0.00	
16,100.00	90.83	269.74	8,816.85	-19.40	-6,460.30	6,460.33	0.00	0.00	0.00	
16,200.00	90.83	269.74	8,815.39	-19.86	-6,560.29	6,560.32	0.00	0.00	0.00	
16,300.00	90.83	269.74	8,813.94	-20.31	-6,660.28	6,660.31	0.00	0.00	0.00	
16,400.00	90.83	269.74	8,812.48	-20.76	-6,760.27	6,760.30	0.00	0.00	0.00	
16,500.00	90.83	269.74	8,811.02	-21.22	-6,860.26	6,860.29	0.00	0.00	0.00	
16,600.00	90.83	269.74	8,809.57	-21.67	-6,960.24	6,960.28	0.00	0.00	0.00	
16,700.00	90.83	269.74	8,808.11	-22.12	-7,060.23	7,060.27	0.00	0.00	0.00	
16,800.00	90.83	269.74	8,806.65	-22.58	-7,160.22	7,160.25	0.00	0.00	0.00	
16,900.00	90.83	269.74	8,805.20	-23.03	-7,260.21	7,260.24	0.00	0.00	0.00	
17,000.00	90.83	269.74	8,803.74	-23.48	-7,360.20	7,360.23	0.00	0.00	0.00	
17,100.00	90.83	269.74	8,802.28	-23.94	-7,460.19	7,460.22	0.00	0.00	0.00	
17,200.00	90.83	269.74	8,800.83	-24.39	-7,560.17	7,560.21	0.00	0.00	0.00	
17,300.00	90.83	269.74	8,799.37	-24.84	-7,660.16	7,660.20	0.00	0.00	0.00	
17,400.00	90.83	269.74	8,797.91	-25.30	-7,760.15	7,760.19	0.00	0.00	0.00	
17,500.00	90.83	269.74	8,796.46	-25.75	-7,860.14	7,860.18	0.00	0.00	0.00	
17,600.00	90.83	269.74	8,795.00	-26.20	-7,960.13	7,960.17	0.00	0.00	0.00	
17,700.00	90.83	269.74	8,793.54	-26.66	-8,060.12	8,060.16	0.00	0.00	0.00	
17,800.00	90.83	269.74	8,792.09	-27.11	-8,160.10	8,160.15	0.00	0.00	0.00	
17,900.00	90.83	269.74	8,790.63	-27.56	-8,260.09	8,260.14	0.00	0.00	0.00	
18,000.00	90.83	269.74	8,789.17	-28.02	-8,360.08	8,360.13	0.00	0.00	0.00	
18,100.00	90.83	269.74	8,787.72	-28.47	-8,460.07	8,460.12	0.00	0.00	0.00	
18,200.00	90.83	269.74	8,786.26	-28.92	-8,560.06	8,560.11	0.00	0.00	0.00	
18,300.00	90.83	269.74	8,784.81	-29.38	-8,660.05	8,660.10	0.00	0.00	0.00	
18,400.00	90.83	269.74	8,783.35	-29.83	-8,760.03	8,760.08	0.00	0.00	0.00	
18,500.00	90.83	269.74	8,781.89	-30.28	-8,860.02	8,860.07	0.00	0.00	0.00	
18,600.00	90.83	269.74	8,780.44	-30.74	-8,960.01	8,960.06	0.00	0.00	0.00	
18,700.00	90.83	269.74	8,778.98	-31.19	-9,060.00	9,060.05	0.00	0.00	0.00	
18,800.00	90.83	269.74	8,777.52	-31.64	-9,159.99	9,160.04	0.00	0.00	0.00	
18,900.00	90.83	269.74	8,776.07	-32.09	-9,259.98	9,260.03	0.00	0.00	0.00	
19,000.00	90.83	269.74	8,774.61	-32.55	-9,359.96	9,360.02	0.00	0.00	0.00	
19,100.00	90.83	269.74	8,773.15	-33.00	-9,459.95	9,460.01	0.00	0.00	0.00	
19,200.00	90.83	269.74	8,771.70	-33.45	-9,559.94	9,560.00	0.00	0.00	0.00	
19,300.00	90.83	269.74	8,770.24	-33.91	-9,659.93	9,659.99	0.00	0.00	0.00	
19,400.00	90.83	269.74	8,768.78	-34.36	-9,759.92	9,759.98	0.00	0.00	0.00	
19,500.00	90.83	269.74	8,767.33	-34.81	-9,859.91	9,859.97	0.00	0.00	0.00	
19,600.00	90.83	269.74	8,765.87	-35.27	-9,959.89	9,959.96	0.00	0.00	0.00	
19,700.00	90.83	269.74	8,764.41	-35.72	-10,059.88	10,059.95	0.00	0.00	0.00	
19,800.00	90.83	269.74	8,762.96	-36.17	-10,159.87	10,159.94	0.00	0.00	0.00	
19,900.00	90.83	269.74	8,761.50	-36.63	-10,259.86	10,259.92	0.00	0.00	0.00	
20,000.00	90.83	269.74	8,760.04	-37.08	-10,359.85	10,359.91	0.00	0.00	0.00	
20,100.00	90.83	269.74	8,758.59	-37.53	-10,459.84	10,459.90	0.00	0.00	0.00	
20,200.00	90.83	269.74	8,757.13	-37.99	-10,559.82	10,559.89	0.00	0.00	0.00	
20,300.00	90.83	269.74	8,755.68	-38.44	-10,659.81	10,659.88	0.00	0.00	0.00	
20,400.00	90.83	269.74	8,754.22	-38.89	-10,759.80	10,759.87	0.00	0.00	0.00	
20,500.00	90.83	269.74	8,752.76	-39.35	-10,859.79	10,859.86	0.00	0.00	0.00	
20,600.00	90.83	269.74	8,751.31	-39.80	-10,959.78	10,959.85	0.00	0.00	0.00	
20,700.00	90.83	269.74	8,749.85	-40.25	-11,059.77	11,059.84	0.00	0.00	0.00	
20,800.00	90.83	269.74	8,748.39	-40.71	-11,159.76	11,159.83	0.00	0.00	0.00	
20,900.00	90.83	269.74	8,746.94	-41.16	-11,259.74	11,259.82	0.00	0.00	0.00	
21,000.00	90.83	269.74	8,745.48	-41.61	-11,359.73	11,359.81	0.00	0.00	0.00	
21,100.00	90.83	269.74	8,744.02	-42.07	-11,459.72	11,459.80	0.00	0.00	0.00	

**Oxy Inc.**  
Planning Report

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well Big Fish 12_10 Fed Com 314H
<b>Company:</b>	ENGINEERING DESIGNS	<b>TVD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Project:</b>	PRD NM DIRECTIONAL PLANS (NAD 1983)	<b>MD Reference:</b>	RKB=26.5' @ 3285.30ft
<b>Site:</b>	Big Fish 12_10	<b>North Reference:</b>	Grid
<b>Well:</b>	Big Fish 12_10 Fed Com 314H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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)	
21,200.00	90.83	269.74	8,742.57	-42.52	-11,559.71	11,559.79	0.00	0.00	0.00	
21,300.00	90.83	269.74	8,741.11	-42.97	-11,659.70	11,659.78	0.00	0.00	0.00	
21,400.00	90.83	269.74	8,739.65	-43.43	-11,759.69	11,759.77	0.00	0.00	0.00	
21,500.00	90.83	269.74	8,738.20	-43.88	-11,859.67	11,859.75	0.00	0.00	0.00	
21,600.00	90.83	269.74	8,736.74	-44.33	-11,959.66	11,959.74	0.00	0.00	0.00	
21,700.00	90.83	269.74	8,735.28	-44.79	-12,059.65	12,059.73	0.00	0.00	0.00	
21,800.00	90.83	269.74	8,733.83	-45.24	-12,159.64	12,159.72	0.00	0.00	0.00	
21,900.00	90.83	269.74	8,732.37	-45.69	-12,259.63	12,259.71	0.00	0.00	0.00	
22,000.00	90.83	269.74	8,730.91	-46.14	-12,359.62	12,359.70	0.00	0.00	0.00	
22,100.00	90.83	269.74	8,729.46	-46.60	-12,459.60	12,459.69	0.00	0.00	0.00	
22,200.00	90.83	269.74	8,728.00	-47.05	-12,559.59	12,559.68	0.00	0.00	0.00	
22,300.00	90.83	269.74	8,726.54	-47.50	-12,659.58	12,659.67	0.00	0.00	0.00	
22,400.00	90.83	269.74	8,725.09	-47.96	-12,759.57	12,759.66	0.00	0.00	0.00	
22,500.00	90.83	269.74	8,723.63	-48.41	-12,859.56	12,859.65	0.00	0.00	0.00	
22,522.78	90.83	269.74	8,723.30	-48.51	-12,882.33	12,882.42	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL (Big Fish 12_10 - hit/miss target - Shape - Point	0.00	0.00	8,723.30	-48.51	-12,882.33	576,747.77	590,480.16	32° 35' 7.555694 N	104° 10' 25.609799	
FTP (Big Fish 12_10 - plan hits target center - Point	0.00	0.00	8,915.30	11.23	298.35	576,807.51	603,659.67	32° 35' 7.925029 N	104° 7' 51.564205	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
3,842.00	3,842.00	0.00	0.00	Build 2°/100'	
4,441.96	4,437.59	0.89	62.59	Hold 12° Tangent	
8,312.23	8,223.29	12.36	867.13	KOP, Build & Turn 10°/100'	
9,340.57	8,915.30	11.23	298.35	Landing Point	
22,522.78	8,723.30	-48.51	-12,882.33	TD at 22522.78' MD	

# Oxy USA Inc. - Big Fish 12\_10 Fed Com 314H

## Drill Plan

### 1. Geologic Formations

TVD of Target (ft):	8915	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	22523	Deepest Expected Fresh Water (ft):	389

### Delaware Basin

Formation	MD-RKB (ft)	TVD-RKB (ft)	Expected Fluids
Rustler	389	389	
Tansil	739	739	Salt
Capitan Reef	2300	2300	Salt
Delaware	3164	3164	Oil/Gas/Brine
Bone Spring	5409	5383	Oil/Gas/Brine
1st Bone Spring	6833	6776	Oil/Gas/Brine
2nd Bone Spring	7472	7401	Losses
3rd Bone Spring	8700	8600	Oil/Gas

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

### 2. Casing Program

Section	Hole Size (in)	MD		TVD		Csg. OD (in)	Csg. Wt. (ppf)	Grade	Conn.
		From (ft)	To (ft)	From (ft)	To (ft)				
Conductor	26	0	459	0	459	20	78.6	J-55	Welded
Surface	17.5	0	839	0	839	13.375	54.5	J-55	BTC
Intermediate	12.25	0	3214	0	3214	9.625	40	L-80 HC	BTC
Production	8.5	0	22523	0	8915	5.5	20	P-110	DQX

<i>All casing SF Values will meet or exceed those listed below</i>			
SF Collapse	SF Burst	Body SF Tension	Joint SF Tension
1.125	1.2	1.4	1.4

As per the agreement reached by Oxy/BLM on July 23, 2019, Oxy requests permission to deepen conductor to meet the 4 string casing design requirement of this area. Conductor and Surface casing will be set as follows:

1. Conductor casing will be set 70ft into Rustler formation where present.
2. Surface casing will be set 100ft into Tansil formation to isolate the Capitan Reef groundwater from salt bearing formations above.

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

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

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

### Annular Clearance Variance Request

As per the agreement reached in the Oxy/BLM face-to-face 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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	Y
If yes, are there two strings cemented to surface?	Y
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

### 3. Cementing Program

Section	Stage	Slurry:	Capacities	ft <sup>3</sup> /ft	Excess:	From	To	Sacks	Volume (ft <sup>3</sup> )	Placement
Conductor	1	Conductor/Surface - Tail	OH x Csg	1.5054	20%	459	-	623	829	Circulate
Surface	1	Conductor/Surface - Tail	OH x Csg	0.6946	100%	839	459	397	528	Circulate
Surface	1	Conductor/Surface - Tail	Csg x Csg	1.0454	0%	459	-	361	480	Circulate
Int.	1	Intermediate - Tail	OH x Csg	0.3132	20%	3,214	2,714	141	188	Circulate
Int.	1	Intermediate - Lead	OH x Csg	0.3132	20%	2,714	1,200	329	569	Circulate
Int.	2	Intermediate - Lead	OH x Csg	0.3132	20%	1,200	839	78	136	Circulate
Int.	2	Intermediate - Lead	Csg x Csg	0.3627	0%	839	-	176	304	Circulate
Prod.	1	Production - Tail	OH x Csg	0.2291	15%	22,523	8,312	2713	3744	Circulate
Prod.	1	Production - Lead	OH x Csg	0.2291	100%	8,312	3,214	1043	2336	Circulate
Prod.	1	Production - Lead	Csg x Csg	0.2608	0%	3,214	2,250	112	251	Circulate

Description	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water (gal/sk)	500psi Time (hh:mm)	Cmt. Class	Additives			
						Accelerator	Retarder	Dispersant	Salt
Conductor/Surface - Tail	14.8	1.33	6.365	5:26	C	x			
Intermediate - Lead	12.9	1.73	8.784	15:26	Pozz		x		
Intermediate - Tail	14.8	1.33	6.368	7:11	C	x			
Production - Lead	11.9	2.24	12.327	14:46	H		x	x	x
Production - Tail	13.2	1.38	6.686	3:39	H		x	x	x

## Offline Cementing

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

The summarized operational sequence will be as follows:

Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).

Land casing.

Fill pipe with kill weight fluid, and confirm well is static.

If well Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

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.

#### 4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:	Deepest TVD Depth (ft) per Section:
17.5" Hole	13-5/8"		Diverter - 500 psi Rotating Head	✓	N/A	839
			Annular			
			Blind Ram			
			Pipe Ram			
			Double Ram			
Other*						
12.25" Hole	13-5/8"	3M	Annular	✓	70% of working pressure	3214
		3M	Blind Ram	✓	250 psi / 3000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			
8.5" Hole	13-5/8"	3M	Annular	✓	70% of working pressure	8915
		3M	Blind Ram	✓	250 psi / 3000 psi	
			Pipe Ram			
			Double Ram	✓		
			Other*			

\*Specify if additional ram is utilized

Oxy requests a variance from Onshore Order No. 2 to drill the 17.5" surface hole with a diverter system in place of the required BOP system outlined in Section III.A.2.a.

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.

	Formation integrity test will be performed per Onshore Order #2.
	On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
	A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We will test the flange connection of the wellhead with a test port that is directly in the flange. We are proposing that we will run the wellhead through the rotary prior to cementing surface casing as discussed with the BLM on October 8, 2015.  See attached schematics.

### **BOP Break Testing Request**

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. A separate sundry will be sent prior to spud that reflects the pad based break testing plan.

BOP break test under the following conditions:

- After a full BOP test is conducted
- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.
- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

If the kill line is broken prior to skid, two tests will be performed.

- 1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
- 2) Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.

- 1) Wellhead flange, co-flex hose, check valve, upper pipe rams

## 5. Mud Program

Section	Depth - MD		Depth - TVD		Type	Weight (ppg)	Viscosity	Water Loss
	From (ft)	To (ft)	From (ft)	To (ft)				
Conductor	0	459	0	459	Water-Based Mud	8.6-8.8	40-60	N/C
Surface	459	839	459	839	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
Intermediate	839	3214	839	3214	Saturated Brine-Based or Oil-Based Mud	8.0-10.0	35-45	N/C
Production	3214	22523	3214	8915	Water-Based or Oil-Based Mud	8.0-9.6	38-50	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

What will be used to monitor the loss or gain of fluid?	PVT/MD Totco/Visual Monitoring
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## 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	Bone Spring – TD
No	PEX	

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4451 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	152°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<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>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 <sub>2</sub> S is present
Y	H <sub>2</sub> S Plan attached

## 8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe. We plan to drill the 4 well pad in batch by section: all surface sections, intermediate sections and production sections. The wellhead will be secured with a night cap whenever the rig is not over the well.	Yes
Will more than one drilling rig be used for drilling operations? If yes, describe. Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for this well. If the timing between rigs is such that Oxy would not be able to preset surface, the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the attached document for information on the spudder rig.	Yes

**Total Estimated Cuttings Volume:** 2116 bbls

### Attachments

- Directional Plan
- H<sub>2</sub>S Contingency Plan
- Flex III Attachments
- Spudder Rig Attachment
- Premium Connection Specs

## 9. Company Personnel

Name	Title	Office Phone	Mobile Phone
Garrett Granier	Drilling Engineer	713-513-6633	832-265-0581
William Turner	Drilling Engineer Supervisor	713-350-4951	661-817-4586
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

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

Submit Original  
to Appropriate  
District Office

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

**GAS CAPTURE PLAN**

Date: 11-26-2019

Original

Operator & OGRID No.: OXY USA WTP LP - 192463

Amended - Reason for Amendment: \_\_\_\_\_

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

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

**Well(s)/Production Facility – Name of facility**

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
BIG FISH 12-11 FED COM 21H	Pending	C-12-T20S-R28E	980'FNL 2420'FWL	1,200	0	
BIG FISH 12-11 FED COM 22H	Pending	C-12-T20S-R28E	980'FNL 2455'FWL	1,200	0	
BIG FISH 12-11 FED COM 23H	Pending	N-12-T20S-R28E	720'FSL 2425'FWL	1,200	0	
BIG FISH 12-11 FED COM 24H	Pending	N-12-T20S-R28E	720'FSL 2460'FWL	1,200	0	
BIG FISH 12-10 FED COM 31H	Pending	F-12-T20S-R28E	1390'FNL 2390'FWL	3,100	0	
BIG FISH 12-10 FED COM 32H	Pending	K-12-T20S-R28E	1640'FSL 2170'FWL	3,100	0	
BIG FISH 12-10 FED COM 33H	Pending	K-12-T20S-R28E	1640'FSL 2240'FWL	3,100	0	
BIG FISH 12-10 FED COM 311H	Pending	F-12-T20S-R28E	1390'FNL 2355'FWL	3,200	0	
BIG FISH 12-10 FED COM 312H	Pending	F-12-T20S-R28E	1390'FNL 2455'FWL	3,200	0	
BIG FISH 12-10 FED COM 313H	Pending	F-12-T20S-R28E	1390'FNL 2425'FWL	3,200	0	
BIG FISH 12-10 FED COM 314H	Pending	K-12-T20S-R28E	1640'FSL 2270'FWL	3,200	0	
BIG FISH 12-10 FED COM 315H	Pending	K-12-T20S-R28E	1640'FSL 2205'FWL	3,200	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